An experimental enquiry into the properties of the Polygala senega : submitted, as an inaugural thesis, to the examination of the Reverend John Andrews ..., the Trustees, and medical professors of the University of Pennsylvania, on the eighth day of June, 1803 for the degree of Doctor of Medicine / by Thomas Massie.

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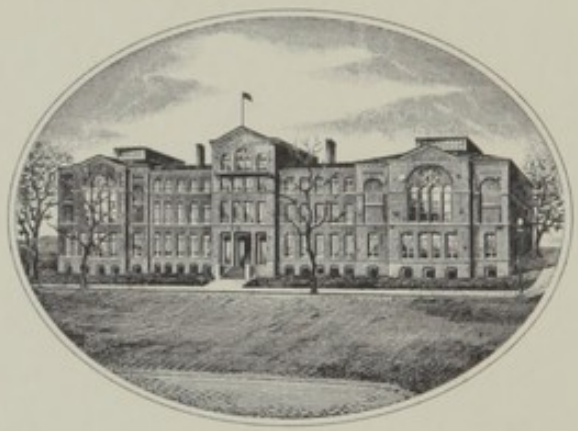

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U. S. Department of Health, Education, and Welfare

Public Health Service

AN EXPERIMENTAL ENQUIRY

INTO THE PROPERTIES OF THE

POLYGALA SENEGA;

SUBMITTED, AS AN

INAUGURAL THESIS,

TO THE EXAMINATION OF THE

REVEREND JOHN ANDREWS, D. D.
(PROVOST PRO TEMPORE),

THE TRUSTEES,
AND MEDICAL PROFESSORS OF THE UNIVERSITY OF PENNSYLVANIA,

ON THE EIGHTH DAY OF JUNE, 1803

FOR THE DEGREE OF DOCTOR OF MEDICINE.

BY THOMAS MASSIE,
OF VIRGINIA, MEMBER OF THE PHILADELPHIA MEDICAL AND OF THE AMERICAN LINNEAN SOCIETIES.

"Et sentire quæ velit, et quæ sentiat dicere."

HOR.

PRINTED, FOR THE AUTHOR, BY
EAKEN & MECUM.

TO THE ACCOMPLISHED FRIEND OF SCIENCE,

BENJAMIN SMITH BARTON, M. D.

PROFESSOR OF

MATERIA MEDICA, BOTANY, AND NATURAL HISTORY,

IN THE

UNIVERSITY OF PENNSYLVANIA;

THIS ESSAY,

IS INSCRIBED, AS A PLEDGE OF THE ESTEEM AND RESPECT, ENTERTAINED FOR HIM,

BY HIS

FRIEND,

THOMAS. MASSIE.

TO THE INSTRUCTOR OF MY YOUTH AND
FRIEND OF MY RIPER YEARS;

JOHN S. M' NAMARA,

LATE PROFESSOR OF

MATHEMATICS,

IN THE ACADEMY OF WINCHESTER,

THIS

ESSAY,

IS ALSO INSCRIBED, IN REMEMBRANCE

OF THE MANY OFFICES OF FRIENDSHIP PERFORMED

TOWARDS HIS

SINCERE FRIEND,

THOMAS MASSIE.

TO THE ILLUSTRIOUS

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PROFESSOR OF THE

INSTITUTES OF MEDICINE AND OF

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IN THE

UNIVERSITY OF PENNSYLVANIA,

THIS

ESSAY,

IS ALSO INSCRIBED, AS A TESTIMONY

OF THE UNALLOYED ESTEEM ENTERTAINED FOR HIM,

BY HIS FRIEND,

THOMAS MASSIE.

INTRODUCTION.

AMERICA may be compared to a mine of treasures as yet imperfectly explored. To the ingenuity and talents of a few individuals, the scientific world is much indebted; but in a field so spacious much remains to be done, and a great variety of objects present themselves to arrest the attention of the Botanist, Naturalist, and Physician. To the latter our country has furnished some of the most valuable articles of the Materia Medica, which are employed in opposing the ravages of disease. With the qualities of all of them we are by no means perfectly acquainted. The following essay is an attempt to explain more fully the properties of one of them, viz. *of the Polygala Senega, which, from its abundance in the United States, and its efficacy in the treatment of Cynanche Trahealis, (a very frequent and often fatal disease) is entitled to our attention, even had it no other good qualities.*

How far this attempt may succeed is submitted to the decision of the candid. The essay would have been much more complete, had not the season of the year prevented me from procuring any of the fresh plant, or of the varieties of the species, many of which possess properties very nearly allied to those of the senega. Should what I have written,

however, produce the effect of bringing this medicine into more extensive notice, and thus prove in any measure beneficial to mankind, the trouble and labor of preparing this essay will be considered as amply repaid.

The numerous imperfections with which it abounds, no doubt, furnishes ample room for the censure of the critic: But he should be silent when he reflects, it is the work of a youthful hand, actuated by necessity, not choice.

AN EXPERIMENTAL ENQUIRY

ON

POLYGALA SENEGA.

AMONG those vegetables, which Nature, in the luxuriance of her gifts, has bestowed on America alone, is to be classed the Polygala Senega, or Milkwort. This valuable plant grows abundantly in various parts of the United States, as in Jersey, Pennsylvania, Maryland, Virginia, and in the country bordering on the Ohio and Missisippi, where it obtains the name of Rattle-Snake Root, from its supposed efficacy in curing the bite of that animal.

AGREEABLE to the sexual system of Linnæus, it is arranged under the Class Diadelphia, Order Octandria, Genus Polygala.

THE character of the Genus, as marked in the Systema Vegetabilium, is,

CAL. 5. Phyllus; foliolis duobus alæformibus coloratis; legumen obcordatum, biloculare.

Of the Genus he enumerates twenty-six species, the sixteenth of which is the senega, and which is described thus:

———floribus imberbibus spicatis; caule erecto herbaceo simplicissimo, foliis lato lanceolatis.

The Polygala Senega was first introduced to notice by Mr. Tennent, who learned its use from the Indians, and recommended by him as an excellent medicine for curing the bite of the Rattle-Snake, and for the treatment of pneumonia. After him Kiernander wrote a dissertation on it, which was published at Upsal in 1749 *. Since that period it has become more extensively known and used by physicians, of which further notice shall be taken in the subsequent pages. As yet the root only has been employed in practice.

In order to ascertain the effects of the powdered root on the arterial system, I instituted the following experiment:

EXPERIMENT I.

To my friend Mr. Lawrence, his pulse beating 65 strokes in a minute, I gave 20 grains of the powdered root of seneca in molasses, at 9 o'clock in the morning.—In five minutes his pulse beat 65.

Min.	5	10	15	20	30	40	50	60	70	80	90
Puls.	65	70	72	72	70	70	69	66	64	64	65

* See Medical Essays of Edinburgh, vol. 5. Amœnitates Acad. vol. 2.

In ten minutes after the exhibition of the medicine his pulse increased in fulness; and a sensation was felt in the œsophagus, which he compared to burning, with a considerable discharge of mucus from the trachea. In an hour and an half from the commencement of the experiment, all the effects of the medicine had subsided except the irritation in the throat, before mentioned, which still continued in a slight degree, and soon after quite left him.

EXPERIMENT II.

To my friend Mr. Liggett, with his pulse beating 65 in a minute, at 10 o'clock, P. M. I gave 20 grains of the powdered root suspended in water.

Min.	5	10	15	20	25	30	40	50	60	75	90	105
Puls.	65	76	80	82	84	90	90	82	80	80	86	86

Immediately after taking the medicine, the sensation in the œsophagus, mentioned in the preceding experiment, was very considerably felt, accompanied with a large discharge of mucus by hawking. In twenty minutes he complained of much heat in his stomach. In thirty minutes of nausea. In forty minutes the nausea was increased. In an hour and an half his skin became very hot. In one hour and three quarters a profuse perspiration commenced, and the disagreeable symptoms were quite removed.

EXPERIMENT III.

To my friend and fellow graduate Mr. Wilson, his pulse beating 68 in a minute, at 11

o'clock, A. M. I gave 20 grains of the powdered root.

Min.	5	10	15	20	30	40	60	75	90	105	120	150
Puls.	72	72	76	78	80	80	78	78	78	72	72	68

NOTHING peculiar occurred in this experiment, except the long continued influence of the medicine on the pulse, which was increased in force as well as frequency. The same irritation in the œsophagus, hitherto mentioned, was also very permanent.

CONSIDERING the power of the root of Polygala Senega in exciting the arterial system, is sufficiently proved by those experiments. I was next anxious to learn, in what principle the power principally resided. In order to accomplish this, it was first necessary to resolve the root into its constituent parts, which I supposed the following experiments would enable me to do accurately enough :

EXPERIMENT IV.

I submitted one ounce of the root in powder, with six ounces of pure water to distillation, and obtained in the receiver a clear transparent fluid, destitute of oil, and of pungency, but which had a peculiar taste and smell, compared by my friend Mr. Walker and myself, to that of musty flour.

EXPERIMENT V.

I digested one ounce of the root in powder, with three ounces of very pure vitriolic ether, for eight hours in the sun. On separating and

evaporating the ether, forty grains of a yellow resin remained in the vessel.

EXPERIMENT VI.

I put the remainder of the root, after it had undergone the operation of the ether, into an oil flask, with six ounces of distilled water, and exposed them to a boiling heat for half an hour. The liquor, when filtered and evaporated, afforded me thirty grains of a dark vitrious friable matter, which I supposed to be gum.

EXPERIMENT VII.

To be certain that the matter obtained in the last experiment was gum, I dissolved twenty grains of it in water, then added gradually a drachm of sulphuric acid, diluted with an equal quantity of water, and no precipitate ensued, which, agreeable to Hærmstadt, proves the presence of pure gum.

EXPERIMENT VIII.

A solution of resin, and a solution of gum, tested by the oxysulphate of iron, underwent no change of color; neither did the resin, gum, or decoction, when tested by the alcohol of galls, shew any presence of iron.

EXPERIMENT IX.

In order to ascertain how long the root would furnish water with active principles, when boiled

on it, I put one ounce with seven of water, in an oil flask, and exposed it for half an hour to a boiling heat; I then strained the decoction and added fresh water, which I continued in the same heat for the same length of time. It was much less colored than the first water, (which was very dark,) and possessed much less pungency. The water of the third boiling was nearly colorless and insipid. Cold water takes up very little of the active properties of the root.

EXPERIMENT X.

I accidently mixed a portion of the decoction of the root with soap and water, a dirty green color was produced; but evaporation furnished me nothing more than revived soap.

I regret that I cannot say any thing of the other parts of the plant, the season of the year preventing my obtaining any of the fresh vegetable.

To examine the effects of the resin on the pulse, I performed the following experiment:

EXPERIMENT XI.

To my friend Mr. Towles, his pulse beating 72 strokes in a minute, I gave ten grains of the resin dissolved in spirit, at 9 o'clock in the evening.

Min.	5	10	15	20	30	35	45	60	80
Puls.	80	88	80	72	70	65	65	65	65

Immediately after taking the resin, he felt a great deal of irritation and roughness in the œsophagus, with a good deal of nausea. In ten minutes his pulse was much increased in fulness, with some irregularity. In forty minutes some irritation in the œsophagus still remained, with slight nausea. In eighty minutes all the effects had subsided, except the depression in the pulse.

EXPERIMENT XII.

An amiable lady obligingly took a spiritous solution of twenty grains of resin at 9 o'clock. P. M. Her pulse beating 76 in a minute.

Min.	5	10	15	20	25	30	35	40	50	60	75	90
Puls.	88	88	92	92	88	80	80	80	78	72	72	76

In ten minutes she complained of a very disagreeable sensation in the œsophagus, and of a considerable degree of nausea. In fifteen minutes her pulse was much increased in fulness. In forty minutes the nausea subsided; but the irritation in the œsophagus still remained. In an hour and an half her pulse returned to the natural standard, and every disagreeable sensation disappeared.

EXPERIMENT XIII.

In order to try the activity of the gum, I took ten grains disolved in water, at 7 o'clock in the evening, my pulse beating 84 in a minute.

Min	10	15	20	30	35	40	50	60	70	80
Puls.	84	76	73	70	68	73	76	76	76	76

In five minutes after taking the medicine I felt a sensation in the œsophagus, as if the membrane had been abraded. This continued upwards of an hour; and to the extremely nauseous taste of the medicine I attribute the sinking of my pulse.

EXPERIMENT XIV.

To Mr. Thomas Redman, a healthy boy, fourteeen years old, I gave twenty grains of the gum dissolved in water, with the effect of vomiting him in five minutes in a copious manner; soon after vomiting he became quite well, and resumed his amusements.

EXPERIMENT XV.

At half past 11 o'clock in the morning, after a light breakfast, I took twenty grains of the gum, dissolved in water, my pulse beating 74 in a minute.

Min.	5	10	15	20	30	50	64
Puls.	74	74	74	74	74	74	74

The only operation of this medicine, was to produce the irritation in the œsophagus, so often mentioned; and to operate slightly as a purgative with some nausea.

EXPERIMENT XVI.

To my friend and fellow graduate Mr. Pendergrast, I gave at 11 o'clock, A. M. thirty-

two grains of the gum in pills, his pulse beating 72 in a minute.

Min.	5	10	20	30	40	50	60	70
Puls.	78	80	82	76	74	74	76	76

In ten minutes he complained of much nausea; in twenty minutes the nausea was so much increased as to be quite distressing, and the medicine was with considerable difficulty retained on the stomach. In thirty minutes the nausea was somewhat diminished; in forty minutes still more so; in sixty minutes it was quite gone, and the gentleman in every respect in as good health as before the experiment.

EXPERIMENT XVII.

To a dog I gave half a pint of a very strong decoction of the seneca, made by boiling, three ounces of the powdered root in a quart of water to a pint. It produced excessive efforts to vomit, with the rejection of a large quantity of frothy matter. His stomach was quite free from aliment, as nothing was thrown up but this frothy matter.

In about half an hour after taking the decoction, a small quantity of blood distilled from the anus. During the experiment he was affected with a convulsive swallowing, and shewed a great deal of unneasiness about the larynx.

From these experiments it appears that the resin is more stimulating than the gum. They both have a strong tendency to produce vomiting, which I conceive arises in a great measure from the irritation they produce in the pharynx. Tick-

ling with a feather or any other mechanical friction, will produce vomiting, and much in a similar way, I conceive those preparations act, in consequence of a peculiar and specific action, they exert on the œsophagus. That the operation of this medicine in the stomach, has an emetic tendency, I am far from denying; but I believe it would not so frequently occasion vomiting, unless assisted by the irritation before mentioned.

The best menstruum for the root of seneca is common spirit, which always contains a large proportion of water. The spirit will dissolve the resin, whilst the water it contains takes up the gum, and thus the combined powers of both gum and resin will be obtained.

Perhaps a strong dose of the gum or resin of seneca might be substituted with excellent effects for other emetics, in those patients whose stomachs are inirritable from having taken opium, stramonium, or any other narcotic poison. The practice of tickling the throat with a feather, in these cases, is often attended with success, when other means fail. The same irritation would be produced in a much higher degree by the seneca.

OF THE MEDICAL PROPERTIES OF THE POLYGALA SENEGA.

We have already shewn it is a stimulant to the arterial system, an emetic, cathartic, and expectorant; it often proves powerfully diaphoretic, diuretic, and sometimes salivates.

Dr. Rush, in his Lectures on Clinical Practice, recommends the seneca as a diaphoretic, and Dr. Barton, in his Collections, says, "This "medicine sometimes operates so powerfully as "a sudorific, that I have been assured it has been "known to remove portions of the mucous body, "or rete mucosum, from the skin of blacks who "have used it." He also speaks of its diuretic properties; and the ingenious Professor, in his Lectures on Materia Medica, relates a case in which the seneca produced a copious salivation, with a fœtor resembling that of putrid flour. With a view to produce this effect, I gave a young man the powdered root in pills, ten grains night and morning. During the time he took it, it proved considerably diuretic, but soon after having begun the use of the medicine he became very much indisposed from another cause, and was obliged to discontinue it, much to my regret, as I had not another opportunity of prosecuting this experiment.

We may here remark, how often salivating medicines act as diuretics. And as a reverse sympathy obtains between the skin and kidnies,

so a direct sympathy prevails between the skin and salivary system. This sympathy is particularly obvious in the small pox. Dr. Cullen observes, "that in the distinct kind, salivation does "not so often occur; but in the confluent it is an "uniform attendant," which seems to be in proportion to the morbid action on the surface of the body. In scarlatina anginosa, the inflammation in the throat, is coincident with the efflorescence on the skin, and the use of blisters in this disease, which is forbidden by Dr. Withering, is perhaps injurious, by the application of stimulus immediately to the part affected, which increases the associated morbid action, already too violent. This coincidence of action, is very apparent in the operation of those medicines which salivate as mercury, tartar emetic, opium, camphor, conium maculatum, squills, polygala senega, digitalis, and the nitric acid, all of which exert decided powers on the skin; digitalis perhaps less so than any of the others; but even that agreeable to Dr. Darwin, whilst it depresses the pulse, produces much heat on the surface of the body.

The power of mercury is increased by a combination with most of those medicines, and I doubt not but experience will prove, that all possess the same property. The seneca has been already used by our Indians for the cure of syphilis *. This disease when it will not yield to mercury alone, is subdued by a combination of it with opium or conium maculatum, which probably arises from their tendency to act on the same system. And the celebrated power of the antimonial powder of the Pennsylvania Hospital is perhaps owing to the combination of nitre and

* See Barton's Collections, p. 34.

tartar emetic with the mercury, they having a tendency to produce the same kind of action.

THE reader will pardon this digression since it furnishes me a clue to explain the operation of seneca in scarlatina anginosa.

OF THE USE OF THE SENECA SCARLITINA ANGINOSA.

DR. WITHERING has recommended the use of the seneca in this disease: "Among other "remedies, says the doctor, I gave the seneca "root, and frequently with advantage. But I "soon had occasion to remark, that it procured "relief only when it occasioned a copious flow of "urine*." If my observations are just with respect to the salivating medicines, *viz.* that when they increase the action of the vessels in the mouth and throat, they also increase the action of the vessels on the surface of the body. It is evident, that when the seneca acts in this manner, it can be of no service. On the contrary, I rather suspect it would do harm. But when it proves a diuretic, since a reverse sympathy obtains between the skin, and throat and kidnies, morbid action is invited from those parts to the kidnies, depletion takes place there, and the equilibrium of the system is restored. This opinion is further confirmed, by the ill consequences arising from the application of blisters, before mentioned. It is worthy of remark, that the Indians also use the seneca in the malignant sore throat †.

* See Withering's Account of the Scarlet Fever and Sore Throat, p. 84.

† See Barton's Collections, p. 34.

OF THE BITE OF THE RATTLE-SNAKE.

As a remedy for the bite of the rattle-snake the seneca has been strongly recommended by Mr. Tennent and Kiernander, to be given internally, and applied externally to the wound. But more accurate investigation into its use has shewn, that the seneca has no more claim to the title of antidote, than any other of the numerous class of medicines, that have been ranked under that head. Fortunate, however, would it have been for mankind, if all the medicines which have been recommended for virtues, that did not reside in them, had possessed as many valuable properties as the seneca does.

This subject has been so fully treated by Dr. Barton, that for complete satisfaction on the vegetable remedies, that have been employed in America for curing the bite of this dangerous animal, I refer the reader to his paper, published in the third volume of the Philosophical Transactions, and shall only make a few quotations, which are directly to my purpose.

After having touched on the characters of some of the most reputed specifics, he observes, "I was not ignorant that in the seasons of super-"vening languor and torpidity, the rattle-snake, "in particular, bites with seeming reluctance, and "without any, or with but little ill consequences "arising from the wound. I likewise well knew, "that even in those seasons, when the sun power-"fully exerts its influence, a twhich times these "animals are best qualified to strike and to in-"jure, individuals of the species must often be

" found, the cavities of whose venemous fangs
" are entirely, or nearly destitute of their active
" poison, from the introduction of which into
" the system, those alarming symptoms which
" characterise the successful bite of this animal
" arise."

THESE observations enable us to explain the manner in which the seneca has obtained the name of a specific. Persons have been bitten by those animals when they were nearly harmless, and their recovery after the administration of the seneca, has been attributed to its salutary operation; when, if it had not been used, no ill consequences would have ensued.

THIS interesting paper has also shewn, that after the evacuation of the poison from the fangs of the rattle-snake, it requires some days to accumulate again, and that animals bitten in this interval suffer little injury. Moreover, that among the western settlers, where those accidents most frequently occur, and where the seneca first obtained this reputation, internal medicines are by no means the only remedies used, but that recourse is always had to external applications, such as ligatures, scarifications, and blisters. And even supposing the poison had been introduced into the body, doubtless much more confidence is to be placed in the latter remedies, than in the internal administration of any.

IN DROPSY.

FROM the diuretic and diaphoretic properties of the seneca, it would seem a priori, a medicine

extremely well adapted to many cases of dropsy, and experience has proved it such. Millman, in his Treatise on Dropsy, speaks in a very favorable manner of this medicine. Enumerating some of the most active diuretics, he adds, "And "here I cannot pass over in silence the seneka "root, of which prepared according to the Edin- "burgh Pharmacopæia, I have given three "ounces twice a day; but in this form it has "generally excited vomiting, and discomposed "the body very much; but when I have made "use of only half an ounce of the root, in the "same quantity of water, the medicine has "proved a very good one; and although it "sometimes produced vomiting, and often occa- "sioned nausea, yet it generally purged nine or "or ten times in the day, and sometimes proved "extremely diuretic." He afterwards relates four cases in which he used the seneca: The first a case of both anasarca and ascites, in a young man, twenty years of age, was perfectly relieved. The second was mitigated by no remedy. On dissection the viscera were found in a diseased state, and polypi in the aorta, and vena cava.

The third case was of a hard drinker, who had been long afflicted with astma, and had then both ascites and anasarca. By the use of the seneca in conjunction with saline draughts, and the acetum scilliticum, he received some relief; but eventually perished.

The fourth I shall relate in the doctor's own words: "His thighs and legs were much "distended, his hands and face were much swell- "ed, the eye-lids were greatly enlarged, there "was little or no water in the abdomen, the com- "plaint had come on slowly, and encreased gra-

"dually; but he was cured by a decoction of "the seneka root, in such a dose, as to procure "four or five stools a day, and with the drink of "cream of tartar, &c.*"

My friend Mr. Hartshorne, apothecary to the Pennsylvania Hospital, politely furnished me with the following interesting case, in which the seneca appears to have been of infinite service:

Elisabeth Becher was admitted into the Pennsylvania Hospital on the 30th of October, 1802. She was affected with dropsy in its worst forms: hydrothorax, ascites, and anasarca. As I did not understand the language in which she spoke (German) I could not obtain an accurate history of her case; all I could learn was, that the dropsical effusion had succeeded a puerperal fever. She was bled ℥x on the day of her admission, and began the use of the saturated tincture of digitalis, which was continued till the 4th of November, when, as it produced no change whatever, it was omitted.

The antimonial powders (composed of nitre, calomel, and tartar emetic) were now prescribed, with blisters to the wrists and ancles. These powders were exhibited every two hours for eight days, without affording any relief. Her mouth was very slightly affected. Her pulse, which had been so feeble, except on the day she came in, as to forbid the use of the lancet, was now scarcely perceptible. She was ordered decoct. rad. senekæ, ℥ss. every two hours, calomel continued. After taking the decoction three days she had a return of her catamenia; a pro-

* Medical Tracts, vol. v. p. 92. 99. 105. 111.

fuse salivation came on, and the dropsy was very soon entirely removed. It was observed, that the salivation in this case was attended with a fœtor, very different from that which generally accompanies mercurial ptyalism.

Although mercury, in this case, may have been a very active agent, in producing salivation, yet from the peculiar fœtor which attended it, I am inclined to think, the seneca must have co-operated with it. And believing they act much in a similar manner, I can readily conceive, that their united power may have induced the ptyalism.

To these commendations of the seneca, the respectable authority of Dr. Percival * may be added; who says, "In hydrops pectoris, the "seneka root, in liberal doses, sometimes an-"swers every intention, and operates powerfully "by the skin, the kidnies, and the bronchial "glands, to the great relief of the patient."

From the very considerable stimulant power which the seneca possesses, I do not deem it proper in those cases of dropsy, where there is great activity of the arterial system, until the inflammatory action is subdued by the lancet, unless administered in such doses as to produce plentiful purging. But as soon as the pulse will admit it, I am persuaded it may be administered with the most sanguine hopes of success. Where the pulse is weak and languid, as in the case of Elizabeth Becher, it seems extremely well adapted.

* Percival's Essays, vol. ii.

IN TETANUS.

A CASE is mentioned by DR. BARTON, in his Lectures, of Tetanus, brought on by the bite of the rattle-snake, which was perfectly relieved by very large doses of the decoction of polygala senega. The poison of the rattle-snake, I conceive, acted here, as some of the vegetable poisons do, merely by its strong stimulant power. And that the seneca relieved the disease, by producing a new action, which, from the great diffusibility of its stimulus, it seems well adapted to do.

MY friend Mr. Towles, also informed me of a case, which he saw in Virginia of tetanus, cured by very large doses of the decoction. The cutaneous perspiration, he says, was so copious, as to run off the patient in streams. I exceedingly regret, that he had not the materials to furnish me with a correct and minute statement of the case.

IN PNEUMONIA.

IN the first stage of pneumonia, in which a good deal of inflammatory action always prevails, I am convinced the seneca can be of no service, notwithstanding what has been said to the contrary. But in an advanced stage of the disease, when after plentiful evacuations, a difficulty of breathing, difficult expectoration, and pain, still continues, the seneca may be administered with much advantage. In this state of pneumonia Dr. Welford, a physician of Fredericksburg in Virginia, informed me he used it with very favorable results; and that he learned its use

from Mr. Tennent, the first introducer of the medicine into practice, who in these cases found from it the happiest effects.

"In the pleurisy, as it is called, which pre-
"vails in many of the low and marshy countries
"of the United States, I do not doubt," says Dr. Barton, speaking of the seneca, "that it
"has been of real use. This pleurisy or pneu-
"monia, is a true intermittent, attended with
"local pain either in the side or in the head."

Bleeding in this disease is often necessary; but we must resort to stimulant medicines, after sufficient evacuations, for a radical cure; and the seneca may then be used with advantage.

Perhaps a combination of the powder of seneca root with Peruvian bark, may compose a medicine, superior to either, singly, in the treatment of intermittents, by uniting the lasting and powerful stimulus of the seneca, to the tonic power of the Peruvian bark.

IN CYNANCHE TRACHEALIS.

Much praise is due to Dr. Archer, for the interesting discovery he has made, of the efficacy of the seneca in this disease. The formula he recommends, is the following:

℞. Rad. Senek. in pulv. crass. ʒss. coque in aq. fontan. ʒviii. ad ʒiv.

Of this a tea-spoonful is to be given every half hour, or hour, as the urgency of the symptoms may require; and at intervals a few drops to keep up the stimulus until it either acts as an emetic or cathartic.

THE cynanche trachealis is a disease confined very much to the trachea, and removed considerably from the seat of the circulation, it often obstinately resists general remedies. The seneca, by the peculiar power it has of exciting the throat, as well as the general system, seems particularly adapted; first, to invite morbid action from the trachea to a neighbouring part, and then to diffuse it through the system. In the same way, I suppose, mercury acts, when it produces salivation, and thereby relieves the disease.

OF THE ACTION OF THE SENECA ON THE UTERUS.

IN a letter from my friend Mr. James Archer, son of the celebrated Dr. Archer, from Harford county, Maryland, I received the following interesting communication: "I can add one solitary fact of no trifling moment, respecting the effects of seneca on the female constitution; which is, that it will produce abortion or miscarriage. This was communicated to me last summer, by an illiterate man in this neighbourhood, well known for his strict adherence to truth." Of one case in which it operated in this manner, in a very few hours too; he informed me, "he had ocular demonstration." He says, indeed, "he has known and heard of many other like instances, in I believe all of which, it was taken by women who had indulged in illegitimate love, intentionally to destroy the fœtus in utero."

THE form of preparing it for this purpose, is that of decoction, made very strong, and given to the quantity of a very large tea-spoonful, or

more, but not less, at once. One dose, he says, has generally succeeded, unless they were very far advanced in pregnancy.

TAUGHT by this relation, we should administer the seneca in a sparing manner to pregnant women, or omit it altogether. To those laboring under obstructed catamenia, it may perhaps be given with great advantage. And the case of Elizabeth Becher, before mentioned, whose menstrual discharge returned, after using it three days, tends much to confirm the opinion. That a medicine should act specifically on the uterus is not a solitary fact, in medical science. This quality has long since been attributed to madder, and the Adelia Ricinella, or ram goat of the West Indies, possesses this power in an eminent degree.

BUT whilst sincerely reprobating the use of medicines for the unnatural purpose of producing abortion, it is also to be lamented, that so little indulgence is shewn to an excusable frailty, that the unfortunate victim of passion is compelled to have recourse to so horrid an expedient, to shield herself from the obloquy of an unrelenting world. The philosopher, who is acquainted with the force of human passions, and the weakness of the human heart, can pity and forgive the unfortunate girl, whom, too often the child of unsuspecting sensibility, is led astray by the seductive power of love. But, alas! there are few philosophers! The mass of mankind, governed by prejudice, have affixed irretreivable shame to a deviation from what they have termed virtue. And the child of nature who has wandered, to conceal her disgrace, has recourse to those remedies, which too often bury herself and her infant, under the same ruin!

FINIS.