

An inaugural dissertation on the Magnolia glauca, or common white laurel-tree : submitted to the examination of the Rev'd. John Ewing ..., the Trustees and medical professors, of the University of Pennsylvania, on the 27th day of May, 1802, for the degree of Doctor of Medicine / by Thomas D. Price.

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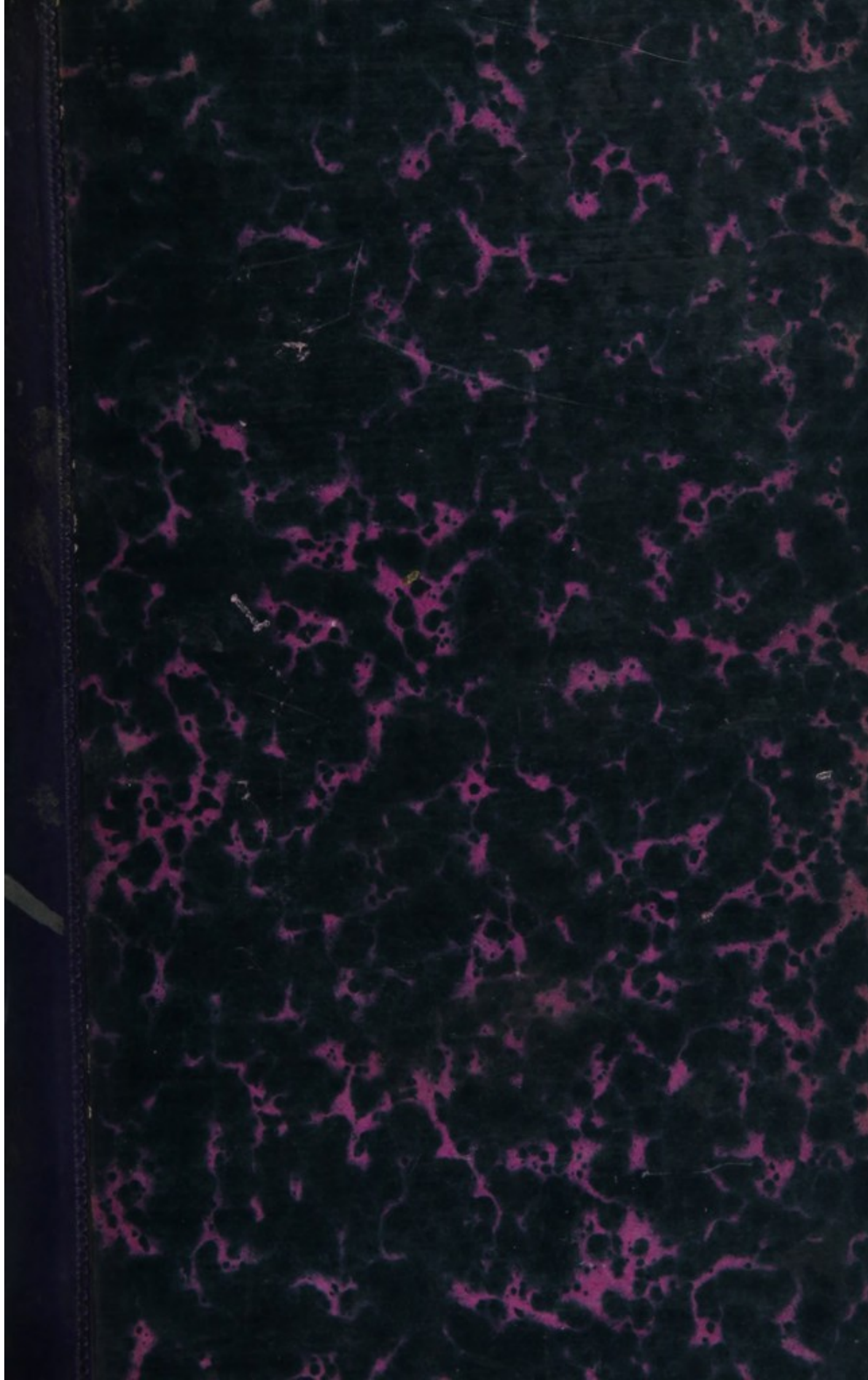
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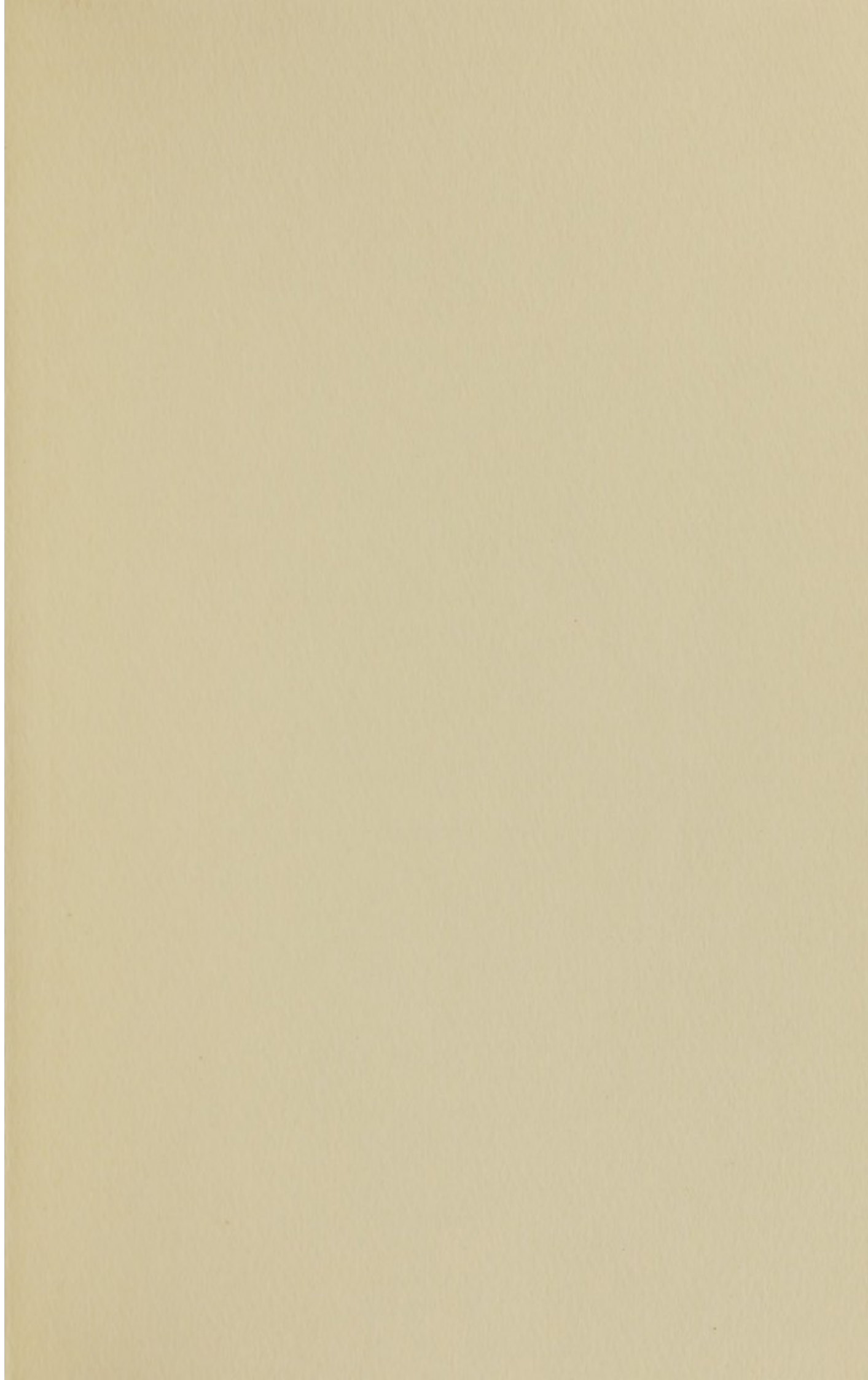
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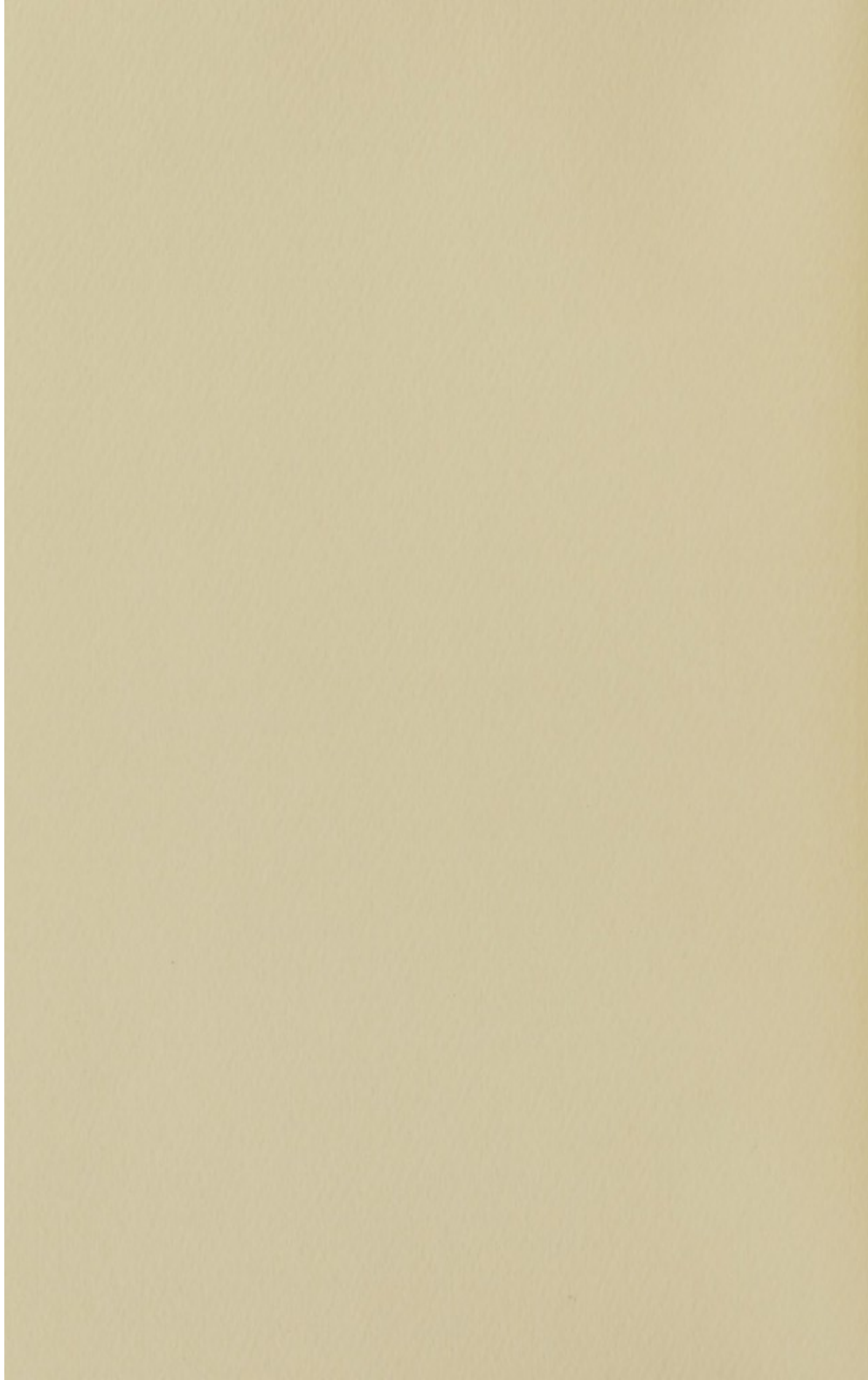
Food & Hygiene

ANNEX

No.

21382





AN
INAUGURAL DISSERTATION
ON THE
MAGNOLIA GLAUCA,
OR
COMMON WHITE LAUREL-TREE:
SUBMITTED TO THE EXAMINATION
OF THE
REV'D. JOHN EWING, S. T. P. PROVOST,
THE
TRUSTEES AND MEDICAL PROFESSORS,
OF THE
UNIVERSITY OF PENNSYLVANIA;
ON THE 27th DAY OF MAY, 1802.
FOR THE DEGREE OF DOCTOR OF MEDICINE.

BY THOMAS D. PRICE,
OF VIRGINIA,

HONORARY MEMBER OF THE MEDICAL SOCIETY OF PHILADELPHIA.

Symbolum aliquid, ut cunq̄ue exiguum, in commune
Medicinæ ærarium, contribuerem. SYDENHAM.

Full many a gem of purest ray serene
The dark unfathomed caves of Ocean bear;
Full many a flower is born to blush unseen,
And waste its sweetness on the desert air. GRAY.

PHILADELPHIA:

PRINTED FOR THE AUTHOR BY JAMES HUMPHREYS.

.....
1802.

Dr^r Woodhouse with sen-
ents of respect & esteem from
The Author

TO
DOCTOR JOHN SMITH,
OF VIRGINIA.

DEAR SIR,

IN the Dedication of this imperfect Essay, I can not expect to cancel the many obligations I feel myself under to you, the recollection of which will always be pleasing. The friendly instruction and valuable improvement I received from you, in the early part of my medical education, will ever be remembered with gratitude. Accept my cordial wishes for your happiness, and prosperity through life,

Your sincere friend,

THE AUTHOR.

EDWARD GUTBUSH, M.D.

OF THE JOHN SMITH SOCIETY

SIR,

With great pleasure I acknowledge receipt of your kind letter of the 10th inst. and in reply to inform you that the same has been forwarded to the proper authorities for their consideration. I am, Sir, very respectfully,
Your obedient servant,
E. GUTBUSH

THE ATTORNEY

TO

EDWARD CUTBUSH, M. D.

SURGEON IN THE NAVY OF THE UNITED STATES.

SIR,

WITH great pleasure I acknowledge myself much indebted for the valuable instruction and improvement I received from you. The friendship and politeness which you manifested for me, while under your direction, will ever be remembered with gratitude: Not thus publicly to confess the great obligations I feel myself under to you, would be highly ungrateful. Your talents, benevolence, and humanity, endear you to all those who know you. May you continue to merit the most distinguished honors from the department to which you belong; and that your reward and happiness may be commensurate with your merit, is the sincere wish of

Your respectful friend,

THE AUTHOR.

EDWARD GUTHRIE M.D.

Professor of the History of Medicine

ANNALS OF THE HISTORY OF MEDICINE

EDITED BY ALBERT H. CLARKE

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1906

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TO

BENJAMIN SMITH BARTON, M. D.

PROFESSOR OF MATERIA MEDICA,
NATURAL HISTORY, AND BOTANY,

IN THE

UNIVERSITY OF PENNSYLVANIA,

THIS ESSAY

IS INSCRIBED,

AS A MARK OF HIGH ESTIMATION

AND FRIENDSHIP,

BY THE AUTHOR.

BENJAMIN SMITH BARTON, M.D.

PROFESSOR OF MATTERIA MEDICA,
NATURAL HISTORY, AND BOTANY,

UNIVERSITY OF PENNSYLVANIA,

THIS ESSAY

IS PRESENTED

IN CANDIDATE FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

BY THE AUTHOR

INTRODUCTION.

I AM conscious, and it must be obvious to all those who have been engaged in similar pursuits, that the time allowed for composing an inaugural Essay, is such as will admit of my effecting but little more on an experimental subject, than merely to introduce it to the notice of some future enquirer. Nor has the Magnolia been selected from the class of *Tonics* with an expectation of detecting, in this short time, all the properties of a vegetable, that promises to be of so much utility to mankind. But considering it my duty, to contribute as much as possible to the interest of science, and aware, how incapable I am of exhibiting any thing important towards the discharge of that

duty, on any *trite subject* I have preferred offering to the public, as many experiments only, as may serve to disclose some useful properties of a *new* remedy, rather than copying the most copious and meritorious performances of Nosological writers; yet I trust, these few may serve to stimulate some enquirer, who has more leisure and abilities for further investigation on this subject.

The history of many valuable medicines, as Antimony, Peruvian bark, and Quassia, proves, that the most important discoveries in medicine, have not always been made by the most distinguished characters. The celebrated Cullen considered the improvements of great men even prejudicial to the interest of science; “It is a very great disadvantage (says he) to any science, to have been improved by a great man; his authority imposes indolence, timidity, or idolatry, upon all who come after him.” It behoves us, then, not supinely to rest on an opinion, that medicine has arrived at the *ultimatum* of improvement from our fore-fathers or preceptors, but rather, let us avail ourselves of this observation from a man so well

qualified by nature, by all the advantages of art and a long life of experience, to direct us through the intricate but pleasing paths of science. An implicit confidence in the opinions of those who have gone before us, impliedly acknowledges an autocracy in science, that is both derogatory to genius, and incompatible with a republic in medicine.

Our quarter of the globe has been stigmatized by foreigners as the hot bed of a multitude of diseases; may we not, in our turn, boast, that it is also the nursery of a great variety of productions, which, when properly employed, may prove the remedies, not only of those diseases, but of many others; and may we not indulge a hope, that future researches may discover in our extensive country, certain remedies for those diseases, which, by despairing physicians, have been unjustly called the *opprobia medicinæ*? This consideration, joined to a national pride and national œconomy, should beget in the mind of every physician, particularly of this infant republic, an ardent desire to become acquainted with the productions of his own country. Should I even assert, that the

tonic class of medicines (to which the Magnolia belongs,) is more important than any other, the best authority would not be wanting to support my opinion, while our learned Professor of Materia Medica, so unequivocally gives his in my favour; “the natural infirmities, says he, of mankind, and more especially the vices to which civilized nations are so propense, will always render the tonics most necessary implements in the hands of physicians.”

With whatever eye this feeble effort may be viewed by ignorance and prejudice, always in concert with error against the friends of improvement,—to candour and liberality, I trust, a mite in science will always be as acceptable as a mite in charity. It was by the accession of these contributions, that medicine, in all its branches, has arrived to the state of improvement in which we now behold it; by these it has acquired a degree of strength sufficient to root out the noxious weeds of superstition and empiricism, in so much, that the benevolent mind, on deliberately comparing the quackeries and impositions of ancient medicine, with the

just and dignified principles of modern practice, shudders at the miseries of his ancestors, and rejoices, that the commencement of his existence was deferred to the present æra of improvement.

BUT HOW ARE WE TO KNOW WHAT PLANTS ARE
MOST PROPER FOR THE PURPOSES OF MEDICINE, UNTIL
WE SHALL HAVE EXAMINED THE PROPERTIES OF A GREAT
BODY OF VEGETABLES?

BARTON.

BOTANICAL ARRANGEMENT.

THE Genus Magnolia, so named by the celebrated Father Plumier, in honor of Peter Magnol, or Magnolius, a Professor at Montpellier, is arranged by Linnæus in the XIIIth class, and last order of his sexual system, the class and order POLYANDRIA POLYGINIA. In this though professedly an artificial system, our Plant is associated with several other genera, particularly the Liriodendron, with which it holds intimate botanical and medical affinities.

In the system of Mr. De Jussieu, the Magnolia is placed in the XIIIth class and 15th order. To this, the learned French Botanist has given the name of *Magnoliæ*, *Les Magnoliers*, and associated it with the following genera, viz. Euryandra, Dry-

mis, Illicium, Michelia, Talauma, Liriodendron, Mayna, Dillenia, Curatella, Ochna, and Quassia. We are acquainted with the medical properties of several species of these genera, and know that some of these are considerably allied to those of the Magnolia.

The following is Linnæus's abridged generic character of the Magnolia, viz.

Cal. 3 phyllus. *Petala* 9. *Germ.*
2 locularia. *Caps.* 2 valves,
imbricatæ, 1 loculares. *Sem.*
baccata, pendula.

Of this genus, the Swedish Naturalist, in the last edition of his SPECIES PLANTARUM, has enumerated four species, viz. Magnolia Grandiflora, Mag. Glauca, Mag. Acuminata, and Mag. Tripetala.

In Gmelin's edition of the SYSTEMA NATURÆ, two other species are mentioned, viz. Mag. Plumieri and Mag. Fraferi. The MOKKWUREN of Kæmpfer,* is undoubtedly another distinct species from any I have mentioned, though Professor

* Vid. Icones Selectæ Plantarum quas in Japonia colligit et delineavit Engelbertus Kæmpfer. t. 43. p. 44.—Londini, 1791, folio.

Thunberg considered it as the *Mag. Glauca* of America.

I here insert, from Gmelin, the characters of the six species mentioned by this author, together with references to the principal authors by whom they are described and figured, viz.

- Grandiflora.* 1. *M. foliis perennantibus lanceolatis. Trew. Ebret. t. 33.*
- Plumieri.* 2. *M. foliis perennantibus ovato-subrotundis utrinque glabris. Plum. gen. p. 38. n. 7. ic.*
- Glauca.* 3. *M. foliis ovato-oblongis subtus glaucis. Trew. Ebret. t. 9.*
- Acuminata.* 4. *M. foliis ovato-oblongis acuminatis. Catesb. Car. 3. t. 15.*
- Tripetala.* 5. *M. foliis lanceolatis, petalis exterioribus dependentibus. Catesb. Car. 2. t. 80.*
- Fraferi.* 6. *M. foliis obovato-lanceolatis, basi auriculatis. Walt. flor. carol. p. 159. ic.*

I have selected one of these species, the *Mag. Glauca*, as the subject of my Inaugural Dissertation. This is one of the most common species of the Genus in America. It is the *Mag. foliis ovato-lan-*

ceolatis of the *Hortus Cliffortianus*, 222; the *Mag. laurifolio subtus albicante* of *Dillenius. Hort. Elth. p. 207. pl. 168. fig. 205*; the *Tulipifera Virginiana laurinis foliis averfa parte rore cæruleo tinctis, coni-baccifera. Pluk. alm. 379. t. 68. f. 4*; the *laurus tulipifera, baccis calyculatis. Raii. Hist. 1690 & 1798. n. 4.*

NATURAL HISTORY.

LINNÆUS says, the *Magnolia Glauca* is a native of Virginia and Pennsylvania.* It is true that our plant is a native of these two States; but it is equally a native of many other parts of the United States. I believe, however, that it has not been found much to the northward of the fortieth or forty-first degree of north latitude, especially on the Atlantic side of the United States. Various

* Kalm and Catesby mention it as a native of North-Carolina.

provincial names are given to this our vegetable; the principal are the following: Magnolia, Swamp Sassafras, White Laurel, and Beaver-tree.* In Pennsylvania it is best known by the name of Magnolia, and in Virginia by that of Laurel or Bay-tree. The Delaware Indians call it *Gach-bach-gik*.

The Magnolia Glauca grows most commonly in low, moist, or swampy ground; hence it has acquired one of its provincial specific names, Swamp Sassafras, notwithstanding it is so far removed in botanical affinity from the true Sassafras, which is the *Laurus Sassafras* of Linnæus. The Magnolia frequently grows to the height of fifteen, twenty, or twenty-five feet, and the stem slender, seldom more than eighteen inches in diameter. The wood is white and spongy, covered externally with a smooth whitish bark. This consists of three layers; the outer is very thin, and the middle thicker than either the external or internal layer. When dried, it is of a light yellow, or straw colour. When deprived of its internal layer, the bark is very brittle, and breaks short. The internal layer is very thin and flexible, and may be easily separated into many small threads. The bark of the young shoots is

* It is called Beaver-tree, because that animal is fond of the root, and is often caught by means of it as a bait.

a dark green; these shoots, whether dried or fresh, when broken, give out a fragrant odour. The bark of the root is much darker than that of the trunk and more difficult to powder. The branches are furnished with entire, oblong, oval leaves, which are of a fine dark green colour on their upper surface or disk; but sea-green, or whitish and pubescent underneath. They generally lose their leaves in winter, except it be very moderate, though the young trees are most apt to keep them all winter. This tree generally flowers in Virginia between the first and tenth of May; in Pennsylvania between the fifteenth and twentieth of the same month; the flowers are produced at the extremities of the branches, and composed, most commonly, of ten or twelve fleshy, concave, and cream-coloured petals, in the centre of which is a rough conic style, or rudiment of the fruit. The flowers continue the most part of autumn, and afford a highly fragrant emanation, which, according to Mr. Kalm, may be perceived at the distance of three fourths of a mile; when the petals fall off, the style increases to the bigness, and assumes much the same shape of a walnut. It is thickset with knobs or risings, from each of which, when the fruit is ripe, are discharged flat seeds, about the size of small beans, having a kernel enclosed within a shell, covered over by a red skin. These red seeds when discharged fall not

to the ground, but are supported by small white threads, of about two inches long. The fruit, at first, is green, when ripe red, and when declining it becomes brown. It is a remarkable trait in the history of this tree, that when removed to high dry ground, it should become more regular, handfomer, and more prolific, both in flowers and fruit.*

This tree may be propagated by seeds procured from the places where they grow naturally. Professor Barton informed me, that he had been told, that the seeds sent from hence to Europe would not vegetate without passing through Turkies.

The wood of this tree burns very indifferently; I believe there is no particular use assigned it in the arts, independent of that in medicine. But the delicious fragrance of its flowers is a recommendation fully adequate to ensure it the culture of those who delight in the luxuries of bountiful Nature.

* Vide Kalm, Catesby, and Marshall.

EXPERIMENT I.

After breakfasting lightly at half past eight o'clock; I took at eleven o'clock, two scruples of powder obtained from the bark of the trunk of the Magnolia; the taste of this powder was aromatic, bitter, and somewhat astringent. My pulse at its natural standard of seventy two strokes in a minute. The following is the result.

In	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	minutes
pulse	72	70	72	70	68	68	68	66	64	64	66	68	68	68	68	beat
	in 130 140 150 minutes															
	pulse 70 72 72 beat.															

In fifteen minutes no perceptible change took place in the pulsation; in twenty-five minutes fuller; in forty minutes the pulse continued full with some tension; in fifty minutes the same; in sixty minutes the pulse was slow with increased tension; in seventy minutes no alteration; in eighty minutes the tension in some degree abated; in ninety minutes more frequent and soft; in one hundred minutes it continued the same; in one hundred and twenty the same; in one hundred and thirty somewhat softer; in one hundred and forty it returned to its natural standard.

EXPERIMENT II.

Mr. W. F. Washington, a worthy friend and fellow graduate, two hours after his usual breakfast, took one drachm of the powder mentioned in the above experiment; his pulse beating eighty strokes in a minute, its natural standard.

5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	150
80	80	80	78	76	72	72	72	68	70	68	68	68	72	78	78	80

In twenty minutes the pulse was more full; in thirty minutes fuller with some tension; in forty slower with increased fulness; it continued with little variation till the expiration of eighty minutes; in ninety minutes slow and hard with no variation for one hundred minutes; he was then affected with a nausea, which continued for twenty minutes, and the pulse gradually returned to its natural standard.

EXPERIMENT III.

My friend Dr. S. R. Thompson breakfasted as usual, and three hours afterwards took one drachm

of the above powder mixed in water, his pulse beating eighty strokes in a minute.

5	10	15	20	30	40	50	60	70	80	90	100	110	120
80	80	78	72	68	66	70	72	72	72	74	78	80	80

In fifteen minutes the pulse was somewhat tense; in thirty more tense and quick; in forty fuller; in fifty full and slow; in sixty variable; in seventy the fulness was much diminished, and he was affected with nausea; in eighty it continued the same; in ninety he felt relieved from the nausea, and the pulse was small and feeble; in one hundred more active; in one hundred and ten it returned to its natural standard.

EXPERIMENT IV.

My friend Mr. Washington, two hours after his usual breakfast, took one and a half drachm of the powdered bark of the root, in water, his pulse beating eighty strokes in a minute. The taste of this powder was bitter, astringent, and mucilaginous.

5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	150
80	80	80	76	76	76	72	76	72	72	68	68	68	68	64	60	60

160	170	180	190	200
64	70	74	78	80

In twenty minutes, the pulse was fuller; in thirty, no alteration; in forty, full and quick; in fifty, tense, with no variation until ninety minutes, at which time it was full and slow; he had at this time a copious discharge of urine; no variation until the expiration of one hundred and thirty minutes, then slow and hard; in one hundred and forty, full and slow; in one hundred and fifty, no alteration; in one hundred and seventy, soft and full; in one hundred and eighty quicker, then it gradually returned to its natural standard.

EXPERIMENT V.

To R. B. a healthy young man, two hours after his dinner, I gave one and an half drachm of the powder from the bark of the root, his pulse beating eighty strokes in a minute.

5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	150
80	80	72	76	76	72	72	72	72	74	72	74	74	76	78	78	80

In twenty minutes the pulse was more full; in thirty, full and quick; in forty, no variation; in fifty hard; in sixty hard and full; no alteration till ninety minutes, at which time the pulse was soft and variable, with heat and moisture of the skin; in one hundred and thirty minutes no alteration in the pulse,

the warmth and moisture abated; in one hundred and fifty minutes, the pulse was at its natural standard.

EXPERIMENT VI.

Three hours after breakfast, I took one drachm of the last mentioned powder, my pulse seventy-two strokes in a minute.

5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
72	72	72	70	70	70	68	66	64	64	60	64	66	68	68	68	70	72	72

In twenty minutes my pulse was more full; in forty, full and hard; in sixty, quick and tense; in eighty, variable; in ninety, full and slow; in one hundred, no variation; in one hundred and ten, soft, with a copious discharge of limpid urine; in one hundred and twenty, no alteration; in one hundred and forty, irregular; it then gradually returned to its natural standard.

EXPERIMENT VII.

I took three ounces of an infusion, made with a quart of boiling water to an ounce of the bark of the root well bruised, my pulse at its natural standard seventy-two strokes in a minute, and in half an hour afterwards, took three ounces more.

5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140
72	72	72	72	70	68	68	68	64	66	64	62	62	64	66	68

In thirty minutes after the first dose, my pulse was more full; in forty, tense and quick; in seventy, hard and quick; in ninety, full and slow; it continued with very little variation till the end of one hundred and twenty minutes; it was then irregular; in one hundred and forty, soft; it then gradually returned to its natural standard, attended with a copious discharge of limpid urine.

EXPERIMENT VIII.

At half past ten o'clock, my friend and fellow graduate Mr. M'Donald, took four ounces of the infusion last mentioned, and in one hour repeated the same quantity, his pulse at eighty strokes in a minute its natural standard.

5	10	15	20	30	40	50	60	70	80	90	100	110	120	130	140								
80	80	80	80	80	80	78	74	72	70	70	68	66	68	68	70								
<table> <tr> <td>150</td><td>160</td><td>170</td><td>180</td> </tr> <tr> <td>72</td><td>78</td><td>78</td><td>80</td> </tr> </table>																150	160	170	180	72	78	78	80
150	160	170	180																				
72	78	78	80																				

In thirty minutes the pulse was more full; in fifty, full and tense; in sixty, more tense; in ninety, full and slow; in one hundred and ten, full and hard; in one hundred and forty, irregular and soft; in one hundred and sixty, no alteration; he then had a copious discharge of limpid urine; in one hundred and eighty, it returned to its natural standard.

EXPERIMENT IX.

In two hours after breakfast I took twelve grains of the gummy resinous extract, prepared from the bark of the trunk, my pulse seventy-two strokes in a minute.

5	8	12	15	20	25	30	40	50	60	70	80	90	100	110
72	76	74	70	68	68	66	68	64	66	66	68	66	68	72

In eight minutes the pulse was quick ; in fifteen, full and quick ; in thirty, full and hard ; in sixty, full and slow ; in eighty, soft and irregular, with a pain in my head ; it then gradually returned to its natural standard.

EXPERIMENT X.

My friend G. H. took eighteen grains of the same resinous extract, his pulse at the time sixty eight strokes in a minute.

5	10	15	20	25	30	40	50	60	70	80	90	100
68	68	68	72	72	74	76	76	78	78	74	72	68

In fifteen minutes the pulse was more tense and quick ; in twenty, full ; in thirty, full and irregular ; in forty, hard, with pain in the head, which continued till seventy minutes ; in eighty, it was irregular and soft, and it then gradually returned to sixty eight and its natural state.

EXPERIMENT XI.

In three hours after my usual breakfast I took ten grains of the resinous extract prepared from the bark of the trunk, my pulse at seventy-two strokes in a minute.

5	10	15	20	25	30	40	50	60	70	80	90	100	110	120
80	80	78	80	80	82	76	76	78	80	80	76	74	72	72

In five minutes the pulse quick and tense; in fifteen, irregular and tense; in forty, more regular and full; it continued without alteration till the end of ninety minutes, and then gradually returned to its natural standard.

EXPERIMENT XII.

My friend and fellow graduate Mr. Duvall, two hours after breakfast, took ten grains of the resinous extract prepared from the bark of the root, his pulse beating eighty-two strokes in a minute.

5	10	15	20	25	30	40	50	60	70	80	90	100	110
92	88	88	86	84	84	80	96	80	84	84	84	82	82

The pulse in five minutes tense; in ten, full and tense; in fifteen, bounding and full; in twenty, fuller and tense; in forty, slow with tension; in fifty, soft and quick; in ninety, it was still the same; in one hundred and ten it returned to its natural standard.

EXPERIMENT XIII.

To one ounce of the leaves saved from the last year, I added one quart of boiling water in a covered vessel; the infusion when cold very much resembled common strong tea, in taste, colour and smell; a lady agreed with me in my comparison. The smoke of the leaves when burned was very agreeable and slightly aromatic.

EXPERIMENT XIV.

To half an ounce of the leaves were added eight ounces of the best proof spirit; it stood in the common temperature of the room for seven days, at the end of which time, the tincture was very high coloured, bitter, aromatic, and astringent.

EXPERIMENT XV.

To two drachms of the bark, taken from branches of the size of a man's thumb, were added four ounces of the best proof spirit; after eight days, the tincture was very bitter, aromatic, and slightly astringent.

EXPERIMENT XVI.

To three ounces of the twigs cut into short pieces and well bruised, was added one pound and an half

of the best proof spirit; after standing eight days, it afforded a very high coloured tincture, which was bitter and aromatic, both in taste and smell; eight ounces of the tincture was evaporated, and yielded eighty grains of a soft, dark coloured, very bitter, gummy resinous extract.

EXPERIMENT XVII.

To one ounce of the bark of the root finely powdered, were added eight ounces of the best rectified spirit of wine; after standing eight days, during which time it was often shaken, it was filtered and evaporated; it afforded forty eight grains of a dark coloured and soft resinous extract, which was of a pungent, bitter, and nauseous taste.

EXPERIMENT XVIII.

To one ounce of the bark of the trunk finely powdered, were added eight ounces of the best rectified spirit of wine; after standing eight days, it was filtered and slowly evaporated; it afforded forty grains of a dark coloured resinous extract, which was very bitter and acrid.

EXPERIMENT XIX.

To two drachms of the powder, were added four ounces of Lisbon wine, after standing four

days, during which time the phial was often shaken; the taste of the wine was not much altered, though it was slightly bitter and mucilaginous.

EXPERIMENT XX.

Four ounces of the bark from the trunk were boiled in two quarts of rain water, to the consumption of one, which tasted very bitter, and slightly astringent. Eight ounces of it were evaporated, and yielded seventy-five grains of a hard, black, and friable, gummy, resinous extract; twelve grains of the extract were suffered to stand three days in two ounces of cold water; it was then filtered and dried; the residuum weighed four grains.

EXPERIMENT XXI.

To two drachms of the seed well bruised, were added three ounces of the best rectified spirit of wine; after standing six days, in which time it was often shaken, the tincture was very high coloured; the odour aromatic, and taste acrid, and very much like spirit of turpentine. The same quantity of seed was added to proof spirits and imparted the same taste to it.

EXPERIMENT XXII.

To four ounces of the seed well bruised were added twelve ounces of pump water, which was put into a retort and subjected to distillation for six hours, at the end of which time, four ounces of limpid water were obtained; the smell was very disagreeable, and the taste empyreumatic.

EXPERIMENT XXIII.

Eight ounces of pump water were added to the residuum of the tincture mentioned in Experiment XVII; after standing five days, filtered, and slowly evaporated, fifty grains of a dark coloured extract were obtained, which possessed neither taste nor smell.

EXPERIMENT XXIV.

Eight ounces of pump water were added to the residuum of the tincture mentioned in Experiment XVIII; after standing five days, filtered, and slowly evaporated, it yielded forty grains of a soft, dark coloured extract, of a slightly bitter and aromatic taste.

CASES *in which the* MAGNOLIA GLAUCA
was used.

CASE I.

A. C. aged thirty five, laboured under an intermittent fever of the tertian type. She took one drachm of the bark of the trunk of the Magnolia, very finely powdered, in molasses, three times a day; on the third day she missed the fever; she continued the medicine four days longer, had no return of the fever, and was discharged cured.

CASE II.

P. D. a labourer, aged thirty seven, was affected with remittent fever; after taking a cathartic, he was put on the use of the Pulv. Cort. Rad. Magnoliæ; he took one drachm, in molasses, three times daily; on the second day, the symptoms were much moderated, and on the third, the disease was suspended; he continued the use of the medicine five days longer, and was discharged perfectly well.

CASE III.

J. F. a seaman, aged twenty nine, was attacked on the coast of Africa with intermittent fever of the tertian type; he had tried all the different medicines that theory could suggest, or practice recommend, without advantage; he was ordered one drachm of the Pulv. C. Rad. Magnoliæ three times a day, in molasses; on the second day of using the medicine the paroxysm was prevented; he continued the use of it for six days, had no return of the disease, and was discharged well.

CASE IV.

F. B. aged twenty nine, had laboured under intermittent fever of the quartan type for two weeks; after the first paroxysm, she had taken a cathartic, which operated well, and was then put on the use of the red bark with the usual directions, which she continued without benefit; she then, the day before the paroxysm was expected, began to take the Rad. Magnoliæ; at first the fit was not prevented, but by the continuance of the medicine, she had no other return of it, and was discharged well on the eleventh day from the time she began the use of it.

CASE V.

M. P. aged thirty-six, had for some time laboured under peripneumonia notha, and was very much reduced; she complained of great weakness and want of appetite; she was ordered two scruples of the Cort Rad. Magnoliæ in molasses, three times a day; after the second day the dose was increased to one drachm; she recovered her usual health and strength by the twelfth day, after she began to use the medicine.

CASE VI.

P. S. aged forty two, had laboured under pleurisy, was very much reduced and emaciated, and complained of great debility and want of appetite; she was ordered one scruple of the Cort. Magnoliæ in water, every third hour; after the third day the dose was increased to two scruples; she continued the medicine for twelve days, and was discharged cured.

CASE VII.

J. H. aged eighteen, was affected with the typhus fever; after the exhibition of some cathartic medicine, he began to take the bark of the root of the Magnolia, in doses of one drachm every third hour;

on the second day after using the medicine he was evidently much better ; he continued it with great advantage, and was discharged perfectly well, on the fifteenth day from that on which he began the use of it.

CASE VIII.

W. D. aged twenty eight, afflicted with rheumatism of about four months standing, was put upon the use of the root of the Magnolia in powder, to the quantity of one drachm three times a day ; after the use of the medicine for five days his rheumatism had nearly left him. The medicine was continued until the tenth day when he was discharged cured.

CASE IX.

A man who was in an advanced stage of consumption, and who had taken digitalis, mercury, and many other medicines without effect, was put on the use of the root of the Magnolia, which in the course of a few weeks gave much relief to his cough and other symptoms ; but upon the return of the pain in his head, breast, &c. the medicine was omitted, so that I had not an opportunity of forming any decisive opinion respecting its effect.

REMARKS.

THE result of most of the foregoing experiments prove, that the operation of this medicine is similar to that of Gentian and Columbo, in the experiment of Drs. Percival and Bibb; and that it often has the same effect with the Peruvian Bark, that is, to reduce the frequency, and increase the fulness of the pulse. As long keeping is known to diminish the powers of Columbo, and scarcity often leads to fraudulent practices, both in the sale of it and of the Peruvian Bark, may not the Magnolia, in many cases, be used as a valuable substitute for these high priced remedies? From several chemical tests, all the preparations exhibited evident proof of astringency; the bark of the root is the most astringent; from several experiments I am led to believe, that proof spirit, and boiling water, are the best menstrua. To enumerate the different diseases in which this medicine might be used with advantage, would necessarily extend this Essay beyond the limits assigned to it. In all diseases where Tonics are indicated, it merits the attention of every physician, before the term opprobria medicorum can properly be admitted.

“ Mr. Kalm says, the cough and other pectoral
 “ diseases are cured, by putting the berries into
 “ rum or brandy, a draught of which may be taken

“ every morning; the virtues of this remedy are
 “ universally extolled, and even praised for their
 “ salutary effect in consumption. The bark being
 “ put into brandy, or boiled in any other liquor,
 “ is said not only to cure pectoral diseases, but
 “ likewise to be of some service against all internal
 “ pains and heat, and it was thought that a decoc-
 “ tion of it would stop dysentery. Persons who
 “ had caught cold, boiled the branches of the
 “ Beaver-tree in water, and drank it to their great
 “ relief.” Mr. Marshall says, the bark and berries
 have been used with success in rheumatism.* Pro-
 fessor Barton mentions the bark being used in inter-
 mittent fevers and rheumatism. Dr. Humphries, of
 Virginia, in a letter to Dr. Duncan, informs him,
 that the hunters cure themselves of rheumatism with
 a spirituous tincture of the cones, or seed vessels of
 the *Magnolia acuminata*, commonly called the Cu-
 cumber-tree. † The bark of the root of the *Magnolia*
Grandiflora, sometimes called the Tulip-tree, is
 used in Florida, in combination with snake root,
 as a substitute for the Peruvian bark in intermittent
 fevers. ‡

From the present state of vegetation, I very much regret it being out of my power to make any

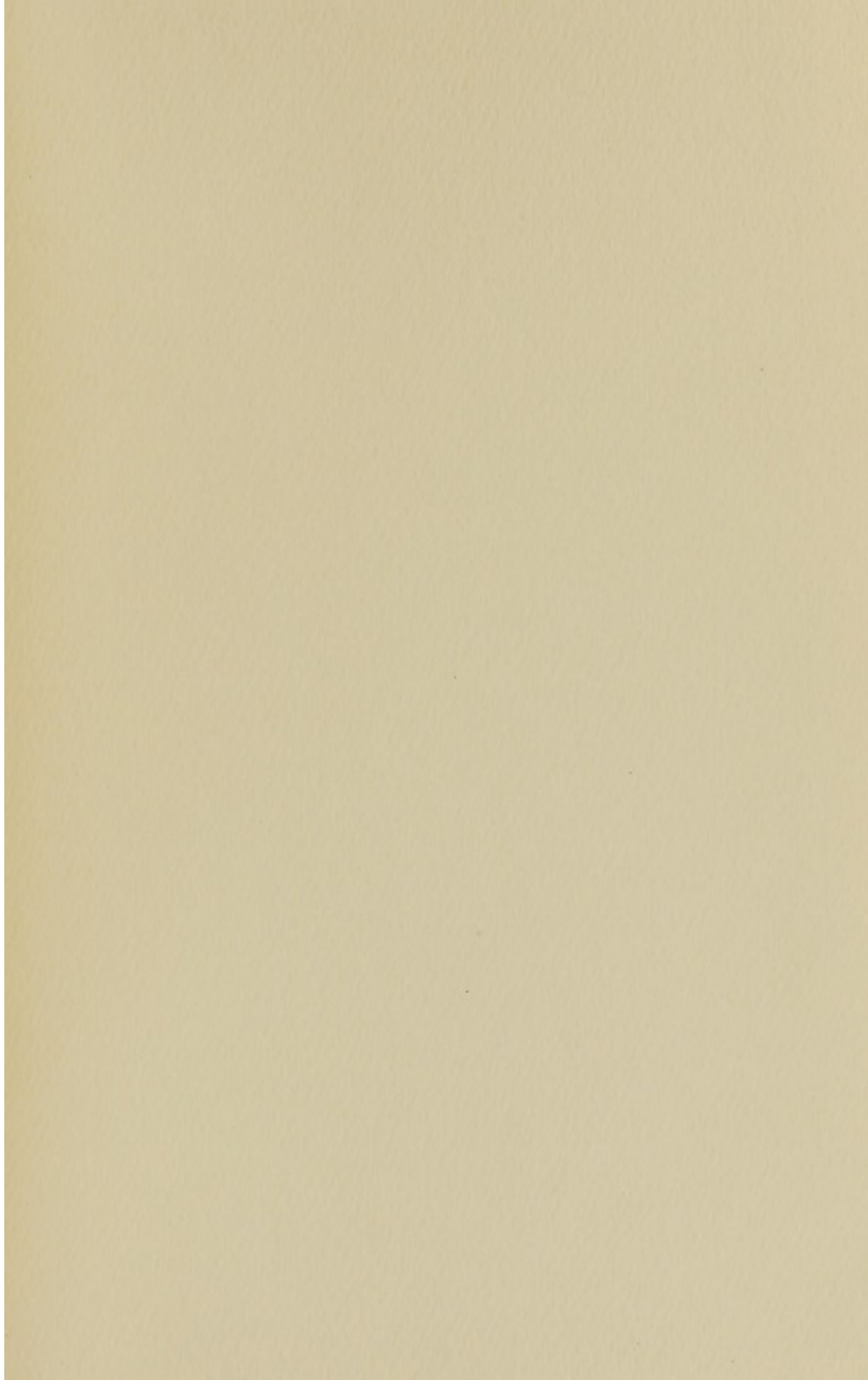
* *Arbustum Americanum*. † *Med. Com.* vol. xviii.

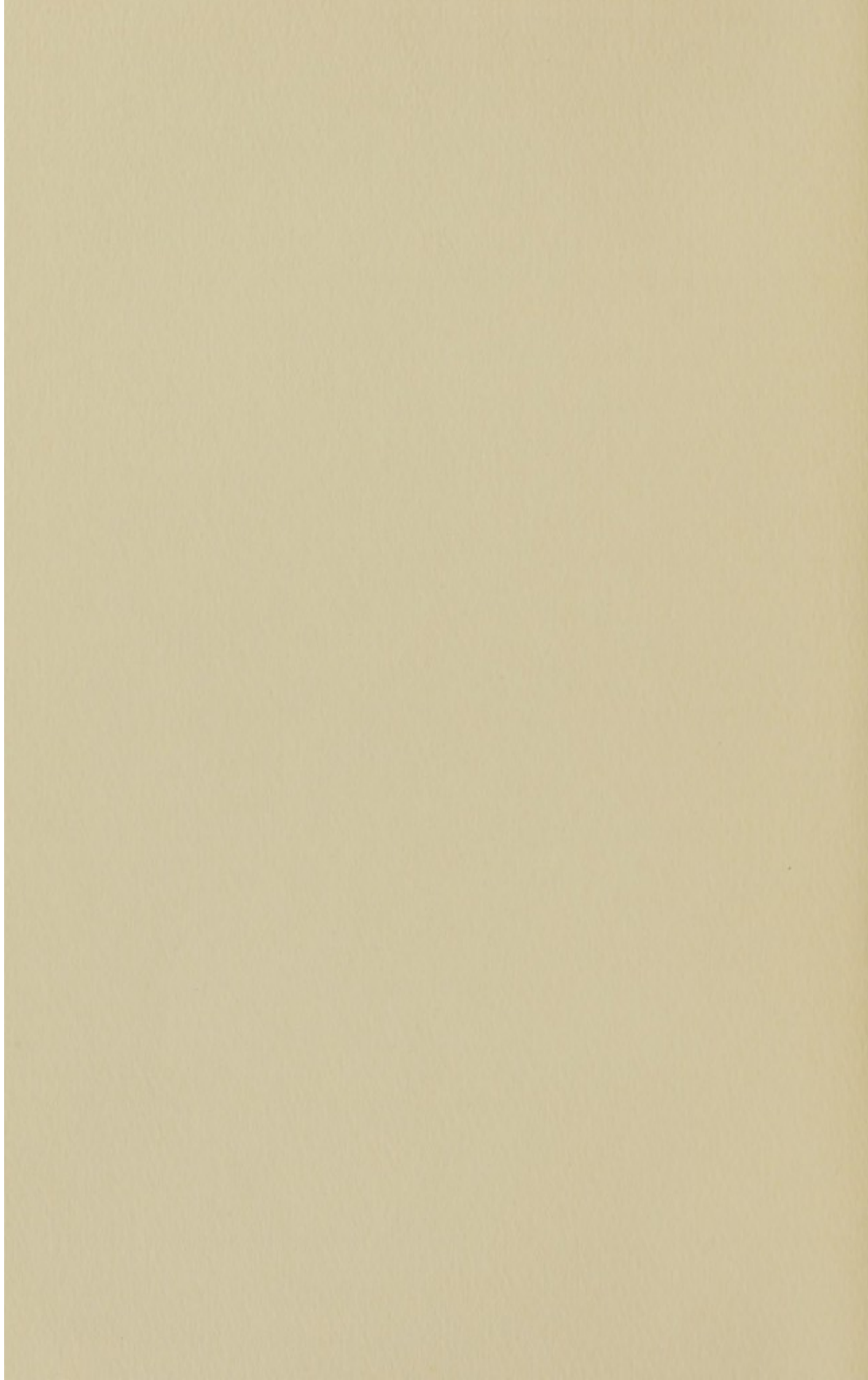
‡ Barton's *Essay on M. M. U. S.* 2d. edit.

experiments with the flowers of the *Magnolia glauca*; they certainly do possess stimulant properties. Professor Barton says, “ I am well acquainted with a
 “ physician, in whom the newly expanded flowers evi-
 “ dently increased the paroxysm of a fever which
 “ came on every afternoon, and also, the pain of in-
 “ flammatory gout. And further observes, that the
 “ late Mr. S. P. of Philadelphia, was always affec-
 “ ted with a sense of great uneasiness about his chest,
 “ and with a strong tendency to fainting, whenever
 “ he entered a room where the flower of this Mag-
 “ nolia was.”*

Whether the *Magnolia glauca* will ever be received into general practice, future observation must determine. A solicitude for improvement has ushered this much in its support to the scrutiny of cavil and prejudice. I cannot conclude this Essay without acknowledging how much I feel myself indebted to the Professors of this University, individually, for the valuable instruction received from them. That you, Gentlemen, may long enjoy the honor, prosperity and happiness justly due to your unrivalled exertions to disseminate knowledge, so highly important to mankind, is the sincere wish of the Author.

* Barton's Essay on M. M. U. S. 2d. edit.





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