



Hunt Institute for Botanical Documentation
5th Floor, Hunt Library
Carnegie Mellon University
4909 Frew Street
Pittsburgh, PA 15213-3890
Telephone: 412-268-2434
Email: huntinst@andrew.cmu.edu
Web site: www.huntbotanical.org

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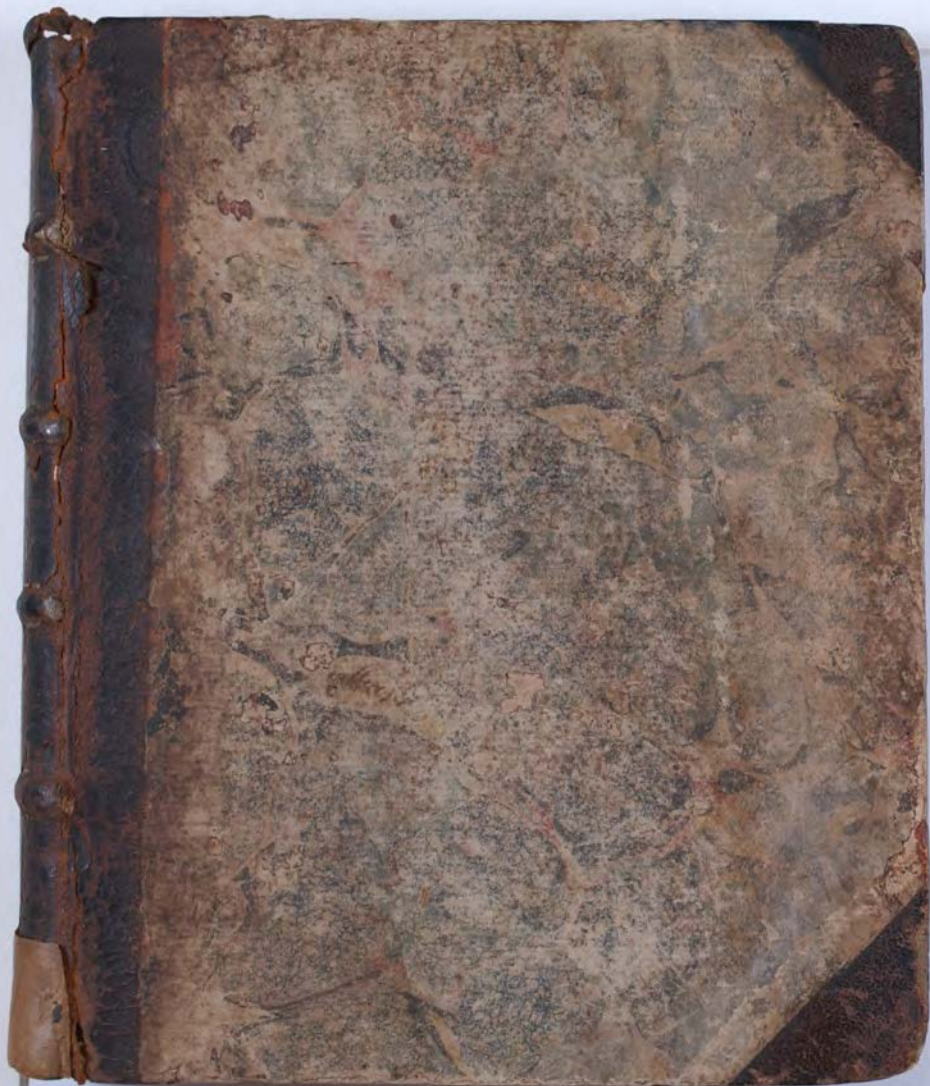
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About the Institute

The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.



Darrell
L. Candaway



Archives
2141

Barlow - Nov^r 19 - 1804 -

In the lecture of yesterday I did not
hesitate to reject the doctrine of the nu-
-tritious quality of acids; though it is
believed by doctor Cullen to be a necessary
part of the aliment of man - Sugar acc-
-ording to his arrangements is the second
part of alimentary matter which should
be considered - It has been doubted whether
sugar alone is nutritious, ~~of itself~~, or be-
-comes so only when united with oleagenous
matter - That it is itself one of the most
nutritious substances in nature, I am in-
-clined to believe from the following facts
We know that in many parts of the
world, especially in the Islands of the
South Sea, the natives live almost ex-

Exclusively on fruits which contain a very large proportion of saccharine matter; & that these fruits are more or less nutritious accordingly as they contain a greater or less quantity of sugar. It is ascertained by the experiments of Marzani that all vegetables are nutritious in proportion to the quantity of sugar.

We may take the beech for an example of this. All the farinacea contain a large quantity of sugar. Mr. Schomburgk who was certainly very competent to judge of the case, was so well convinced of its nutritious quality, that he was in the habit of prescribing it in cases of convalescence from dysphasia, in which there was great emaciation & debility from the use

of mercury. Many facts evince its highly antiseptic property. Even dead bodies resist putrefaction when immersed in it. It was used by the Babylonians in embalming & the bodies thus preserved are said to be more sound & firm than the mummies of Egypt. Another proof of its antiseptic quality is that those persons in the East Indies who use a large quantity of sugar are seldom afflicted with scurvy. Dr. Mc Bride, probably without knowing this fact recommends it as a part of the diet of seamen. Linnæus mentions that it is useful in scurvy even when externally applied. But tho' a diet in which sugar forms a considerable part is very nutritious & antiseptic a

diet consisting of sugar alone is found
to have the very contrary effect, produ-
cing scorbutic & leprous diseases — I have
who experimented on sugar, found that
during the time in which he lived almost
entirely on this substance, a less quantity
of liquid prevented his thirst — The same
gentleman after living for fourteen days
on a diet in which sugar formed a prin-
cipal part, had his gums swelled & pon-
gy, purple spots on his skin, & every symp-
tom of scorbutus. Previous to this he had for
some time lived upon a vegetable diet; he
varied the experiment by using a diet of a-
nimal food before the saccharine one
& no such effect followed — Sugar has
been said to injure the teeth, but I

Barlow 5

think this opinion is groundless —
Under the head of anthelmintics I shall
have occasion to consider its power in des-
troying the worms of the intestinal canal
Carmine experimented on snails, the sco-
lopendra & other insects; & also on frogs, lizards
In one experiment 20 gr^s of sugar were put
into the mouth of a frog; convulsions & spasm
succeeded & he died in one hour — The
introduction of sugar beneath the skin
had the same effect — It also destroyed
pigeons & other domestic birds, but it is remark-
able that it had no effect upon sparrows
The fig which is the most nutritious fruit
we know, contains a great quantity of
saccharine matter — The Romans were so
well convinced of its nourishing power that
it was the usual food of the Athletes

Dr. Cullen believes the good effects of figs in nephritic cases is produced by their demulcent quality - I think it entirely owing to the sugar it contains - The saccharine principle as I believe universally diffused throughout the vegetable kingdom; perhaps there is no plant which does not contain it - It has not yet been obtained from any of the fungi - It has been procured from the graminæ & the liliaceous plants - sugar is obtained from the juices of vegetables by the following process - Mix together with the saccharine juice a quantity of saturated solution of lime in water boil them rapidly, if crystals of sugar are not found to shoot at the first experiment, the addition of lime water

and a repetition of the boiling is necessary - In Hindostan, a very fine sugar is prepared from the cocoa tree - The Lea Maqs or Indian corn, the sycamore tree, & several species of figs abound in sugar - It is also found in the animal, as well as the vegetable kingdom - Milk contains it in considerable quantity, it has also been discovered in human blood - Twenty ounces of sugar have been obtained from the urine of a patient afflicted with diabetes mellitus, in one day - A species of sugar is also found to exist in oils & acids - It appears from the analysis of Camelsbane that sugar is a pure vegetable oxide - It is composed of carbon, hydrogen, & oxygen - The sweetness of sugar is owing to the oxygen which it contains - Deprived of this principle

It loses its sweetness, & recovers it again when it is returned - Honey, notwithstanding it may appear to be nearly allied to sugar is nevertheless very different in its properties - It is much more detergent & more laxative - Honey partakes of the quality of the vegetables from which it is taken; it is possessed of an intoxicating quality when taken from narcotic vegetables. I myself saw at one time 55 men in the back part of Pennsylvania intoxicated by the honey they had eaten - The third part of alimentary matter to be considered is Oil - It has been doubted whether oil when taken in is employed in the nutrition of the body, or is only deposited in the adipose cells to serve certain other purposes of the economy - I have no doubt that it is

very nutritious - Oil is taken in large quantities by many nations particularly the Esquimaux without increasing obesity - Oil has never been found separate from the blood while contained in the vessels - the appearance of chyle has probably been mistaken for it - The oil laid up in the adipose cells is often absorbed to serve the purposes of nutrition in the animal body - An example of this is seen in bears & other animals who hibernate in a torpid state. They are seen to enter their hibernacula in the beginning of winter, plump & fat but then emaciated when they come out in the spring - The omentum too, at the time of their going into winter quarters is remarkably large, but is in great part absorbed

by the time they leave their cells - Dr Hark lived 14 days on olive oil & flour alone, & increased in weight during that time $\frac{1}{4}$ lb - The mucilage of vegetables seems to be considered in this place, it is certainly a very nutritive substance. The Gum Arabic constitutes a principal part of the diet of the negroes who inhabit the banks of the river Niger; and we hear of instances of caravans consisting of several thousand persons, subsisting for many weeks upon gum arabic alone - The mucilage of vegetables was considered by Dr Bullen, as a simple substance, though it is undoubtedly a compound - evidently contains a quantity of lime. All the nutritious substances which

have been mentioned are compounds, & it is difficult to say in which of their component parts, the nutritious quality resides - Calcareous Earth, the next nutritious substance which we shall consider, is not mentioned as being such by Dr Bullen; & Dr Fordyce asserts that it is altogether innutritious - That it is nutritious appears from its being found in all the animal secretions. ~~From~~ The calcareous earth which abounds throughout our globe, still retaining marks of animal origin - From its constituting a principal part of the food of cod & other sea fish; by analogy, from its promoting the growth of

vegetables, which it does either in
the state of quicklime, united with
carbonic or sulphuric acid. It may be
argued that it produces this effect
by attracting moisture from the air,
but we well know that vegetables pos-
sess an invariable principle, that the
sap is moved in their vessels by an
irritative motion. Upon the whole
I think it may be considered an
alimentary matter, with as much
propriety as any of the preceding.
It may perhaps at first view appear
ludicrous to mention Light as ~~an~~
^{nutritious} ~~alimentary~~ matter. We know that
it is not absolutely necessary to

the preservation of life, and thousands
by the tyranny of their fellow men have
been forced to pass their lives secluded
from its benign influence. Yet with-
out, both men & plants dwindle,
lose their vigour. A plant of hem-
lock growing in the dark, shall have
little more virtue than common par-
sley. Animals deprived of light become
diseased, as I saw in some white mice
which were found in a cellar in this
city; the hair had come off on various
parts of the body, & their legs were
ulcerated. The voyagers in search
of M. Peyrouse, relate a remarkable
circumstance respecting the opinion

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which the natives of some of the
islands which they discovered enter-
tain of the effect of light on veg-
etables - These people are in the
habit of making sugar from the
sap of a species of cocoa - They are
well convinced that a tree tapped
in the night or on a cloudy day
will not yield nearly the same quan-
tity of sugar as if tapped on a day
when the sun shines - Perhaps this fact
is applicable to the sugar maples of
our country -



15
the of Milk - Milk ~~undergoes some~~
when first drawn from an animal
appears to be an homogeneous fluid, but
if allowed to remain at rest for some
time, it discovers itself to be composed
of different ingredients, spontaneously
separates into an oily, a coagulable, &
aqueous matter - known by the vulgar
names of cream, curd, whey - The
oily part is first separated, & floats on
the surface, & is of a thicker consistence
than milk - This process goes on best in
the open air - The separation of the cream
is also said to be expedited by ~~boiling~~
the milk soon after it is drawn from
the animal - Milk after standing for
some time becomes acedent & coagulates

10 As this increases the separation of cream becomes less, & ceases altogether upon its coagulating - It is by hastening its progress to acrescency, that thunder, or a disposition in the atmosphere to produce that meteor, lessens the quantity of cream. - The proportion of the oily part in milk depends upon various circumstances - The constitution of the animal, the climate, the age, & the soil of the pasture, all have an influence on it - The cream thus spontaneously separated contains a considerable portion of both the watery & coagulable parts of milk; from the oil is separated by churning - This oil in its recent state resembles the expressed oil of vegetables, & the fat of a-

animal, both in its sensible properties, & its chemical analysis. It is liable to a change, which we call rancidity, acquiring a taste & smell sui generis, & therefore not to be described - It is uncertain whether this change takes place in the oil itself, or in some of the other matters adhering to it - However it may be, it may be prevented by the addition of a little sugar & nitre, or by washing in alcohol - The Coagulable part of milk is next to be considered - This is chiefly used in the form of cheese & the coagulum used in the formation of cheese is always made by the addition of some extraneous body - no quality belonging to every species of cheese is that it is

liable to putrefaction. - This circumstance, together with its yielding volatile acids in distillation induces us to suspect that it is very much of the nature of animal substances. - Whey - or the watery part of milk, separated from the other parts is different according to the state of the milk from which it has been separated. It is always found to hold dissolved in it a quantity of matter which is different in kind & in proportion, according to the state of the milk at the time of the separation of the watery part. - When whey is taken from new milk coagulated by rennet, it contains a quantity of both the oily & caseous parts of the milk. - When it is taken from skimming milk,

it contains a quantity of the caseous, & less of the oily part. When it is separated from the oily part by churning, it contains a large proportion of the caseous part, with very little of the oily. - When it is separated by spontaneous coagulation it is the most entirely freed from both the oily & caseous parts, in this state it is always acid. Whey is found to contain also a quantity of sugar, & is consequently capable of a vinous fermentation, & of yielding an ardent spirit by distillation. - The Tartars - prepare a vinous liquor from the milk of mares, which they call koumiss. To a quantity of the milk, they add $\frac{1}{3}$ part of water, some sour cow's milk intended as a ferment, they then cover

the vessel with a cloth, set it by in a warm situation, for the space of 24 hours. It is then agitated perfectly with a wooden rod, left at rest for 24 hours longer, when the process is complete.

It will be proper, next to enquire in what proportions these parts are to be found in the several milks employed in diet. These milks are those of ewes, goats, cows, mares, women, & asses. The proportion of the caseous part in these, is in the order in which they have been mentioned. The proportion of ^{the} serous parts is inversely that of the caseous part in the above order. The proportion of the oily part is greatest in the milk of ewes, next, in that of cows, & last in that of goats. Having thus considered milk in general, & the several kinds of it, we

may now proceed to enquire in what manner it is produced in the female sex.

From the resemblance between milk & chyle it has been supposed that the latter, without being mixed with the blood, is directly carried to the mammae of females, & appears there in the form of milk. This doctrine I think is inadmissible. The chyle passes into the subclavian vein but very slowly, & is immediately blended with a large proportion of blood, & the whole is acted upon by such powers, in passing through the ventricles of the heart, & the lungs, as cannot fail intimately to mix & diffuse them together. I do not deny that the chyle is sometimes seen separate from the blood after it is drawn from the vessels. I even consider this circumstance

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as occurring much oftener, than is generally
imagined, but always as a morbid appear-
-ance, & for the most part connected with
diseases of the head, particularly vertigo.
I think it much more probable that milk
is produced in the mammae of females by
the mysterious power of secretion. Though milk
is not the same fluid which passes from the
thoracic duct into the subclavian vein, there
are some circumstances which induce to believe
that the matter of milk is chiefly afforded
by the chyle or the aliment last taken in.
One is, that the odour of the aliment last
taken in, often appears in the milk which
is secreted soon after. A purgative medicine
taken by the nurse has often operated on

her suckling- This I believe has only hap-²³
-pened when the medicine was long retained
in the intestines of the nurse, without operating.
The *Gratiola* or hedge hyssop which is purgative
-tive with respect to man, imparts its proper-
-ties to the milk of cattle that feed on it
to such a degree, that whole pastures are
sometimes rendered useless to their owners, when
it grows in considerable quantity. The *Euphor-*
-bia also imparts an emetic quality to the
milk of cattle feeding on it. I have heard
of a case in this city of a child who was
salivated by sucking a woman under the
influence of mercury - Having thus con-
-sidered the natural history of milk, proceed
to treat of its use as an article of diet, &
of medicine - The production of milk

24 always taking place at the same time
with the production of the animal, the
organ producing the milk, being furnished
with teats, or parts suited for sucking, & the
instinctive propensity of the young animal
to suck, leave no doubt that the milk is
intended for & adapted to the nourishment
of the body. — Experience teaches us that
milk, especially that of ruminant ani-
-mals, in a certain proportion, is an al-
-ments well suited to every period of life
& may be constantly employed, except by
those, with whose peculiar idiosyncrasy
it disagrees. — It is prescribed as a restorative
medicine in cases of emaciation & debility,
often with an intention of correcting a
vitiating state of the fluids. If how-

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-ever the fluids are vitiated by a ferment
added to them, as we suppose in the case in
lues, & in cancerous cases, milk may moderate
the disease, but not cure it. — Phthisis pul-
-monalis & the Gout are diseases in which
a milk diet is often recommended, & it
appears to be a very proper one, when we
consider that a phlogistic diathesis for
the most part accompanies these diseases,
& that milk is a food better adapted to
obviate this diathesis than any diet en-
-tirely animal; at the same time by par-
-taking somewhat of the animal nature
it may prevent too great a degree of de-
-bility, which a diet entirely vegetable would
probably occasion. — Cyprina & the ce-

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- Librator lithotomist observed that he never
knew a person afflicted with calculus, who
had lived much on a Milk diet. -

It is customary to treat of the article
of diet taken from animals, in the next
place, but I shall continue with materia
medica, as being a subject more impor-
-tant, treat of animal matters at the
end of the course, if sufficient time
remains

Class Polyandria - O. Monogynia
(Of tea - Thea on the tea plant is acro-
-gen, by Linnaeus in his sexual system, in
the thirteenth class (Polyandria) 1st order,
(Monogynia) - In the system of B. de Juss
-ieu it is placed in the natural order
of Columniferae. It appears that there are
two species of this plant, the Thea Bohica
& Thea viridis, This distinction is founded on
the difference in the number of petals.
The Bohica has 9, the viridis only 5. The Bohica
is proper to Japan, the viridis to China. It
often grows in mountainous situations inac-
-cessible to man, & is obtained by the natives
in a very extraordinary manner, viz by
throwing stones at the monkeys, who [are]

sagacity enough to put an end to these persecutions, by gathering & throwing down the branches of the shrub. It is not confined to the mountains alone, but grows in the vallies also. The tea is prepared by gradually roasting in an iron pan, rolling it between the fingers. There are two modes of using tea. A simple infusion is the method employed in this country, in Europe. The Japanese reduce it to powder & make it into a thin paste with water. It is evidently astringent, & antiseptic.

The narcotic quality is much lessened by the roasting it undergoes when green & by the subsequent infusion.

Astringents.

Astringent substances give out their qualities readily by infusion in aqueous or spirituous menstrua. The water obtained from them by distillation is inert.

Astringents are recommended in all cases of general debility, as in that class which is denominated by nosologists Cachexiae.

In Haemorrhages of the passive kind they are of service; in the active they do injury, as they manifestly possess a stimulating property. They are used more especially in haemorrhages of the uterus, the stomach & the nose.

Dysentery - As we consider this disease as consisting in a febrile state of the intestines

the use of astringents, particularly of the
more acid is improper -

Nearly the same thing
may be said of diarrhoea as of dysentery, it
is very often a febrile affection alternating
with gout &c. & frequently requires bleeding &c.
in these cases all astringents except the
more mild are forbidden -

Leucorrhoea is
divided into two species, *L. frigida*. & *L. calida* -
in the former of these astringents & tonics are in-
dicated - in the latter a contrary practice -

Diabetes - Is supposed to depend upon a relaxa-
-tion of the kidneys, where it does so they may
do good - but there are some circumstances
which render it improbable that it does
depend upon debility - -

Heel. In

gluts they are injurious or beneficial according to the species of disease. In obstructions of the urethra, enlargement of the prostate gland they are always hurtful.

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Astringents are certainly useful in many cases of calculus. Dr. Cullen supposes that they act by absorbing ~~the~~ acid in the primæ viæ, on which he imagines the disease depends. But we know that many of the medicines which are called lithontriptics, do not possess any such property; besides calculus does frequently exist when there is no excess of acidity in the stomach. They are frequently used as local applications in ulcers.

Particular Astringents.

Cl. Monocœia - O. Polyandria.
The various species of quercus, possess a considerably astringency. This quality

ty resides chiefly in the Bark, as it also ^{is} does in most other ^{ashy} vegetables - An Infusion or weak decoction is recommended in cynanchae, & profusion of the uricæ - In doses of ℥i of the pulv: Bark three or four times a day it has often cured intermittent fevers - The bark of the spanish oak has a considerable effect in stopping the progress of gangrene - preferred to Peruvia bark - In Germany the acorns of beech species of oaks are used in diarrhoeas, dysentery -

Gallicin. Are brought in greatest quantity from Barbary - They are excrescences formed on the oak tree by an insect called the cynips - An extract prepared from them is the form most commonly used -

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are recommended in a variety of diseases
In obstinate intermittents which do not yield
to the bark, they are sometimes effectual.
An ointment prepared from powdered galls
& soft lard is used ^{as} an application to Hemor-
-rhoidal swellings when they appear exter-
nally. ~~Same~~ infusion injected when they are
situated high up in the rectum with
good effects. — Gleet & Gonorrhoea.

The propriety of astringents in these diseases
is doubted by some; J^r B is of opinion that
they are very proper, but never prescribes
them of above half the strength that is
recommended by some physicians.

~~Ch. Dioecia - O. Tetrandria~~
Viscid or Mistle - is one of those plants
denominated parasitical - Is more an object
of natural history than of medicine.

It is found on various trees; but it is a very curious fact it is not found to differ in its qualities, from whatever tree taken. Though its vessels manifestly correspond with those of the plant on which it grows. It possesses some astringency. Many imaginary virtues have been attributed to it. Gum Kino. We are not acquainted with the botany of the plant which yields this gum. It is readily soluble in saliva, in watery & spirituous menstrua. It strikes an intense black colour with sulphat of iron. By these circumstances it is distinguished from Terra Japonica, which is neither soluble in saliva, nor strikes a black colour with sulphate of Iron.

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It was employed in intermittent fevers
by Dr. Fothergill, is said by him to have
been effectual in many cases where the
Peruvian bark & arsenic had failed -

Catechu, erroneously called terra Japonica

(Pl. Polygonica - Or. Monocotyledon)
Is extracted from a species of Mimosa -
it is not much used in this country -
it consists chiefly of gum. It is said to enter
along with several other astringent substan-
ces into the composition of an ointment

much used in India in the cure of old
ulcers. - - (Pl. Magnoliaceae - Or. Dicotyledon)
Geranium Maculatum

a decoction of the root of this plant
has been used in the Cholera Infantum.

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Heuchera Americana - Syn. *American*
sanicle, Alum root - The root of this plant
is an intense astringent - - -

~~Pl: Didymopanax~~ ^{*Didymopanax*} ~~*Angia peruviana*~~
- *Orobancha Virginiana* - Syn. *Buck drops* -
- *Cancer root* - It formed the principal part
of Martens cancer powder; tho it appears
from the analysis of Dr. Ruess that his powder
contained arsenic, it is certain that it was
more effectual than any preparation of
arsenic in the hands of regular practitioners.

= ^{*Scorodrig*} ~~*Scorodrig*~~ ^{*Polygynia*} - *Tormentilla erecta*. This plant has
a considerable resemblance to common
cinquefoil - It has been exhibited in inter-
mittent fevers, usually combined with genti-
an - It has been recommended to prevent

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abortion, it is probable it may have this
effect, as abortion frequently depends upon
laxity particularly of the uterine system.
= Pl. Decandrie. Ord. Monogynia
Vacc. Visc. Syn. Bearsberry. This is a low
evergreen shrub common in many parts of
the United States - It is conjectured to have
been known to Helen & Dioscorides. Its virtues
are better extracted by water than spi-
rituous menstruum - It is particularly
useful in calculous & nephritic complaints.
It has been supposed to act by absorbing &
neutralizing the uric acids, which is a con-
stituent part of the calculous concretions.
It has been given in doses of one drachm
3 times a day - An infusion is used as an expec-
torant in Gonorrhoea, Rheumatism, Catarrhus Vaginae.

C. Icosandria - O - Polygynia.
Potentilla reptans. or common cinquefoil.

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Agrimonia. Agrimony - *C. (Dodecandria. Or. Digynia.)*

Fragaria. Strawberry - *C. Icosandria. Or. Polygynia.*

Geum. alens. - *(C. Icosandria - O - Polygynia.)*

Tetrandria. Or. - Monogynia.

Rubia - madder. - this article is con-

-siderably emmenagogue; no remedies could prevent
abortion in rabbits that took a quantity of
it every day.

Cryptogamia. | *(C. Icosand - O - Monog.)*
Filices. Ferns. | *(C. Corl. Granatorum. My-*
C. Dioecia - O - Tetrandria) myrtle. (Polygami - O - Dioecia)
rica, candle berry. Diospyros. |
(C. Myrica. Triand.) (C. Icosandria)

Alnus. Spirea Opulifolia, nine bark.

Dr. Cullen has arranged under the
head of astringents, a variety of metallic.
Hofpit substances, which I think will be
more properly referred to the class of Tonics.
Among them however, is one which belongs to
the class of astringents, namely *Alum.* ---

Alum. exists ready formed in the earth

in many parts. It is a compound of sulphur-
=ric acid and argillaceous earth; the argilla
reticulata of Bergman. In speaking of its
use, the subject is divided into two parts, viz
its internal & external use. Internally it is
~~recommended~~ in uterine haemorrhages. Small
doses should be given at first. A very good
formula is the following. Alums & powdered galls
aa $\mathfrak{ss}$ - to be divided into 10 doses. In leucorrhoea,
or gonorrhoea it is used as an injection, applied
in a decoction of oak bark or infusion of
galls. Helvetius uses in haemorrhages in com-
-bination with sanguis draconis; the formula
employed by him still retains a place in the
Edinburgh Pharmacopoeia under the name of
pulvis stypticus. In intermittent fevers it is

used, conjoined with nutmeg or some other aromatics.

D^r Chalmers employed it in the putrid bilious
fevers of South Carolina, & observed that no medicine
was equally as effectual in restraining the colliqua-
tive diarrhoea which attended it. Diabetes - Tonsillitis -
Prolapsus Uvulae - Externally, it is used almost only
in haemorrhages &c - Arranged by Garcin in his
class Sorbentia ...

41
Of Tonics. Are defined to be certain medicines which whether internally taken or externally applied give strength to the system without increasing the heat of the same. Dr. Cullen supposes that the only ~~pure bitters~~ true tonics are the pure bitters; ^{Dr. Wilson} differs from him - the essence of the tonic quality does not reside in the bitterness, or in the astringency of medicines.

One of the most obvious effects of the tonic medicines is to increase the appetite for food, & the digestion of it when taken in. Dr. Cullen supposed it to produce this effect by increasing the tone of the muscular fibres of the stomach. The erroneous theory of digestion which prevails

at that time led him into this error. ⁴²

It was then supposed that the food was dig-
=gested by the muscular action of the sto-
=mach; but Spallanzani has since proved
that in animals with membranous sto-
=machs, the digestive process is carried on
by the gastric juices alone. Dr. Darwin
places many of the tonic medicines in this
class. Sorbentia, says they act by increasing
the absorption of chyle. But in opposition to
his theory it may be urged that several
of the bitters prove purgative, such as the
Menyanthes or bog bean, Gentiana ben-
=taureum. Many bitters are diuretic.

It is one of the most obvious effects of
Digitales. Lactuca virosa, Oenothera

+ In continued fevers often the frequency & activity of the Puls. have been reduced by N. & other evacuations, Bitters may be administered with safety & advantage.

+ The anodyne power of bitters has been denied by some, but they certainly are possessed of that quality. If a person taking going of passion is a glass of wine & another glass of wine taken alone the difference is the door path. The passion will produce flushing.

43
other plants of the 19th Class of the sexual system. & often Opium, proves diuretic - In intermittents fevers they bitter medicines are in general serviceable, especially those which have an astringent combined with them.

+ In continued fevers they are inadmissible, especially those possessing an aromatic quality.

Dr. Cullen recommends them when such fevers show a tendency to putridity. - +

Bitters as Emmenagogues - I believe them to possess no specific action in this way, but by giving tone & stimulus to the whole system they may eventually prove so.

Dr. Cullen imagines that all the bitters possess more or less of a detestious property - Many of the bitters certainly

44
have such an effect on peculiar idiosyncra-
sies, but they are by no means universally so.
The bitters have long been recommended as reme-
-dies for preventing the recurrence of paroxysms³
of gout. The famous Portland powder differs
little from the composition used by Galen in
this disease. They are believed to have done
injury oftener than good. It is certain, they
have, as well as an excessive use of ardent
spirit or opium, often prevented the return
of gout, but the patients have almost
uniformly died in the course of a few
years of Hydrops, Apoplexy &c. - The
tonic quality of the bitters is extracted
by both Spirituous and aqueous men-
-strua.

x Have not yet been discovered in
America.

Int. amount fr. 307

Palm. Gaud. 7/8

Pen. apert. 1/2, I have Romanach
of Ropostets -

Gentian recommended by Dr. B
in substance in which form
he thinks it of most service.

Strucc.

Particular Ignis.
L. viscosus.

x Pentandria - Digynia.

45
The several species of Gentian stands first on
the list - One of these sps, viz, the *G. linearis*
which is an indigenous plant, promises
from its sensible qualities to be a medi-
cine of great utility; I think a subject
well worthy of investigation - That which
is most commonly used is the *G. lutea*. This
is a very pure & simple bitter, it is considerably
stimulant - Its antiseptic power is very great
pieces of flesh have been preserved in an
infusion of it for two months. In cases of
intermittent fevers, & in dyspepsia it is often
exhibited - It is one of the ingredients of the
celebrated Portland powder. The quantity given

& this is a very diff. plant from the
Common Centaury of Europe.

in arthritic & calculous cases—It is also used ¹⁶

as an anthelmintic—Cl. Pentand: Ord. Monogy:

Sentiana Centaureum.

~~Pentandria~~ ^{Monogynia}

Chironia Angularis... This is a very common
plant in most parts of the united states; it
erroneously called centaury—It is possessed of a

considerably tonic property—

~~Decandria~~ ^{Monogynia}

Quassia. There are 3 species of this plant
now known to botanists—1st *Quassia*. This

is a small tree or rather a shrub growing in
large quantities in the island of Santa Cruz.

The bitter taste pervades the whole plant
but is ~~most~~ ^{greatest} evident in the root—More

antiseptic than peruvian bark—First used
in the remitting fevers of Surinam by a negro

called Quassi whence its name—The quassia is

Cool Luff. 3rd.
A. j. just. bull. the
Sp. com. 3rd. Cool. if man
its v. p. d. 1000.

+ I cannot conclude without
observing that the use of Quassia
may be continued longer than
any other bitter with which we
are acquainted. The dose of
the bark from ʒss to ʒj.

The bark of the tree does not
possess either an astringent or
mucilaginous quality. Has been
used in Jamaica. Improper in
the first stages of that disease.

thought by some to be peculiarly adapted
to the debility attending hysteria. 83

2nd Excelsa or Polygi ^{am} - tall tree growing in
the island of Jamaica - the in interm. ^{am}
Hydrops. Chlorosis, Amenorrhoea, Pica.

3rd Simarouba - - -

+ Pl. Dioecia - O. Pentandria.

Humulus Lupulus - The common hop.
This certainly has a narcotic quality
together with its tonic. It appears from
the dissertation of Dr. J. R. Roche that 20 or 30
drops of a saturated tincture of the hops
procured sleep, & every good effect
expected from opium, & as there are
certain idiosyncrasies to which opium
is entirely disagreeable, the discovery is an
valuable one. The hop is an ingredient

in the malt liquors - It has been disputed
whether or not these liquors are favorable
to the production of calculus - byrrhianus
~~the~~ lithotomist observed that none of his
patients had been addicted to the use of
malt liquors - ~~For my own part (Dr's)~~

A single draught of porter never fails
to bring symptoms of nephritis on ^{Dr's}
in a few hours after it is swallowed -
= Pentandria & Monogynia.

Menyanthes Trifoliata... Bog bean
Is common to Europe as well as America.
It strikes a black colour with a solution
of sulphate of iron, though its taste does
not discover any astringency - Given
in sufficient dose it is both emetic and

49
purgativo - It has been exhibited in gonorrhea
and nephritis; & a decoction of it used as a
lotion in Herpes & Scors.

~~Cynogenesis~~ - Polygam. fruct.
Centaurea Benedicta. *Coflea affe. baccatus*
benedictus, blessed thistle - It possesses a gently
emetic quality together with a considerably
tonic - The disagreeable smell which the
plant has while green, is lost by drying.

A cold infusion is the best preparation.

~~Pentandrig. C.~~ - Monogynia
Faba Tonatica - Is brought from the
Philippine Islands - It was first introduced
into ~~Europe~~ practice by the Jesuits, whence
its name from Ignatius Loyola the found-
er of their sect - It is the most intense
bitter known, & possesses a very considerable

30
narcotic quality - A dose of 3℥ kills a
dog in a very few hours - It has been given
as a tonic in intermittent & other fevers
in doses from 3 to 8 grains.

= Pentandria - Monogynica

Nux Vomica. Is nearly allied by botanical
affinity to the *S. S. Ignatia*. It is a
globular berry of a yellow colour - has a
disagreeable bitter taste, & is extremely
deleterious. It has been used in intermittents
combined with gentian; & as an anthelmintic

=^{tio} (Diadelphica - Hexandria)

Jumaria Officin. Commoner fumitory

= Syngenesia - Polygamia equal.

Candelion. *Rh. abed.* - This is a
milky plant of considerable power, as are
almost all the milky plants - It is consid-

ably tonic and diuretic. It has been used
with considerable success in dropsy.

Xanthorrhiza Apipolia - or yellow
root; is a native of North & S. Carolina
and Georgia; the bark of the root is in-
tensely bitter, but does not manifest any
astringency - The fresh plant has a violent
smell which seems to indicate something
deleterious; It however possesses no such
property - Dr B prescribes it as a tonic to
columbo.

(Polyandrea - Polygynia -)
Hydrastis Canadensis. This plant is
nearly allied to *Xanthorrhiza*; tho' it does
not belong to the same class of the sexual
system, yet is referred to the same natural

order, viz *Panunculaceae*.

= *Frasera carolinensis*. Is nearly allied
in botanical habits to Gentian, and has
been mistaken for it. L'Herbier thinks it not
inferior to Gentian.

= ^{*Polyandra* *Polygama*}
Helleborus trifolius. Called in S. Dorsey, Gold-throat.

= *Columba*. A native of Asia, transplanted
to the city of Columbia in the island of Ceylon.
The plant to which this root belongs is still un-
known to the botanists. Its virtues are more
perfectly extracted by spirituous than aqueous
menstrua. It is one of the calida amarae
stimulating bitters. Has been advantage-
ously used in the nausea so frequently
attending bilious fevers, bilious cholera,

also in the nausea of pregnant women. It
may be given in doses from 10 to 40 grains to
an adult. The powder is preferable to the
decoction or infusion.

= (Gynagesia - Polygam: superflua)

Anthemis Nobilis. Common camomile. This
plant is a native of Europe. The flowers are
the part employed in medicine. It is preferable
to most of the other bitters. Preferred by Morison
to Peruvian bark. Used by Pringle in dysen-
tery for relieving tormina.

= (Gynagen: - Polyg: superfl:)

Tanacetum Vulgare. Common tansy.

Is not a medicine of such powers as the
Camomile; tho' it possesses considerably tonic
properties. It had almost gone out of use
when Dr. Black of Edin recommended it in
cases of gout. - Antispasmodic.

(Syn: - Polyp. Superfl.)
54
Artemisia Aluthicum. Common worm-
= wood - - - (Dynamidria - Deaxandria -)

Aristolochia longa. possesses a bitterness
combined with acrimony - It derives its name
from the property which it is supposed to
possess of promoting the menstrual discharge.
It is an ingredient in the Portland powder.
This powder is composed of the *Aristolochia*
longa, *Gentiana lutea*, *Chamaedrys* - *Chamaepitys*
& *Centaureum* - - -

Aristolochia Serpentaria - Indigenous
& proper to America - There are several plants
known by the name of snake-root which are
very different in their properties. *Actaea racemosa*,
Polygala senega, *Lophogelia Laurilaudica* are
all known by the name of snake-root. It has
aromatic acrimony along with with its

53
-terrup- I affords a gummi-resinous extract; the
quantity of gum is double that of the resin -
= *Scosandria* - *Monogynia*
- *Amygdala*. *Amara*. Bitter almonds - It was
used by professor Bergius in intermittent fevers.
He combined soluble tartar honey with the
emulsion, found it to be effectual when bark
had failed - It is suspected to possess a narcotic
quality - In large doses it occasions nausea and
vomiting, & a few of the kernels have sometimes
brought on intoxication - It is fatal to squirrels,
cats and other animals.

= *Polyadelphia* - *Scosandria* -
Cedrus. *Aurant* - The pell or rind of the
fruit - It contains a quantity of a volatile
aromatic oil combined with its bitterness.
In intermittent fevers, it is said to be supe-
rior to the Peruvian bark in some cases.

(50)

The leaves of the orange tree, have been
exhibited in Epilepsy, and other convulsive
diseases; but it appears from the experiments
of Dr Cullen that the cataplasms which have
been bestowed on it are groundless. & that as
a medicine, they are inferior to the rind.

= Symplicia - P. Superflua -

Arnica Montana. Leopard's bane. Is an
acrid bitter plant growing in Saxony & Bohemia
Dr. Koenig of Vienna speaks highly of its use.
He prescribes a decoction of the flowers to Peruvian
bark - He observes that its use has never brought
on visceral obstructions - In colliquative
diarrheas & in hectic fevers from large external
wounds, he says, it has been highly beneficial
when the Peruvian bark was unsuccessfully.

57
exhibited - It is not in use in this country.
Donald Mome gave it in intermittent fevers with-
out success - Dr. B. believes it an active plant

but that its virtues have been magnified -

= ~~Monocera~~ - Monadelphica -

Croton Casearia. Is a native of the

W. Indian islands, & Georgia. It is aromatic bitter
gives out an agreeable odor while burning. It

was much used by the disciples of Stahl as a
substitute for Peruvian bark.

= (Syn. *P. equalis*)

Eupatorium perfoliatum. *Synonyma*, *Eup.*
cinereum of Michaux; broom wort; thorough stem,
Indian sage; bone set; agree weed by the Indians.

This plant is usually exhibited with a view
to its tonic quality, tho' it is emetic, suberoff
and diuretic - A decoction of the whole plant
has been used in intermittents, as a tonic, and

58
also as an emetic - Dr B prefers the flowers of
the plant alone. & thinks them a very good
substitute for camomile flowers - It is said to
have done much good in an hepatic affection
which formerly prevailed in Virginia, known by
the name of the James river ring worms -
= (*Pentastemon - Monogynus*)

Cinchona Off. - Peruvian bark - The cincho-
-na is a native of South America, growing in
greatest quantity about the city of Loja in
Peru. It is also found throughout the whole ex-
-tent of the Andes - Upon these mountains the
plant attains its utmost luxuriance at the
distance of 2000 feet above the level of the sea.
B. thinks it probable that the cinchona
will be found in Louisiana - There are
several species known to the botanists

among which are, *Cinchona officinalis*, which is most probably the one producing the pale bark, *Cinchona angustifolia*, *Cinchona caribbea*, *C. montana*. It is a medicine which appears peculiarly adapted to the cure of intermittent fevers. Intermittents are sometimes cured by astringents or tonics separately, but medicines which have both these qualities combined are most effectual, and such appears to be the Peruvian bark. Physicians have differed about the proper time for the exhibition of the bark; Boerhaave, Van Swieten say that it should not be given until the disease has continued for some time; Dr. Cullen tells us it should be given as soon as an intermission of fever is

but there are cases in which an intermission
 is not to be waited for. But in general this
 premature exhibition of the bark is unneces-
 sary. Dr. B. thinks that most intermittents
~~depend~~ more or less of an inflammatory
 nature; & many cases occur in which repeated
 bloodlettings are necessary; yet is the gene-
 ral custom to evacuate the primæ viæ
 by emetics or cathartics; B. prefers the
 latter set of remedies. ʒi of the powdered root
 of Podophyllum pelt. combined with 5 or 6
 grains of mercurat of mercury is preferred
 to Jalap or Rhubarb. The bark has been
 accused of bringing on Jaundice & visceral
 obstructions; It is more probable, these

diseases are occasioned by the want of a
sufficient quantity of bark, then by its
excessive use - + +

+ + + - - Hiatus - + + +
+ + + - - + + +
+ + + + +

Substitutes for the P. bark

^{Pentagonaria}
Angustura - The bark of *Angustura*
was introduced into practice as late as the
year 1788. It was supposed to be the product of
the *Brucea antiolysenterica*. L. B. thought
it a species of *Magnolia* until it was
discovered by Baron Humboldt to be a new genus
nearly allied to the *Cinchona*. It belongs to
the same class, but a different order of the
sexual system. - It has an acrid aroma com-
bined with its bitter. A cold infusion of the

part retains its primitive taste, but the ²
acid aroma is destroyed by decoction.
Its colour is not much altered by the oxy-
sulphate of iron. It appears to be more
strongly antiseptic than the peruvian bark
camomile, columbo &c. - The gummy extract
is to be preferred to the resinous - The powdered
bark may be given in doses of 10, 15, or 20 grs
every three hours, to an adult - In angina
maligna, scarlatina anginos, it is particu-
larly useful - In chlorosis and Amenorrhoea
it has been found, it is said, more beneficial
than any other tonic - The same observations
apply to its ^{pure} ^(that of) _{as to} the bark in Pertussis. Its tonic
quality is inferior to that of the bark; but

is preferable to it in many cases, particularly
in the diseases of children, who take it much more
readily than they will bark.

= Polyand: - (Polygynia)

Magnolia glauca. Laurel, bay, or
beaver-trees.

= (Polyandria - Polygynia)

Liriodendron Tulipifera. Common poplar.
both these are nearly allied to the *Asperula* in their
properties — Dr. Barton has known the external
application of the fresh leaves of the latter,
to have been very serviceable in certain cases
of gout, & of paralysis. In some instances they
have produced vesications.

= Diœcia - (Diandria)

Salix alba - white willow - *S. Babylonica*,
weeping willow.

= (Hepandria - Monogynia)

Aesculus hippocastanum - *A. Flava* -

(Decandria - Monogynia)

Quercus alba - horse chestnut.
Simonia Mahogany & *S. Febrifuga*. The *S. lutea*.

64
-gany is used in N. Indies as a substitute
for Peruvian bark - An extract prepared
from it very much resembles Kino. -

Cornus Florida & *C. Sericea*. -
(*Tetrandria* - *O* - *Monogynica*)

Metallic Tonics-

These are, Iron, Copper, Zinc, Silver, & Lead.

Of Iron. The preparations of iron
may be divided into three classes - the
first class includes those preparations in
which the iron is employed in substance
or in the state of an oxide - the second
containing the saline preparations, or those

and which the iron is reduced to the form of a salt by the action of acids. To the third class, are referred those preparations in which the iron is in a state of solution. To the 1st class belong *Sinina ferri*, *Aethiops Martialis*, *Crocus Martis*, *Rubigo ferri* the first of these, is the iron in its metallic state, the other three are oxides of iron. The second class, contains, Sulphate of iron, *Flores martiales*, *Tarum tartarizatum*, *Tartarus Martialis*, *Mars solubilis* - The *Tinctura Martis*, and *Vinum chalybis* belong to the third class. With regard to the use of iron in disease

It is sufficient to observe, that, as a considerably tonic and stimulant remedy, it is indicated in all cases of debility, & febrile whenever febrile action exists.

Zinc—The preparation of zinc which is chiefly used as a tonic, is the simple oxyd, prepared by exposing zinc to heat to this substance the names Flores zincis, Lana philosophorum, & bit album &c are given by the old chemists—It has been principally used in Epilepsy, & probably with good effect in those cases depending upon too great mobility—The sulphate of zinc will be mentioned more particu-

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lately under the head of emetics. It is
frequently used as an external application
in the form of unguents & lotions.
Of late an acetate of zinc has been emp-
loyed for the same purpose, and is said
to have been more effectual than the
sulphate.

Copper. Is soluble in
the gastric juice. When taken into the
stomach in its metallic state it occa-
sions a loss of appetite, nausea, vomiting,
pain in the epigastric region, delirium,
pain in the head, exanthematous erup-
tions, costiveness, sometimes purging of a
bloody matter, soreness of the mouth
and ptyalism &c. Given in small

68
doses its proves stimulant and tonic.
Prepⁿ The acetate of copper is not used
internally - There are two preparations which
contain, that are used externally, viz. *Mel. Sypp.*
-tiacum, *Linguentum aruginis* - As a stimulant
astringent application these preparations
are used in sordid ulcers, sores in scrofula
-lous and venereal cases - they are said to
have been effectual when mercury had fail-
-ed. - Sulphat of copper, blue, or Roman
vitriol. as injections containing sulphat of
copper are much used in gleet, and exte-
-rnally applied in inflammations.

Cuprat of Ammoniac. or ammoniacal cop-
-per - prepared by triturating together, two parts
of sulphat of copper, and 3 parts of volatile

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sal ammoniac until the effervescence ceases
and then exposing them to heat. This preparation
is recommended by Dr Cullen in epilepsy,
chorea &c in doses of $\frac{1}{4}$ gr at first, and
gradually increased. Equal quantities of
cuprate of ammoniac and oxid of zinc
do not produce more violent effects than
either of the articles separately. A tincture
of it is formed by dissolving it in spt sales
Ammon. It is used as an anthelmintic. It
may destroy worms either by acting as a
poison directly upon them, or by increasing
the tone of the intestines enable them to
throw them off. Copper frequently causes
ptyalism. Dr Cullen considers its operation
as very analogous to that of mercury.

70
Silver. The nitrate of silver is the pre-
-paration most in use; it passes commonly under
the appellation of lunar caustic. It has long been
externally applied as an escharotic. Dr. Sims gave
it internally in Chorea St. Viti, Epilepsy & other spas-
-modic diseases. He began with doses of $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{4}$ grs &
gradually increased the dose to $2\frac{1}{2}$ grs three times
in twenty four hours. In most cases it acted
as a purgative tho' not in all. In one case of
angina pectoris which was entirely relieved by its
effects were necessary to keep the body open. Dr. P.
has used ^{it} in the Pennsylvania Hospital in several
cases of epilepsy without any good effect.

Tin. Various preparations of tin
which are now rejected, were formerly employed in
medicine. The filings only are retained. The use
of culinary vessels formed of tin was supposed to
be dangerous as containing a quantity of arsenic

but this supposition appears to be groundless - The pills
of tin are frequently employed for the purpose of destroying
the worms of the alimentary canal; it is probable
that the operation of this substance is entirely mechan-
-ical - It is said to have been of service in ~~cases~~
of epilepsy, probably, in those only which have been
caused by worms. It has been given in doses of 1 or 2 grs
in the 24 hours. =

Barytes carb. & mur. of.

Lime - pure lime used in dyspepsia; may
act in two ways, by neutralizing acid or as a
tonic. The muriat of lime has been much
recommended in scrofula & curved spine - Dr. Barton
relates a case of scrofula which occurred to himself
successfully treated by mur. of lime - he began with doses
of 10 or 12 grs & increased it to 70 or 80 in the 24 hours. He
also relates a case of Gout's cured by this medium
dose 100 drops in 24 hours = Oxymuriat of Potash.
It formed by transmitting a stream of oxygenated

musciatic acid goes thro' a solution of potash - Three⁷²
distinct salts are formed, known, separated by the forms
of their crystals - Said by Beddoes and Rutherford to be
preferable to nitric acid in the cure of syphilis -
given in doses of 10 or 12 grains in 24 hours —

Stimulants.

Papaver.
(Pl. Polyanth: Monog) *Opium.* Dr. B. places opium
at the head of the class of stimulants, altho' he considers
its stimulant property as inferior to several plants of
the order Solanaceae - It is the product of the
Papaver somniferum of Linnaeus - The largest quantities
are made in Egypt & in Turkey - The natives of these
countries are much addicted to the use of it, as it
answers the purpose of wine which is forbidden

by their alcoran. The opium used in America and
Europe is chiefly brought from Egypt & the islands of the
Levant. Travellers differ in their accounts of the quan-
-ties of preparing it. It is said by some to be made
by inspissating a decoction of the whole plant.

Dioscorides distinguishes between the above preparation
which he calls meconium & the genuine opium.

A similar distinction is made by Pliny. Kempter
says the heads are wounded by a sharp knife in
the evening, the juice collected the following morning
inspissated by the heat of the sun. The opium
brought to us is said to be adulterated with the
juice of *Lactuca virosa* & many other extraneous
substances. Use of Opium in the healthy state.

External application. Opium when externally
applied to a sensible part such as the eye, the
wreath and &c. produces considerable irritation.

In cases which have sometimes occurred, opium can
-not be given internally, & the external use
has answered every purpose. It has frequently
relieved spasms of the stomach and intestines.

It appears from Dr Jackson that 3j of the spirituous
tincture has been rubbed into various parts of the
body without ^{considerably} increasing the pulse, tho it has excited
nausea &c. - It never fails to produce costiveness
in the case of the late Mr Rittenhouse, for
which reason he was very averse to the use of it
tho it never failed to relieve him - Dr B thinks
the opium plaster inferior to the liquid laudanum
as an external application - Dr Barton thinks it
probable that opium is taken up by the absorbents
when ^{also acts on the nervous system} externally applied - Dr Monro relates a case
in which plasters of opium applied to the temples produced
aphthae in the mouth - Opium mixed with cantharides
increases its vesicating property - That it is algoretic
is proved by the milk of lactescent women affecting
their suckling - A difference of opinion has long
prevailed with respect to the operation of Opium
It is still considered a sedative by some - Dr B
has no doubt of its stimulant property be-
-lieving that those who have supported the opposite

doctrines, have been induced to do so by their inattention to its primary effects - Haller, Binnig, Wilson, many others have borne testimony of its stimulant effects - Dr Haller also, once held this opinion, but was induced to relinquish it by the experiments of Dr Barts; which experiments Dr Barton thinks are inconclusive - Opium increases all the secretions, & the perspiration chiefly; sometimes induces an eruption on the skin, & very often a sense of itching and formication - This circumstance alone renders it a disagreeable remedy in some cases, but it may generally be prevented by a draught of some diluent drink taken after the opium; such as balneum The doctrine of the stimulant property of opium is the most ancient.

Plinius in MSS.

+ + +
+ + +
+ + +
+ + +
+ + +

(*Pentagloea Monogyna*)
Satura Stramonium - Is now a common

plant throughout the United States; Dr. Barton thinks, it was originally a native of the more southern climates, & has been transplanted by birds. It is poisonous to every animal as far as we know, except goats, these not only eat it with impunity, but even give fat on it. It is proper the seeds for internal use to any other part of the plant. - The inhabitants of Turkey are accustomed to substitute the plant for opium when the latter cannot be had, for the purpose of intoxicating themselves. - It increases the pulse, causes a greater flow of urine & perspiration, & has sometimes induced haemorrhages.

A large quantity has brought on - tetanus & hydrophobia - but these diseases when induced by this cause generally terminate favourably. - The stramonium was first brought into notice as a medicine by Baron Storch of Vienna. He used it in many cases of Mania & Epilepsy. Priding also used it in many cases of Epilepsy but with very little success. - He used an extract prepared by inspissating the juice over the fire. - Barton does not approve this preparation. - He advises the fresh leaves to be bruised, the juice expressed thro' a cloth, & exposed to the air in a room where the sun does not shine.

Dr. Cullen's opinion of this article is unfavorable—Dr. Gault of Maryland speaks in high terms of its use in Epilepsy
He uses the following precept: *℞* Gum. D. ʒss. ʒi

Lew. D. Str. 21

Far: Triton. 31

Ag. Ring's. Auf. 1848

div in hills. Of these

He gives one every four hours until ~~the~~ operation is evident. - He observes that its good effects were more evident in these cases where the disease occurred periodically. Dr. Barton has employed it with completed success in three cases of mania in the P. Hospital - he began with a dose of 5 grs a day and gradually increased - begins.

T. Pentandria - 6 - *Monogynia* -
Xyosciamus. *Niger*. black hembra.

This is not an indigenous plant of the United States though it flourishes very well here - Dr. B. has seen it wild growing with considerable luxuriance on the Albemarle river in Jefferson county in Virginia; it there goes under the appellation of devil's cabbage - Koenig relates a remarkable case of convulsions cured by the external application - Greding uses it in mania - In the name of puerperal women, Dr. A. Fothergill has employed it,

successfully in two cases - It has sometimes induced pyrexia.
Bergius found it useful in palpitation - Storch gave it
in doses of 3 grains in haemoptoe - Bullen says, it is
more apt to induce restlessness than opium is - but in
certain idiosyncrasies it is preferable - It seldom brings
on constipation as opium so frequently does; it rather
serves to open the body - Bullen of respecting its use in
colic? It is especially serviceable in the colic
attending virulent gonorrhoea; in this disease the use
of opium is often absolutely forbidden, while the
hyoscinum may be very beneficial -

(Pentandria - O - Digynia)
Conium maculatum - This is not
an indigenous vegetable of the United States - The *Cicuta*
maculata which is an indigenous plant & bears a very
great resemblance to the *conium*, has frequently been
mistaken for it - But they ought to be carefully distin-
guished from each other as well as from several other
plants which they resemble - ^{w. & f. of Scroph.} The most distinguishing
marks of the *cicuta* is that its seeds have 20 number

of longitudinal marks of a dark colour. Dr. B. considers ⁷⁹
it as a weaker stimulant than opium. ^{Conium & c.} When taken
internally in considerable quantity it produces anxiety,
cardialgia, vertigo, stupor, delirium, mania, aphonia,
convulsions, blindness, diuresis, loose stools, tetanus &c.
Storck recommends it in cancers. Dr. B. thinks it may
be useful in scrophulous, venereal & other ulcers mali moris,
altho' it has not cured genuine cancer. For external
application he recommends a bath made by boiling
℥ss of the seeds, 3 or 4 handfuls of the flowers & leaves
in 8 gallons of water down to six. The part affected
may be bathed frequently with this, or if it is
internal may be injected by a syringe. The Dr. relates
a case of schirrosity of the rectum which was much
benefited by this injection. he thinks it may be
employed with good effect in similar diseases of the
bladder and uterus. The inhalation of sulphuric
aether impregnated with conium has been recommen-
ded in asthma. ℞ij Fol. Con. pulv. & ℞ij Sulph. Altho'
it sometimes induces sickness & giddiness which
however soon go off.

(Pentandria - Or - Monogynia)
Atropa belladonna. Dr. B considers this the
most powerful of the stimulating narcotics
= (Pentandria Ors - Gynia -
Cicuta.

= (Gcosandria - Or - Monogynia.)
Laurocerasus. Is not an indigenous plant
of the united states. The *Kalmia latifolia* has been
taken for it - arranged by Cullen in Cl. Sedantives.
Dr. B has never used it but considers it a most
powerful narcotic stimulant. The *Juniperus Virginiana*
possesses powers somewhat analogous. The distilled
water of *Laurocerasus* is a most deadly poison -
it destroys animal life immediately its effects
are so suddenly produced that inflammation
does not supervene. The arteries after death are
found empty & the veins full of blood.

= (Decandria - Or - Monogynia.)
Kalmia latifolia. Called in Pennsylv-
-ania, laurel: in Virginia, Dr. B. referred to Dr. J.
Thomas in aug. diff. -

Laurus - (Bl: *Emmenandra* - *O. elongata*)
Camphor. This peculiar substance is procured
in greatest quantity from the *Laurus camphora* of
Linnaeus; but many other plants afford it in smaller
quantities, viz *Laur: Sassafras*, *L. Benzoin*, various sp. of
Stellaria, *Posonaria*, *Thymus* &c. - It is very little
soluble in water - Of late it has been discovered that
it is entirely soluble in water, impregnated with
carbonic acid - It is also rendered soluble in water
by gum ~~elypati~~ in the pr of 3; myrrh to 4½
of camphor - It is readily soluble in twice its
weight of rectified spirit of wine - Camphor is
capable of combining with oxygen forming camphoric
acid; this combination may be effected by distilling
nitric acid off camphor - Upon distilling with
alumine, a yellow oil comes over called *oleum*
camphorae - Dr B. thinks its properties very
analogous to those of opium, that there is no
one effect peculiar to either - Camphoric in-
jections have proved to be very effectual in destroying
ascarides in the rectum - It sometimes enters

the circulation & communicates its peculiar odor to the perspiration - It has been said to have been effectual in mania; in such cases the dose has been gradually increased to ʒss 3 times a day.
It has been used in mania in the P. Hospital; in one case it did injury - It can only be useful in those cases where no fever is present - D.B. has found the powers of the mercurial ointment to be much increased by the addition of a small q of camphor. Ulcers which have refused to yield to the mercury alone, have begun to heal as soon as the camphor is added - It is said to prevent the action of cantharides, externally applied, on the urinary organs.

Musk - Is procured from an animal of the genus *Cervus*, called by Linnaeus *Moschus moschiferus* - The musk is contained in a small pyriform bag pendulous from the belly of the ^{male} animal only. They are found in Tibet, Tongkin & many other parts - B. thinks it

probable, they will be discovered in Louisiana⁸³
Musk is an inflammable substance of a dark ferru-
-ginous colour, & a peculiar penetrating odor. As it
is an article of high price, it is apt to be
adulterated with tallow & other similar substances.
The best method to judge of its goodness is by the
strength of its odor—We prefer that which has a
granulated appearance—It gives out ammonia
upon trituration with vege alkali—Gout in the
stomach is one of the diseases in which it
has been most used—it has been given in doses
from $\mathfrak{ij}$ to $\mathfrak{iii}$ 3 or 4 times a day—^{top} Tetanus. ^{top} Bil-
-lary. Hydrophobia—The Chinese consider musk
almost an infallible remedy in this disease—they
conjoin with it cinnabar in $\mathfrak{ij}$. proportion of $\mathfrak{ij}$ of
musk to $\mathfrak{iii}$ cinnabar—if this dose does not procure
sleep and sweat in a few hours, it is to be
repeated. Dr. B. thinks the anagallis which has been
so much talked off as a remedy in hydrophobia
to be altogether inert—Musk has been obtained

from several other animals besides the Moccus M.
The alligator of our country has several sacs situated
near the anus which contain a considerable quantity of
a pure musk. —

Bastor. A substance brought
chiefly from Russia, supposed to be the inguinal gland
of the beaver. Its smell is disagreeable & its properties
seem to resemble those of musk. . .

Brocus. Dr Barton says nothing of
this from experience. From the testimony of others
he is induced to believe it a stimulant & sudorific.
It is used by the old women to drive out (as they term
it) the small pox. —

Valerian. The plant which
produces this medicine ^{the Val. dyliotis of Linnaeus} is not a native of America but
there are several species of the same genus which are
indigenous. The root of the plant is the part employed
in medicine. It acts generally as a diuretic and diaphoretic
In doses ʒij it proves purgative, in larger doses

metus - Epilepsy. I thought it particularly suited to
the epilepsy of women who have obstructed menses. Two
cases of Epilepsy caused by worms cured by —

Chorea St. Viti - Is sometimes caused by worms in the
intestinal canal. In those cases the valerian as a power-
ful anthelmintic may do good. It is said to be very
efficacious in preventing the periodical return of hemispheres.
Professor Richter strongly recommends it in diseases of the eye espe-
cially gutta serena - he considers this disease as always
originating from a gastric or dyspeptic affection of the stomach
but it evidently often depends upon organic defect —

In Typhus fever its powers are said to be not inferior to
those of *Aristolochia serpentaria*. - There are two tinctures of
valerian in use; one formed with rectified spirit, the other
with ammonia —

— *Asafoetida* Sum. Is produced
by a large umbelliferous plant called by Linnaeus
Ferula asafoetida - it is a gum resin; the gum is in
great quantity but its sensible qualities reside in

Sum of Rectangles in circle. ^A

$$\therefore \frac{\text{Area of Ell.}}{\text{Area of circ.}} = \frac{B}{A} \quad (\cancel{\pi A^2} = \cancel{\pi} AB, \text{ but area of circle} = \pi A^2)$$

$$\therefore \text{area of Ell.} = \frac{B}{A} \pi A^2 = \pi AB$$

or let Σe = Sum of Rectangles in Ell.

$$\Sigma e = \text{'' '' '' '' '' Circ.}$$

$$\therefore A \Sigma e = B \Sigma e$$

At limit of $\Sigma e = B$ limit of Σe

$$\therefore A \text{ Ell.} = B \text{ circle}$$

the resin - Its expectorant power is superior to that⁸⁶
of gum ammoniac - It lessens the power of opium
It sometimes operates as a laxative in very small
doses - It is recommended in cases of the bones &c.

Gum: Ammoniac - The plant producing this
gum is unknown, it probably is an umbelliferous
plant nearly allied to the Ferula asafetida - It is the
least potent of any of the gums belonging to this class.

Dr. Barton has seldom used it, considered it a medicine
of but inferior powers -

Gum: Galbanum & Sagapenum

Are seldom used in the practice of the present
day, & is thinks deservingly neglected -

Alliaceae. In this order are included
several plants of the genus *allium*; the chief of
which are, *Allium sativum* or Garlick, *Allium*
porrum or leek, & the *Allium Cepa* or Onion -
The strong smell of these articles is dissipated by

boiling - They are possessed of very considerably stimu-⁵⁷-
lating quality as is evinced by their effects when
externally applied, or internally taken - They occasion
heat & redness of the parts to which they are externally
applied, if kept on long enough, vesicating; but their action
is not so powerful as that of mustard & horseradish -
Their smell is often perceptible in the perspiration -
and recommends garlic as a part of the diet of seamen
not only with a view to prevent scorbutus, but to cure
it when formed - It promotes the exhalation from
the lungs, as evinced by the strong smell of it which is
evident in the breath of those who have eaten it - It was
in preventing the recurrence of paroxysms of intermittent
fever is a further proof of its stimulatory property -
It is recommended by Berquin in deafness - he orders a bit
of raw silk to be infused with the juice of *All. sativum*
introduced into the meatus acusticus externus; it
induces redness & inflammation there & often relieves the
deafness - Its use in the disease of Calculus is of

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ancient date - The *allium latifolium* a species nearly
allied to the *allium sativum* was long ago employed in this
disease by the inhabitants of the Hebrides Islands - Dr. B.
thinks its use should be extended, & employed not only in
the lithiasis of the urinary system in man, but also in
the lithiasis of the intestines of horses - The operation
of *allium* in lithiasis is not understood - Dr. B. considers
it rather as an antilithic than a lithontripic.

Siligosae - The title of this order
taken from the form of the seedpods of a certain tribe
of plants; that of the common radish affords a familiar
example - The *Raphanus rusticus*, *Sinapis* are the most
powerful articles of this order - Both horse radish and
mustard were employed by Boerges in intercutaneous
success, the addition of Peruvian bark rendered them
more effectual - They generally increase the secretion
of urine, sometimes induce ardor urinae - They form
very stimulating cataplasms - Equal parts of ripe brown

and mustard seed or the scraped root of horse radish⁸⁹
brought to the consistence of dough with vinegar &
applied externally cause heat and redness of the
part vesication if kept on sufficiently long. They
excite much heat and pain but little evacuation of
serum - They give more stimulus to the system in
general than cantharides do - They operate much
quicker than cantharides - Their effect is sometimes
evident in 15 minutes; that of cantharides seldom is
left more than two hours -

Coniferae. We shall consider
but a few of the many plants which belong to this
order - The different species of *Pinus* are especially
worthy of notice - The turpentine of the shops is the
produce of the *Pinus larix* or *Larch* - It is an acrid
substance inflames the skin when externally appli-
ed. It would be an useful rubefacient but for its
adhesive property - When given internally it is

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necessary to combine it with some bland substances
or it may be given in the form of pills. It exerts de-
-cidedly stimulant effects on the stomach and intestines
and sometimes proves laxative. It is evidently absorbed
into the system & shows a great disposition to pass
off by the urinary organs, communicating a violet smell
to the urine. Its diuretic effects probably lead
practitioners to the employment of it in calculating
a disease in which it has long been used. Dr B thinks
it has often done injury in nephritis calculosa, must
always do so when a phlogistic diathesis prevails.

There are few practitioners who do not experience
its good effects in Gleet & Fluor albus. The effects
of Oleum Terebinthinae taken internally are similar
to those of the turpentine in catarrhes. Frictions to
the spine with oleum Tereb. have prevented the
return of paroxysms of intermittent fever. It has some-
-times induced strangury when taken internally.
Dr Home employed it in sciatica, with much success
as Dr Pintard & Cheyne had done before him.

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It has been exhibited in internal hemorrhages, particularly
those of the intestinal canal; it should be rubbed down
with the yolk of an egg & a small quantity of cinnamon
water. — Placitis of Burgundy pitch introduced into the
meatus auditorius produces similar effects to the juice of
allium shall be of service in deafness; this juice
should be inclosed in thin gauze to prevent adhesion.
In tinea capitis it has been employed. — The hair is
first cut off & a plaster applied & allowed to remain
until the hair is firmly impacted in the follicle; it
is then to be forcibly removed. — Picea liquida or tar
is a half burnt ^{terebenthine} balsam; it might perhaps be pro-
perly called oleum terebenthinae per descensum. It possesses
powers analogous to those of turpentine; it is more
disagreeable to the taste & the stomach than turpentine.
A peculiar preparation ^(meat wort) is said by Dr. Cullen to have
cured an obstinate case of leprosy & ichthyosis. — A citizen
of this place aged 58 years was afflicted with leprosy which
baffled the attempts of the most skilful practitioners;
at length he was advised to use an ointment composed
of tar and mutton suet by this remedy his disease

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was soon removed. — An infusion of tar has likewise
been given internally and applied externally in impetigi-
nos and scrophulous cases — The benzoic acid is found
in considerable quantities in tar water.

Balsam Copaliba. Though the plant producing
this article is not a conifer, it is arranged in this
order from the similarity of its effects to the ter-
ebinthinæ — Dr. B recommends the following formula
for an injection in gleet and gonorrhœa of long
standing. $\mathcal{R}$. *Ulyd. mur.*: *mut.*: ss grs. *B. Copalib.* ss grs.
Gum. arab. ss grs. *Aq. purae* Zviij ; at the same time
10 or 12 drops may be taken internally 3 or 4 times
a day.

— *Balsamum Peruvianum*. The
plant of which this substance is the produce is not
a pine, but a decandrous plant. It was formerly much
used in the same cases as the *B. Copaliba*, tho' it is
now neglected — Van Swieten thought it highly useful
in wounds of the nerves —

Bals: Tolut:

= Gum. Benzoin.

= Liquidambar. styraciflua.

= Gum. Myrrh. Myrrh is a gum resin of a reddish yellow colour, somewhat pellucid, very fragrant and aromatic. The plant producing it is a native of Arabia. Its botanical history is unknown but it is probably a species of Mimosa. Taken into the stomach, it increases the pulsar, & the heat of the whole system. It has been much employed in phthisis, & in hectic fever arising from pueral & other abscesses, & in retention of the menses. Its virtues are extracted by watery and spirituous menstrues. -

Ladanum. Is the inspissated juice of the Cistus ladaniferus; it is now entirely disused in this country. -

Guaiacum Gum. Is produced by the *guaiacum*⁹⁴
officinale, or *lignum vitae* tree. It is a dioecious
plant, a native of the West Indies. The wood is very
hard and compact, sinks in water. When heated
it yields a slight aromatic odour. It communicates
its virtues to water or spirits of wine.

Gum *Guaiacum* is a true gum-resin, of a black-
ish red hue, usually contains small pieces of
the wood. The resinous part constitutes three fourths of
the whole substance. It was first used in Europe in
the venereal disease. It still retains some reputation in
Italy & Germany. Mr. Boile speaks favorably of its use as
an auxiliary to mercury. Dr. Barton has used it
frequently in chronic rheumatism & paralysis, & considers
it the most effectual remedy which has yet been
discovered for these diseases. He gives it in combination
with the volatile alkali in the following formula:
R. *G. Guaiac.* Ziv. Sp. S. ammon. comp. Spts. oliv. tres
diss. et colat.

Sarsaparilla. Dr. B. considers this to be an
useless article.

Sassafras. — Oil of nearly allied to camphor. 95

— *Meyerson*. — The *Daphne meyeri* is a native of England & Germany, & flourishes very well in this country, tho' not indigenous. — The bark of the root contains a very acrid matter capable of exciting irritation.

— *D. Gnidium*. —

Stimulantia evacuantia. —

Errhines. are those medicines which occasion an increased discharge from the mucous follicles of the nose. — The operation of these medicines has been supposed to be topical; or that they only act when applied to the nares; but some of the errhine medicines when taken into the stomach excite sneezing. — One of the symptoms most commonly induced by the poisonous honey obtained from the *Nalmia* & *Andromeda maritima*, is a violent sneezing, & tho' these articles are considerably acrid when applied to the nose. — It appears that the

absorbing is not induced by its effects on the stomach⁶
but that it is taken into the circulation—*Al. Shulton*
frequently excited vomiting, by injecting an infusion
of ipecacuanha into the bloodvessels.—The arsenic
medicines have been often used in hydrocephalus—*Willis*
in his treatise upon this disease does not mention
them—*D. Patterson* thinks them injurious—*D. B.* has
no experience in the case in question; he has seen
benefit from them in a case of apoplexy, and thinks
they may be useful remedies in hydrocephalus—In certain
cases of deafness, originating from an affection of the
Eustachian tube they have sometimes proved beneficial.
—*Pistia serena*.—Their efficacy in this disease must
depend upon the causes which induce it; if it depends
upon organic defect, they can be of no service; at some
times proceed from arthritis in this case the rubines may
be serviceable—The sulphat of mercury, or Turpeth mineral
is the preferable purgative in these cases. The mercurial
salts have sometimes induced salivation—

Part Emrhines — *Beta vulgaris*. The juice

of the common beet -

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Asarum Europaeum - Gottsfoot
Wils. Singer

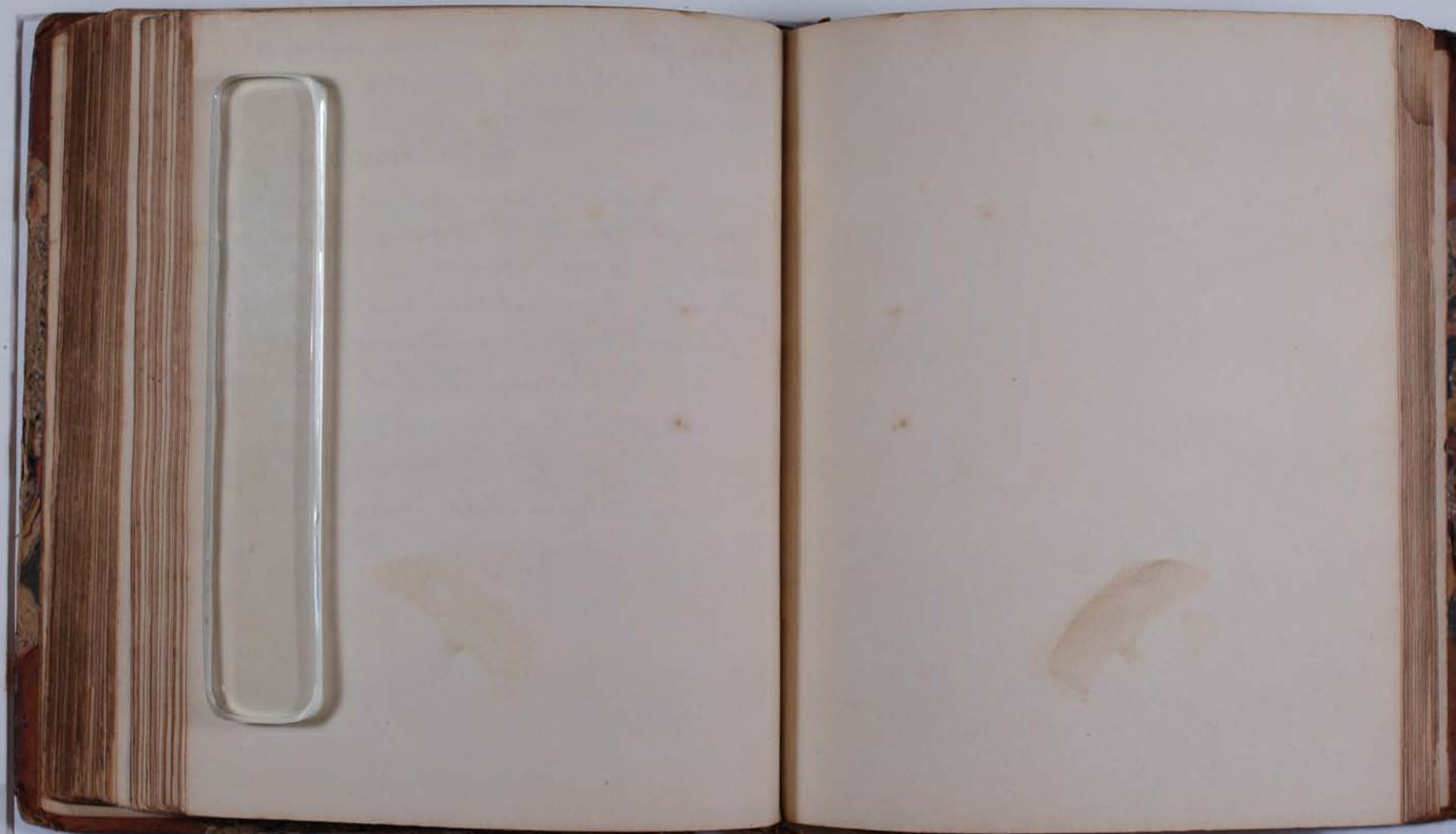
Nicotiana Tab. - Powdered tobacco in combination with the root of arum has been serviceable in gutta serena. - The use of tobacco does not seem to be unfavorable to longevity. - Dr. John Sinclair who has written an essay on longevity, made particular enquiries relative to this subject; a majority of the persons he examined who should attain the age of eighty years were in the habit of using tobacco. -

The Euphorbium or Spurge is an emblem of a more acid kind; some caution is requisite in the use of it, as it is apt to induce considerable inflammation of the membrane of the nose. P.B. relates a case of deafness induced by stasis which was completely cured by snuffing the powder of Euphorbia. - A plant called in V. Drury-wort or Drury-wort

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Sialagogue. Are medicines which increase the secretion of the salivary glands; they are divided into the external & internal.

The External sialagogues are certain acrid articles which, when taken into the mouth stimulate the secretory ducts of the salivary glands and increase the secretion of that fluid. The chief of these are, *Anthemis pyrethrum*, or pellitory; *Imperatoria ostruthium*, masterwort; *Raphanus sativus*, horse radish. — The *Lanthorhylum clavatum*, & the *Lanthorhylum fraxinifolium* are the most powerful of the external sialagogues.

The root of *Polygala senega* appears to be next in power to the *Lanthorhylum*.



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