

An inaugural dissertation on the use of the nitric and oxigenated muriatic acids, in some diseases : submitted to the examination of the Rev. John Ewing, S.T.P. provost ; the trustees and medical faculty of the University of Pennsylvania, on the twenty-second day of May, 1798 ; for the degree of Doctor of Medicine / by Philip Gendron Prioleau, A.B. of Charleston South Carolina-honorary member of the Philadelphia Medical and Chemical Societies.

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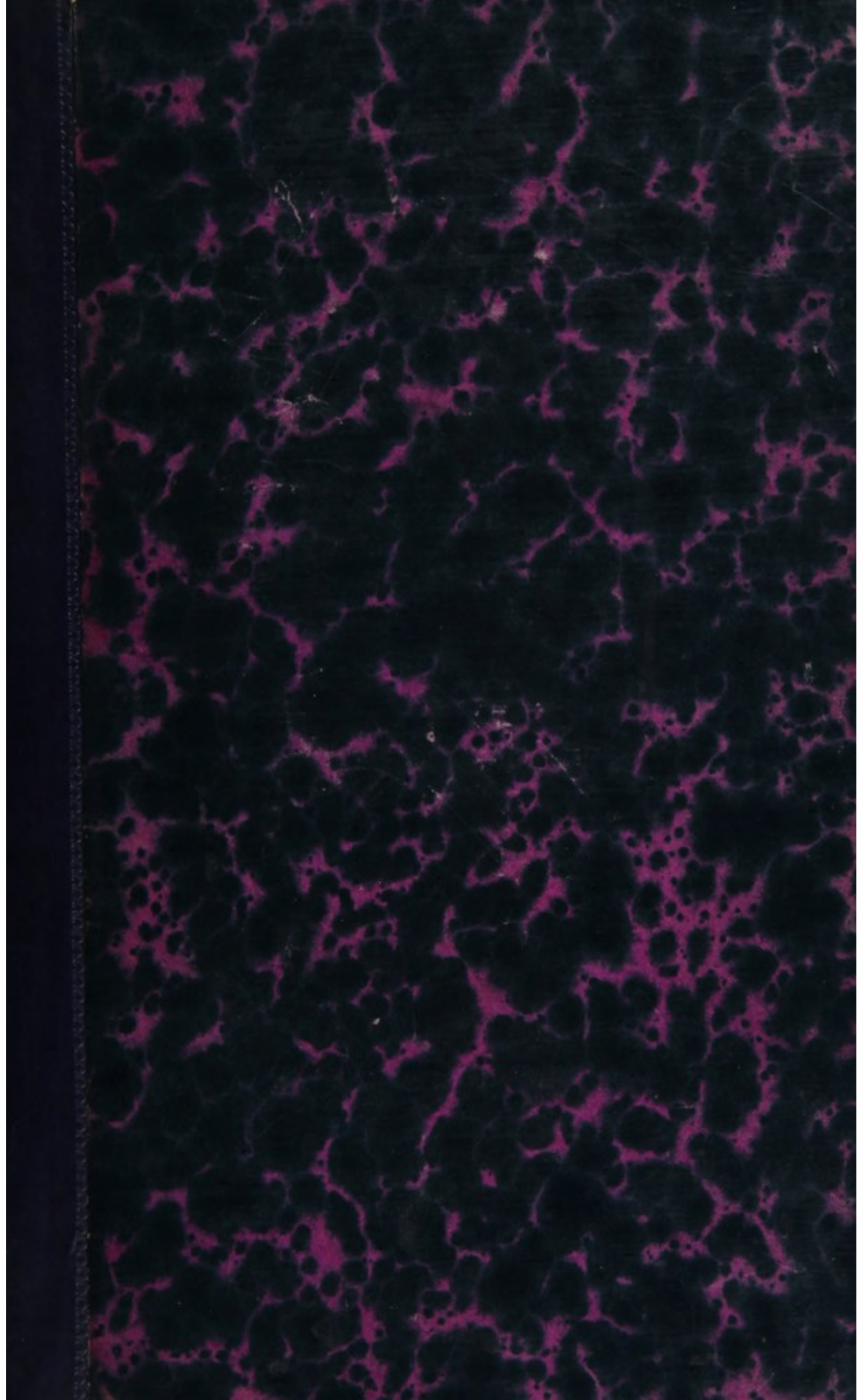
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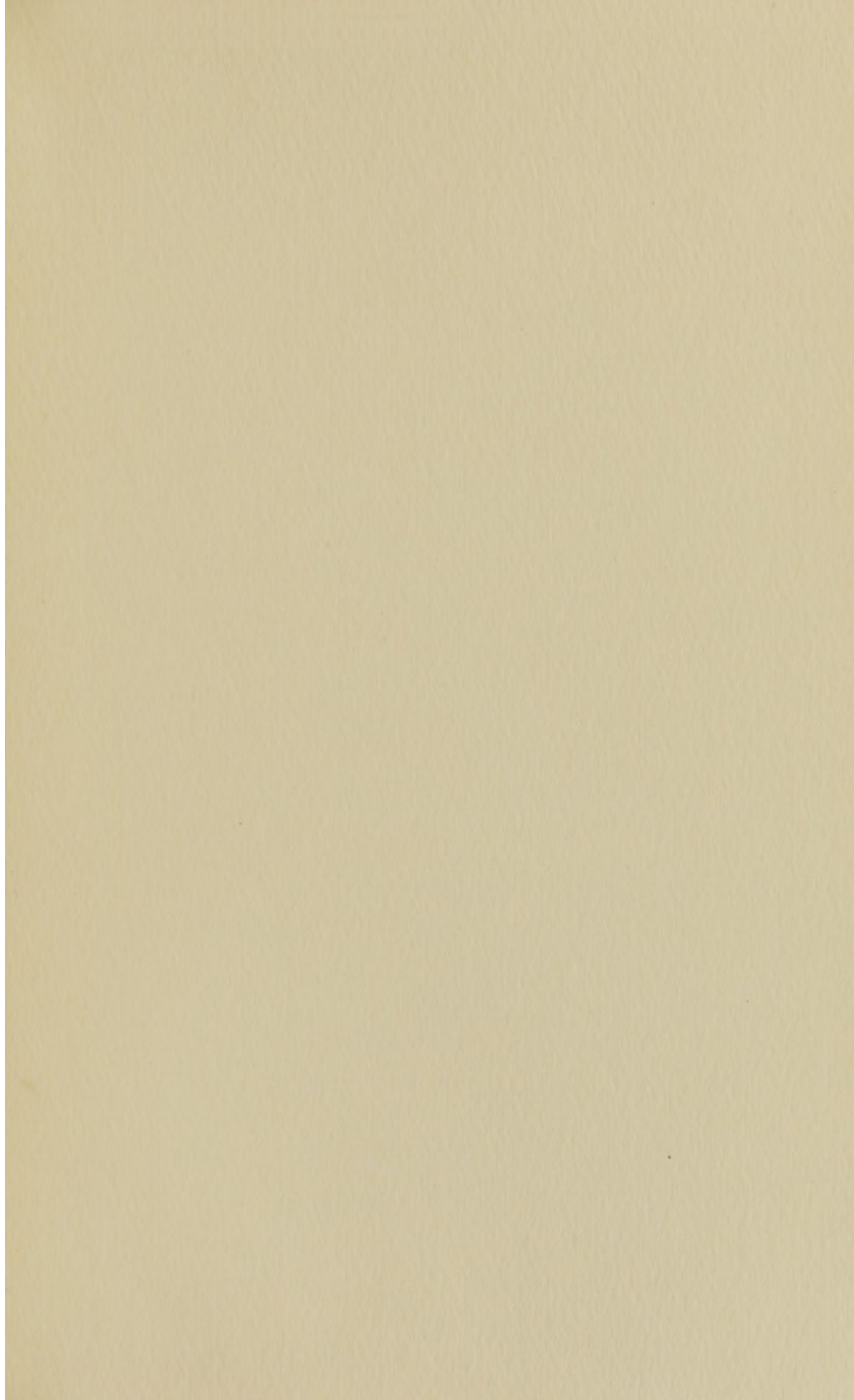


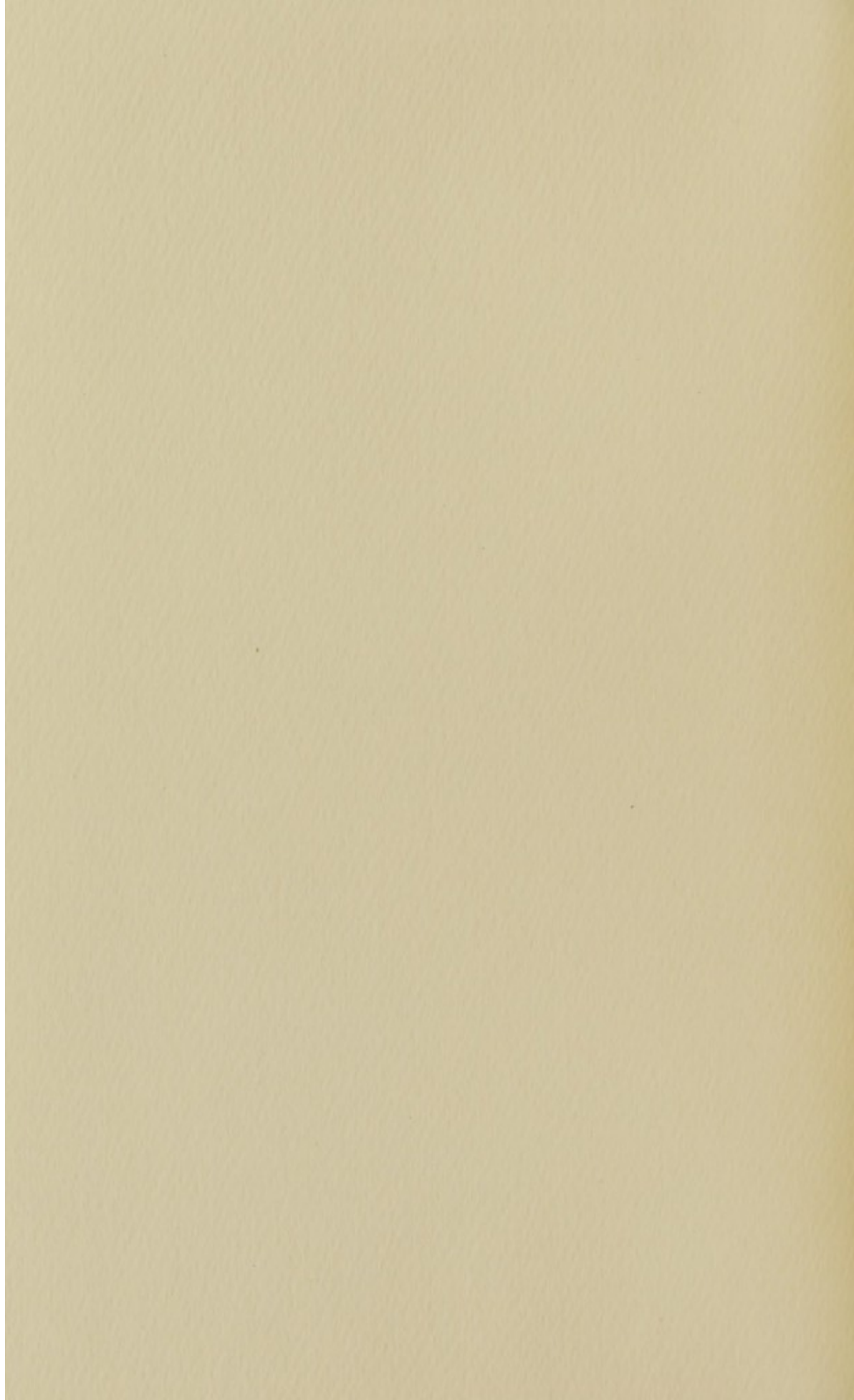
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A N
INAUGURAL DISSERTATION

ON
THE USE OF THE
Nitric and Oxigenated Muriatic Acids, &c
IN SOME DISEASES.

SUBMITTED TO THE EXAMINATION OF THE
Rev. JOHN EWING, S. T. P. Provost;
THE TRUSTEES AND MEDICAL FACULTY OF THE
UNIVERSITY OF PENNSYLVANIA,

ON THE TWENTY-SECOND DAY OF MAY, 1798.
FOR THE DEGREE OF DOCTOR OF MEDICINE.

BY PHILIP GENDRON PRIOLEAU, A. B.

Of Charleston South Carolina—Honorary Member of the Philadelphia
Medical and Chemical Societies.

Ex principiis nascitur probabilitas; ex factis vero veritas.

PHILADELPHIA:

PRINTED BY JOHN BIOREN.

M DCC XCVIII.

INAUGURAL DISSERTATION

ON THE USE OF THE
NITRIC AND OXYGENATED NITRIC ACIDS

INAUGURAL DISSERTATION

BY JOHN E. WILSON, M.D.

THE USE OF THE

UNIVERSITY OF PENNSYLVANIA

NITRIC AND OXYGENATED NITRIC ACIDS

FOR THE TREATMENT OF VARIOUS

BY PHILIP GORDON, M.D.

OF THE UNIVERSITY OF PENNSYLVANIA

Medical and Surgical Department

PHILADELPHIA

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PHILADELPHIA

AN
INAUGURAL DISSERTATION

ON

THE USE OF THE

Nitric and Oxigenated Muriatic Acids,

&c.

CASPAR WISTAR, M. D.

UNIVERSITY OF PENNSYLVANIA

I give me infinite satisfaction, to have an opportunity of thus publicly acknowledging my obligations to you. The polite attentions I have received from your family, your unceasing endeavors to give me every opportunity of improvement, which your extensive

T O
CASPAR WISTAR, M. D.

Adjunct Professor of Anatomy, Surgery and Midwifery,

IN THE
UNIVERSITY OF PENNSYLVANIA.

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IT gives me infinite satisfaction, to have an opportunity of thus publicly acknowledging my obligations to you. The polite attentions I have received from your family, your unceasing endeavours to give me every opportunity of improvement, which your extensive

practice afforded, and the invaluable precepts, which you have with so much pleasure delivered to your pupils, all claim my warmest thanks. —Accept then, sir, this my first publication, which is offered as a small mark of the gratitude and esteem

of your sincere friend
and affectionate pupil,

PHILIP GENDRON PRIOLEAU.

ON THE USE OF THE
Nitric and Oxigenated Muriatic Acids,
IN SOME DISEASES.

IN treating of these acids, it may be necessary to premise, that it is not my intention to speak of their Chemical affinities to the substances which surround us. As this is very accurately and minutely taken notice of, in every system of Chemistry, I mean to confine myself to their medical properties, and their effects on the human body, as this part is that, with which physicians are, as yet, least acquainted.

In pursuing this subject then I shall first, in as concise a manner as I am able, give the history of the discovery of the *use* of the Nitric Acid in diseases : Next relate some cases in which it was exhibited, and draw such conclusions from them as they justly warrant : I shall then treat of the Oxigenated Muriatic Acid in the same manner, and endeavour to prove that these Acids act on the same principle with Mercury in the cure of the Venereal Disease.

ON THE

NITRIC ACID.

THE history, of the important discovery, of the use of the Nitric Acid in some diseases, is as follows, Mr. William Scott, surgeon in the service of the East India Company, (in August 1793,) imagining that the obstructions of the liver, were occasioned by the bile depositing its resin; and desirous of becoming acquainted with the *modus operandi* of the calces of mercury, which seem so peculiarly qualified for removing those obstructions; he instituted a series of experiments on the bile.

By mixing a quantity of the resin of the bile, (carefully separated from its soda and lymphatic matter with which it is united,) and half its weight

of the red calx of mercury with ten or twelve ounces of water, and exposing them to heat, he found, that part of the oxigene of the mercurial calx, had combined with the resin, and made it surprisingly more soluble in water. By his experiments on the base of the bile, having thus found that oxigene made it more soluble in water, and being at that time afflicted with chronic hepatetis, he resolved to take a quantity of oxigene united to some substance, for which it has no great attraction. After some reflection on the subject nothing appeared to him so well calculated for the purpose, as the Nitric Acid, which is known to consist of about four parts of oxigene, united to one part of nitrogene, with a certain portion of water.

In Sept. 1793, (says Mr. Scott,) “ I began to take the Nitric Acid. I mixed about a dram of the strongest I could procure, with a sufficient quantity of water ; and was happy to find that I could finish that quantity, in the course of a few hours without any disagreeable effects from it: the following is the journal that I kept of myself at that time.

September 11th 1793, 1st day. Took at different times about a dram of the strong Nitric

Acid, diluted with water. Soon after drinking it, I felt a sense of warmth in my stomach and chest; but no disagreeable sensation from it, nor any other material effect.

2d, I have taken to-day a considerable quantity of acid, diluted with water, as much as I could easily drink during the forenoon.

3d, I have continued the acid. I feel my gums affected from it, and they are somewhat red, and enlarged between the teeth, I slept ill, but could lie for a length of time on my left side, which from some disease in my liver, had not been the case for many months before. I perceive a pain in the back of my head, resembling what I have commonly felt when taking mercury.

4th, My gums are a little tender: I continue the acid as before, I still find a pain in my head, and about my jaws, like what arises from mercury. I perceive no symptoms of my liver complaint.

5th, I have taken the acid, and always feel an agreeable sense of heat after drinking it. I spit more than usual.

6th, I continue the acid. I observe my mouth forer to-day, and spit more.

7th, I think I am now sufficiently oxygenated. I feel my mouth so troublesome, that I shall take no more acid.

From this time my mouth got gradually well, and I found my health considerably improved.

Mr. Scott administered the Nitric Acid in several cases of tedious intermittents, in two cases of diabetes, in each of which the subjects were in the decline of life, and in a number of syphilitic cases with the happiest effects.

This short account of the discovery of the use of the nitric acid in diseases, I have thought it my duty to give, in honour of the discoverer: and it is done with more pleasure, as it was the result of reflection and well directed experiments: and not as is frequently the case, stumbled upon by accident.

Mr. Scott's account of the Nitrous acid, was first published in the Bombay Courier of April 30th, 1796. It has since been republished in the

first volume of Dr. Duncan's Medical Annals, and also in the first volume of the New-York Medical Repository.

In the latter end of August 1797, I met with Mr. Scott's account of the Nitric Acid, in Duncan's Medical Annals : and have since that time given it in a number of syphilitic cases, with the happiest effects.

As the subject is new, and nothing is wanting to bring this invaluable medicine into general use, but facts in its support, I will relate some of the cases which came under my own observation.

C A S E I.

September 1st, 1797. F. M'C——r, came into the Alms-house as a pauper. She had four chancres on her labia pudendi and nymphæ, which she had contracted three weeks before. I directed her to take five drops of the Nitric Acid every hour in a little sweetened water, which she continued for a fortnight, her mouth was slightly affected, three of her chancres had entirely healed and the other greatly diminished. She was at this time attacked with pleurisy, so violent as to make me neglect the syphilitic complaint. Her pleurisy

was cured by four bleedings and cathartics of glauber's salts and emetic tartar. I thought no more of her syphilis for six weeks after this, when she informed me that her old complaint had returned. Upon examination I found that two of the chancers had re-appeared and were nearly of the size of a small button. She recommenced taking the Nitric Acid; and continued its use three weeks longer, at which time she left the Alms-house. But previous to her departure she informed me; that her sores were entirely well, except (to use her own expression;) "a small spot about the size of a pin's head."

December 27th, After being out of this institution three weeks, she this day called on me to request more Acid; telling me at the same time, that the sore which had not been entirely healed, had enlarged to a size that would admit the end of her little finger.

I gave her the Nitric Acid as before, and desired her to call on me every three or four days. She faithfully took the Acid for four weeks more, when the chancre appeared to be perfectly well. But by way of insurance I desired her to take the Acid two weeks longer, which she did.

I saw her the other day, it is upwards of a month since she has omitted the Acid, and she informed me, that she has been perfectly well ever since.

CASE 2d.

October 8th 1797. T. D. aged twenty three years, was received a pauper in the Alms-House ; He was afflicted with pains and ulcers in his limbs. The history of his case is as follows ; In January last he was infected with the venereal disease, he had a gonorrhœa, chancres, and an enlargement of the glands in his groins, which had been disscussed by mercury, and he considered himself as cured. Fourteen weeks ago, he took the small pox (and had the disease mildly) the natural way ; shortly after the small pox had run its usual course and disappeared, small pustules arose on his legs which degenerated into ulcers, in their appearance resembling those of a venereal nature. From which time to the present they have continued to increase, and he now has on his lower extremities six and twenty ulcers, he also complains of pains in his limbs.

I gave him the following mixture,

℞ Gum : Arab iv drach : iv.
 Aquæ Menth : vi Unc : vi.
 Acid : Nit : ii drach ii F. M.

With directions to take a table spoonful every hour mixed with sweetened water.

October 11th, The third day after he began with the Acid, and when he had taken but four drachms of it, I found him lying on his bed, with his hand supporting his head, and the saliva driving from his mouth into a cup. His mouth was very sore, his gums had a similar appearance with those of persons slightly affected with mercury. The salivary glands were much enlarged. His breath at present, has no offensive odour, though he says that when he first began to spit, it was very disagreeable. The ulcers on his legs look cleaner. His mouth is so sore that the Acid is omitted.

October 16. His mouth is much better, his ulcers are in a healing state but the pains in his bones still continue. He was desired to take the Acid again.

November 1. Has continued to take the Acid so as to keep his mouth slightly affected. His

ulcers have entirely healed, but the pain in his limbs still continue.

November 16. He has continued the Acid and is well in every respect, except the pain in his limbs, which remains the same.

Finding the Acid after so fair a trial incompetent to the removal of the pain, and believing the Rheumatism to be syphilitic, I thought it my duty to give him mercury. He took from the sixteenth of November to the eighteenth of December calomel so as to keep up the affection of his mouth, and a pretty considerable ptyalism, without producing the least alteration of the pain. He then left off the use of mercury and used friction with the flesh brush, and in the course of three weeks found himself almost free from pain. He continued the friction and in a short time after was perfectly well.

C A S E III.

Wm. L. Aged 39 was admitted in the Alms-House for a venereal complaint. He has several times before had syphilis, has at present nocturnal pains in his bones, nodes on his shins and an ill-conditioned ulcer on the calf of his right leg.

October 16, 1797. He was ordered the following mixture :

℞ Gum Arab drach : iv.

Aquæ Menth Unc : viii.

Acid : Nitros : drach ii. F. M.

With directions to take a table spoonful every hour mixed with sweetened water, and the ulcer to be dressed with the Ung : Merc : Præcip : Rub :

October 21. He has taken four drams of the Acid ; he complains of foreness of his gums ; the medicine he thinks has caused a griping and looseness in his bowels, his ulcer looks cleaner and his nocturnal pains are less violent.

October 25. He has continued the Acid ; the ulcer is clean and in a healing state, the nodes are less painful and begin to decrease.

October 30. Has continued to take from one to two drams of the Nitric Acid daily. His mouth is but slightly affected ; he has no faetor of the breath, and continues to mend in every respect.

November 4. Has continued the Acid; his teeth are loose and he has a moderate ptyalism.

November 20. He has continued to take the Acid. His ulcers have entirely healed, his nodes have disappeared, and he appears in every respect to be perfectly well.

It is now four months since he left off the use of the Nitric Acid, and he has never had the return of a single symptom of his old complaint.

N. B. He has taken no mercury for upwards of a twelvemonth.

C A S E IV.

February 7th, 1798. M. M'G——n, Aged 34, was admitted into the Alms-house for a venereal complaint. She had a deep, illconditioned syphilitic ulcer on the calf of her right leg; together with a syphilitic discolouration of the skin on the face, neck, breast, and arms. The following mixture was prescribed for her.

℞ Gum : Arabic drach. iv.

Aquæ Menthæ unc. vi.

Acid : Nitros : drach. iii. F. M. With directions to take a table spoonful every hour, mixed

with some sweetened water. She was directed to dress the ulcer with the ung: ex ærugine.

Feb. 9th, She has taken the acid. No alteration in her disease. She complains of a little griping in her bowels.

Feb. 10th, She has continued to take three drams of the acid daily. She complains of a swelling of the submaxillary glands; and her gums begin to swell. The ulcer is less painful, and looks cleaner. The discolouration of the skin remains the same.

Feb. 13th, Has continued the acid. She complains of her mouth being sore and her teeth loose. No fautor of the breath is observable. Her ulcer is contracting, and the discolouration of the skin she thinks is lessening.

Feb. 16th, Has continued the acid. Her mouth is very sore and she spits near a quart a day; The ulcer is healing and the discolouration of the skin diminishing. On account of the soreness of her mouth, the acid was omitted.

Feb. 24th, Her mouth is much better, and the ptyalism has ceased. The ulcer is nearly healed

and the skin resuming its natural appearance. She was directed to recommence the use of the acid.

Feb. 27th, Has taken the acid. Her mouth is slightly affected, and she continues to mend.

March 2d, Has continued the acid. The ulcer has healed, and the discolouration of the skin is fast disappearing.

March 6th, Has taken the acid, her mouth is slightly affected. She continues to mend.

March 12th, Has continued the acid. She is in a profuse ptyalism. Her skin is of its natural colour, and she appears perfectly free from her complaint. The acid was omitted. Her mouth in a week after the omission of the acid got well, and she was discharged as cured.

N. B. Not a single grain of mercury had been given in this case.

As my present object is to shew the efficacy of the Nitric Acid in the venereal disease. And as nothing will have a greater tendency to its establishment, than its utility having been experi-

enced by medical gentlemen, of unblemished reputations, in different quarters of the globe : and especially as the result of their experience, is in the hands but of a few ; I think it my duty to avail myself of some of their cases. And in order to make this paper less prolix. I will omit the recitation of several other cases, which came under my immediate inspection.

Within these few days I have had the good fortune, to meet with part of a small pamphlet, entitled, " Reports of the Effects of the Nitrous Acid in the Venereal disease." It contains twelve cases by Mr. Hammick Junr. one of the surgeons of the Royal Hospital at Plymouth, (in G. B.) which were selected from upwards of fifty cases in which the Nitric medicine had been found efficacious, and sent to Dr. Beddoes for publication. As the one now in my possession is the only copy in Philadelphia, and I have some reason to believe it is the only copy as yet in America, and as it contains some very decided cases, which corroborate my experience on this subject. I will take the liberty of relating some of them.

CASE V.

George Hall, a Marine, thirty nine years of age, was received into the Royal Hospital at Plymouth, on the seventeenth day of April, 1797, for a venereal complaint which he had contracted about three weeks before ; at this time he had a large, irregular, foul chancre on the lower part of the penis near the scrotum, with an enlargement in the right groin, had never taken any medicine, or applied any thing to the chancre itself: the next day, the 18th of April, he was ordered the following drink.

℞ Acidi Nitrosi deluti drachmas ꝑj

Succi limonis uncias j

Aquæ fontanæ libras ꝑj

M. Bibat quotidie.

The ulcer was dressed with the simple white ointment: he continued this drink daily to the third of May, when the diluted nitric acid was changed for the same quantity undiluted, which he took, with the addition of syrup till the 11th day of May, when the chancre was healed, the enlargement in the groin could not be felt, and in every respect he became well, he was discharged to quarters on that day to go on duty.

N. B. This man never took a grain of mercury.

CASE VI.

Thomas Plangett, Marine, twenty years of age, was received into the Royal Hospital on the seventeenth day of April 1797, for a venereal complaint, which he had contracted about sixteen days before; had not used any medicine for it; he had now two large indurated glands in the right, and a large one still in the left groin and a venereal eruption on the pubis. The following day he was ordered;

℞ Acidi Nitrosi drachmas i fs.

Syrupi Simplicis uncias vj.

Aquæ Fontanæ libras jj.

M. Bibat quotidie.

He took it that day and continued it in the same proportion daily to the 15th day of June, when the swellings in his groins being gone, and the eruption having entirely disappeared, he was discharged on that day, in order to go to quarters.

N. B. This man had not used any mercurial preparation.

C A S E VII.

John Burr, Seaman, twenty seven years of age, was received into this Hospital, on the 5th day of June, 1797, for a venereal complaint, contracted about a month before; this man had not taken any thing for it. Its appearance at this time was a large bubo in the right groin, which had suppurated two days before; two chancres appeared on the lower part of the penis; he had phymosis with great inflammation, and an appearance tending to gangrene; and an ulcer on the scrotum: the same day he was ordered the following drink:

℞ Acidi Nitrosi drachmas ii.
 Syrupi simplicis uncias viii.
 Decoct: lignorum libras ii.
 M. Capiat quotidie.

The penis and bubo were poulticed, and the chancres dressed with the simple white ointment. He took his drink that night, and before he had taken it six days, there was an apparent alteration for the better. He continued it to the 10th day of July, when his bubo, chancres &c. being healed; the phymosis entirely removed, and the

man in perfect health, he was ordered from the venereal ward, to another surgical ward, as he had a hernia.

N. B. This man had never used mercury.

C A S E VIII.

Samuel Pope, seaman, twenty years of age, was received into the Hospital on the 4th day of June, 1797, for a venereal complaint, which he had contracted about ten days before. The account he gave me was, that about six days before his arrival here, he found great pain and difficulty in passing his urine, attended with a phymosis, and a discharge of matter from the urethra; that three days after that, he perceived a black spot on the prepuce, which continued spreading to the day of his arrival here, when a profuse hæmorrhage taking place from the dorsum penis, it alarmed him and he then applied to the surgeon for the first time, who immediately sent him here. I found the whole prepuce entirely mortified, and the mortification had seized the upper part of the glans penis, from whence the prepuce had, from its weight in hanging down, been detached; he had also much symptomatic

fever: he was ordered to be well fomented twice a day, and the yeast poultice to be applied, and to take the following drink:

R. Acidi Nitrosi drachmas ii.

Syrupi simplicis Uncias viii.

Decocti lignorum libras ii.

M. capiat quotidie.

Capiat hora somni opü grana ii.

5th Has bled somewhat during the night, and the sphacelous on the glans seemed to have spread; the Nitric drink &c. continued as yesterday.

6th Nearly the same as yesterday, only appears to have less fever; drink &c. continued.

7th the whole of the prepuce sloughed off this morning; the mortification on the glans had not spread: Nitric medicine &c. continued.

8th There was a detachment of the sloughs, drink &c. ordered as usual.

9th The sloughs came entirely off this morning from the glans, so deep as to occasion some alarm that the urine would find its way out through the side of the urethra.

10th Appeared to be better, and the nitric drink &c. were continued without any alteration (except the ulcer being dressed with ointment on the 13th in lieu of poultice) to the 17th of July, when the wounds round the glans from whence the prepuce had sloughed off and elsewhere, were healed; and he being in all respects perfectly cured of the venereal disease, he was sent from the venereal ward to another surgical ward, as he had a lame arm from a hurt he had received on board some time before.

N. B. This man had never used either Mercury or bark.

The preceding cases in my opinion justly warrant us in saying not only that the nitric acid is useful in the Venereal disease, but that it is at least equal to mercury. But there is hardly a Practitioner, who has not met with some cases of syphilis, in which he has had too just cause to lament the inefficacy of mercury, where either owing to idiosyncrasy, or to the constitution not having sufficient stamina to contend both with the disease and remedy, or rather to the constitution being so irritable, as to be unable to bear the action of mercury, for a sufficient length of time, to eradicate the disease: in which cases the

Physician is reduced to the extreme mortification of being a spectator to the sinking of his unfortunate patient out of his miserable existence, with a disease, which besides being the most painful, is, by the world, esteemed the most loathsome and detestable.

With what honours then, should not science crown the man, who discovered a remedy capable of snatching a fellow creature, in so deplorable a situation, from the jaws of death. The nitric acid as will appear by the following cases, is sufficient to accomplish so desirable an end. And the gratitude of mankind in general, should pay the tribute justly due to the ingenious Mr. Scott, whom reason, reflection, and experiment, has conducted with so much honour to the discovery.

In the pamphlet from which some of the preceding cases were taken we find also the following, which are much to our present purpose.

CASE IX.

Thomas Homewood, seaman, twenty six years of age, was received into this Hospital on the twenty ninth day of March, 1797 for a venereal complaint, which he had contracted about a

month before. He had taken different medicines without effect, for it, on board; the appearance of the disease, was, a very large and deep chancre, extending all the length of the penis on the back part; a large and extremely inflamed bubo in each groin, with a profuse discharge of matter from the urethra, accompanied with great heat in passing his urine. His buboes were ordered to be fomented and poulticed twice a day, and two drams of the strong mercurial ointment to be well rubbed in on the thighs at night; which applications were continued to the second of April, when his buboes (now ready to suppurate) were touched with the lapis infernalis and the eschars were thrown off on the 5th. The next night he used the friction again, and continued it to the 10th, when I found him very weak and low, with a violent cough and much expectoration of thick phlegm streaked with blood, profuse sweats, and such extreme debility, as not to be able to raise himself from his pillow, attended with diarrhœa. The chancre and buboes continuing very foul, the friction was discontinued, and he was the next day ordered the following drink :

R. Acidi Nitrosi drachmas ii.

Syrupi Simplicis uncias viii.

Aquæ Fontanæ libras ii.

M. Capiat quotidie.

The day after, finding himself somewhat better, the drink was continued, and from the above alarming symptoms yielding, and an entire alteration taking place both in his health and appearance of the ulcers, he took it to the 10th of May; when he complained the drink vomited him. The Nitric Acid was then reduced to one dram daily, which he drank without any uneasy sensation in his stomach, and continued it in that proportion to the 30th day of May; when his buboes and chancre being healed, and all the venereal complaints entirely gone, the drink was no longer used, and he was discharged from the Royal Hospital on the 5th day of June, in order to join his ship.

C A S E X.

Thomas Edmed, Seaman aged twenty four, was received into this hospital on the ninth day of Feb. 1797, for a venereal complaint contracted about three weeks before, and had taken mercury on board for it. At this time he had a very bad phymosis: the prepuce being very thick and hard with a profuse discharge appearing to come from chancres situated behind the glans penis; he had also great difficulty in passing his urine, accompanied with a chordee. This man was very delicate with fair complexion; he was ordered the

next day to rub well into his thighs at night; two drams of the strong mercurial ointment, and to apply twice a day, a poultice of lintseed meal, &c. to the penis: he rubbed between the 10th of February and 12th of March, twenty three times, and fumigated the part night and morning with the cinnab: factit: On this day, viz. 12th of March, he was ordered to forbear the friction, as he was low and weak, and his mouth very sore and swollen; he spat in the four and twenty hours nearly three pints; diarrhæa, cough, pain of breast, and his venereal complaint appeared much aggravated. He was put on a nutritive diet, with wine and cordials; he was ordered an infusion of bark in lime-water; two grains of opium every six hours, and a quart of the decoction of woods, to be taken daily. He was kept on that course without gaining ground in any respect, to the 12th day of April: he was ordered then mercurials in small doses, combined in different forms; various fumigations and poultices without the least success, until the fourteenth day of May, when he complained of his being a great deal worse; so weak that he could not quit his bed, or only be helped out to have it made once a day; his diarrhœa still continued, his cough and sweats increased, his appetite was entirely gone; he had nausea, excruciating pains in his legs and arms at

night, and was exceedingly reduced; in this state he was ordered to leave off his bark, decoction of woods, opiates, &c. and to trust entirely to the following drink.

℞ Acidi Nitrosi drachmam i ff.

Syrupi simplicis uncias viii.

Aquæ fontanæ libras ii.

M. bibat quotidie.

Before he had taken this nitric medicine twelve days, he thought his pains were less severe, and his diarrhœa somewhat abated; on the seventeenth day, the venereal complaint appeared better; he could get the prepuce a little way back, and he thought himself in every respect better. On the twenty sixth day of taking this drink, he was able to walk about his ward with some assistance, and on the 16th day of June could get the prepuce entirely back over the glans penis. He continued his nitric drink to the 10th of July, when his venereal complaint was entirely well: diarrhœa, pains, cough, and sweats had left him, his appetite good, and grown plump and strong he was discharged that day at his own desire, to join his ship.

I am informed that the ingenious Dr. Beddoes, in part the fifth, of his considerations on factitious

airs, has collected some valuable information on the use of the Nitric Acid, in diseases. I regret exceedingly, that though I have made every exertion in my power, I have not been able even to procure a perusal of it. But I find in the New-York Medical Repository, a very interesting and satisfactory case extracted from it, which I beg leave to repeat. The case above alluded to is in the words of Mr. Thomas Baynton, who gave it to Dr. Beddoes for publication.

CASE XI.

On the eighth of February, 1795, says Mr. Baynton, I was requested to visit Mr. —, with pains of the limbs, and ulcers of the throat and tonsils, which, from appearances, suspecting to be a case of cynanche maligna, induced me to prescribe bark, wine, and gargles. That plan was persevered in until the 19th, without any advantage, from that circumstance, conjoined with the situation of his pains, and the times of their aggravation, I began, (though my patient was married, and the father of healthy, fine children) to suspect the case to be venereal; and after expressing my suspicions, I learnt from him, that he had contracted such a disease some years before, and had at that time an ulcer on his penis;

but that he supposed himself perfectly cured, having passed through a regular course of medicine for that purpose ; it was with difficulty that I convinced him that his present sufferings were referable to such a cause. However possessing his confidence, I prevailed upon him to commence a mercurial course, and he continued to take from that time to the eighth of March, a grain of calomel, with an equal quantity of the ext. papav. three times a day, in the third part of a pint of the decoct. lignor. cum rad. mezerii. On that day, in consequence of the appearance of some eruptions, the form of the medicine, was exchanged for the following :

℞ Hydrarg : Muriat : gr. iv.

Aq. cinnam : unc. iv.

M. cap. coch. larg. noct. maneque.

This was continued until the 27th of April, and then a dram of the ung : Hydrarg : fort : was ordered to be rubbed into the thighs every night at bed time, and the former medicine omitted on account of the eruption having yielded, though the pains had increased ; this with the decoction of the woods and mizereon, was continued till the middle of June. On the 20th of October, he began to take four grains of the blue pill, with

a quarter of a grain of opium three times a day; and it was continued without intermission, until the middle of January, 1796. On the 14th of that month, calomel, with opium, was again used in its stead, and continued until the middle of February. On the 12th of July, he again commenced its use, and continued to take it until the middle of August last, when I was obliged by the fullest experience of the inefficacy of all the mercurial preparations that had been tried, to again request him to desist from the use of all medicines, except occasional opiates, to mitigate his pain, which it had been necessary for him to use with the greatest freedom during the whole of the mercurial course. It will here be necessary to remind you, that when I first was called to his assistance I found him labouring under only the constitutional or secondary symptoms of the disease and as I did not keep any minutes of the case, I cannot speak with that exactness I would wish of the particular effects of the different preparations of mercury that were exhibited. But I have the fullest recollection, that the ulcers of the throat and the affection of the skin, were removed in due time by the means that were adopted: and although there was a complete failure in my attempts to dislodge the poison from the bones, I am not convinced that the failure

resulted from the incompetency of the mercury to produce such an effect—as the constitution of this patient was rendered so irritable by the disease, or the means made use of, (or perhaps both) that I was never able to impregnate the system with a sufficient quantity to produce the desired effect; though it was exhibited with every precaution and united with every corrective that my judgment could suggest, conjoined with the advantages of country air, bark, milk diet, and the occasional omission of all medicines, which for a time, answered so well, as to make my disappointment the greater at each time of the disease returning. At last, medicine of almost every kind failed to afford even relief, and I was reduced to the necessity of being content with the mere palliative effects of opium given in large doses. The peculiarities of this case are however too common; and every practitioner that is much engaged in a large city, especially if it be a sea-port, must have had to deplore such occurrences. It was my good fortune to meet with Mr. Scott's communication, in the way before described, just at a time when I had exhausted my endeavours to cure this patient, and when I say with him, that he was indeed a "rueful spectacle," with little more than diseased bones remaining, when he began the use of the

Nitric Acid; and that he now appears in good health, I contemplate with astonishment the change that has been produced; more especially as he was always labouring under profuse sweats, diarrhœa, ptyalism, from the mercurials that were exhibited, though they were so guarded, and has now obtained a cure by the use of a most powerful Acid, without experiencing even momentary inconvenience, and in less time than would have been requisite to remove even the mildest symptom of the disease by any other known method.

The gentleman who was the subject of the above case, at the request of Mr. Baynton, drew up a very excellent account of his sufferings, and as in it, he has given a particular account of the effects of the Nitric Acid, I think it may not be improper to insert his letter, which is as follows.

DEAR SIR,

Pursuant to your request at your last visit, I take up my pen to describe (if possible) the deplorable condition, and sufferings I have endured for near two years last, past, and the almost miraculous delivery therefrom, by your care and unwearied attention thereto. I was first seized with ulcers of my throat and violent pain in my shins at night, that threw me into such perspiration, that for nine

or ten mornings, I was under the necessity of changing my linen before I could possibly get up ; which was soon followed by, or with excrescences or nodes from my knees almost down to my insteps, attended with violent pains in my head. My arms also were attacked with excruciating pains, where swellings of a considerable size made their appearance. My knees also swelled, and the pain so acute, that I durst not move them the least aside : sleep fled, nor did it return for ten weeks, and for twenty two weeks I could not bear to be moved without suffering the most extreme torture, notwithstanding your tender care to administer every thing you could devise and prescribe for my relief. I knew you perfectly understood my case ; but my disease seemed to baffle the power of medicine and every effort. Having for the last thirteen weeks lived wholly upon milk, you advised me to discontinue the medicine, in hopes I might soon be able to make use of stronger food, and recover a little strength. This treatment had the desired effect ; and my pains for some time seemed to abate, but alas ! they soon returned again ! when you advised another course of medicine, which operated more powerfully than it had hitherto done, and in a few months restored me so as to enable me to walk from my lodgings in the country to town.

The satisfaction you expressed on the occasion I shall never forget, and with myself was in hopes of a radical cure. But at the end of three months, my hopes were destroyed by a violent relapse, which soon confined me to my bed. My legs (if possible) were worse than before, for not only my shins, but the main bones pained me dreadfully. One node formed (a little below my right knee) in a short time almost as large as an hens egg; The pains from my shoulders to my fingers ends I can scarcely describe. The sinews of my arms, thighs and legs, stiff and contracted, my fingers I could by no means bend; they were fixed by disease and every joint swelled. The bones of my head shared equally with the parts I have described; and nothing but death was expected to put a period to such a scene of misery. Added to this my body was a rueful spectacle, a mere skeleton; so that disease had nothing left but my vitals for its prey.

This, Sir, is a faint description of the state and condition you found me in about three weeks ago, when you visited me, and with joy in your countenance told me, a new discovery had been made of a medicine that you had great hopes would reach my case; and with your wonted goodness of heart cheered up my drooping spi-

rits, by describing to me its mildness and efficacy in several cases similar to my own. Encouraged by this information, and relying upon your judgment, I was determined to give it a fair trial. I began, and continued to take the quantity as prescribed. At the expiration of seven days I found it begin to operate, as you had before described, by creating a saliva in my mouth. On that day I had a desire to be lifted from my bed, and to sit up a little, which was done with some difficulty; but could not bear my feet on the ground, my knees being also in a very debilitated state but found my pains greatly abated. I spit a great deal the next night, which was very thin, and not disagreeable. On the eighth day my pain seemed quite gone; and I requested again to get up, when to my great surprize I found myself capable of bearing the weight of my body on my legs. On the ninth I was capable and absolutely walked from my bed to my chair, the distance of six feet without assistance. I bespoke a pair of crutches, but, thank God, I never used them, nor have had occasion for them; for on the tenth day I walked several times backwards and forwards in my room without crutch or stick, or any other assistance whatever. On the eleventh day I walked from one room to another, and finding

it attended with no extra pain, but stiffness and weakness in the shins, I absolutely walked up a pair of stairs of fourteen or sixteen steps, and down again. My appetite was now restored to an amazing degree, insomuch that I found I could not continue the usual quantity of medicine (which in fact seemed to have operated more like a charm than a medicine) but I continued taking about three parts in four thereof daily. And I have the pleasure further to inform you, that I have walked out several times, and yesterday in particular I walked more than a mile, and was in hopes to have surprized you (which I know would have been an agreeable one) by paying you a visit at your own house : but was informed you was from home. Be assured I shall always esteem it a pleasure to answer any queries respecting my case, and the efficacious operation of the acid in so wonderful a cure.

Believe me to be,

Dear Sir,

Bristol, Nov. 25th, 1796.

To Mr. Baynton.

The utility of the nitric acid is not confined to the venereal disease alone. Mr. Scott who gave it a fair and ample trial in the Chronic Hepatitis,

thinks it even preferable to mercury in that disease. Two cases of Diabetes which came under his care, in both of which the patients were in the decline of life, yielded to the nitric medicine.

In the little pamphlet above spoken of, and from which I have extracted some of the preceding cases; a very deplorable case of lumbar abscess is related, by Mr. Sandford, Surgeon of the Worcester Infirmary; which was successfully treated by the nitric acid.

C A S E XII.

On the 25th of March, says Mr. Sandford, R. H. aged 22, a farmers labourer, was sent to the Worcester Infirmary with a lumbar abscess, that for some weeks past had suppurated, and discharged itself through a small opening above Poupart's ligament in the right groin; the thigh on that side was considerably enlarged, inflamed, and painful on pressure. Upon his admission I thought his case so hopeless, and fearful that little could be done to benefit him by medicine or surgery. I was only anxious to have him sent back into the country as soon as possible, being apprehensive that confinement in the Hospital would only hasten his death, which at this time seemed inevitable.

Before he quitted the Infirmary and was made an out-patient, it occurred to me, that it was probable the nitric acid might be tried to advantage in this case. I accordingly began by giving him one dram mixed with a pint of water which he took in the course of four and twenty hours. He said it felt warm at his stomach, and at first taking flushed his face ; he continued it however with little interruption from April 4th, to June 10th, a week after which time, he walked from his house (eight miles from Worcester) and called upon me.

The wound in his groin was only dressed superficially, with a simple cerat of wax and oil. The discharge he informed me, had gradually lessened, till it ceased entirely. The swelling and inflammation of the thigh had gradually subsided, and assisted by the moderate pressure of a calico roller, was finally restored to its usual size and action.

As a proof that this unexpected cure was principally effected by the means of the Nitric Acid, the poor fellow had a relapse once or twice during his confinement at home, for want of his medicine, the quantity dispensed to him from the

Infirmary having been all taken before he had an opportunity of sending for more.

I have had an opportunity of trying the Nitric Acid but in one case of Scrophula. The result of which I will now lay before the reader.

C A S E XIII.

December 27th, 1797. F. D—th, aged 20, a pauper in the Alms-house, was afflicted with scrophula which she said she had had for two months previous to this time. She also informed me that her brother had some years ago suffered with a similar affection, and though she could not inform me whether her parents ever had the disease, yet I think it probable, from her brother being affected with it, that it was hereditary. At present the glands on the right side of the neck are very much enlarged and very painful. The tumours have opened and discharged from three small ulcers a great deal of matter.

On this day (December 27th) I gave her the Nitric medicine.

30th. She had taken daily two drams of the Acid diluted with water. There is no alteration.

January 1st 1798. Has continued the Nitric medicine as before, she says her gums feel sore and she spits a little.

3d. Has continued the medicine. She complains of her mouth being sore and teeth loose; her ptyalism is increased. The pain in her neck is greatly diminished, the ulcers look better, and discharge less.

January 6th. She complains much of her mouth, and discharges about a pint of saliva in the day. She has very little pain in her neck, and the ulcers continue to mend.

January 10th. Has continued to take the medicine as usual. Her mouth continues in the same situation. She has now no pain in her neck, and the ulcers continue to mend.

She continued the Nitric Medicine from this time to the 28th day of January, in such manner as to keep her mouth slightly affected. At which time two of the ulcers had healed, the other was nearly well, and the tumour somewhat diminished. During the whole time of her ptyalism she never had a foetor of the breath.

It must here be observed, that unfortunate girl, had from her infancy been afflicted with epelepsy, and generally had three or four fits a week. But during the salivation which continued nearly four weeks she had but five fits. The epelepsy has almost converted her into an idiot. And she never from this time could be prevailed upon either by entreaty or threats to take any more of the medicine.

The affection of the neck continued for some time, after the omission of the medicine, without alteration. But at the time of my writing this, (which is upwards of two months since the medicine was left off,) the tumour is of the same size, and the ulcer, which was nearly healed, and had ceased to discharge, has now enlarged its limits and runs much more.

The very beneficial effects of the Nitric Acid in this case, and the relief received during its exhibition, certainly warrants me to conclude, that if it had been persisted in, it would in a short time have eradicated the disease for which it was given.

I have seen the Nitric Acid given with advantage in several cases of Chronic Rheumatism. And

in one case in particular it produced the happiest effects.

CASE XIV.

March 20th, 1798. J—s S——th aged 41, was admitted into the Aims-house for a Rheumatic complaint. He informed me that twelve weeks previous to his admission into this Institution, and immediately after a recovery from a pleurisy, he was attacked with pain in the joints of his arms, ancles, and knees, which always became easier after being warm in bed. This complaint continued to encrease until the present, and he now is confined to his bed, his knees are swollen, and he is incapable of the slightest motion without severe torture.

He was ordered to take the Nitric Medicine ; and for five days took daily three drams of the Acid. At this time he found himself so much better as to be able to move his limbs, the pain and swelling had considerably abated. The Acid soon after being taken produced a sense of warmth in the stomach, which he compared to the sensation he had often experienced after a *dram* of Ardent Spirits. He continued from this time to take from one dram of the Acid to two drams daily. On the eighth day of the exhibition of the medicine, his mouth was sore, his teeth so loose, that

he was apprehensive they would drop out, and he spit about a pint in the day. On the 15th of April to which time he had continued the Acid, he was able to walk about, free from pain, and said he was as well as he ever was in his life. The Acid appeared to increase both his appetite and strength. He was on this day at his own request discharged from this Institution.

I have in two instances given the Nitrate of Alumine, one patient took a dram of it daily for five days, and it produced a salivation and sore mouth, that could be distinguished from the same effects produced by mercury, only by there being no foetor in the breath. The ptyalism continued very profuse for six weeks after she omitted the medicine.

The secretion of urine was so much diminished by it, that without my making enquiries to ascertain that effect, she told me, she made little or no water and was apprehensive that some bad consequences would arise on that account.

In the other case, it was taken but for two days, and the only effect it produced, was, in some degree lessening the secretion of urine.

If on further trial it should be found pretty generally to produce this effect, it will suggest the propriety of giving it, even in preference to the Nitric acid, in cases of diabetes.

The nitrate of alumine which was used, I made by precipitating the clay from the common alum or sulphat. of alumine, by the vegetable alkali, and washing the precipitate a number of times, to free it from the salt formed by the vegetable alkali and vitriolic acid, then adding the nitric acid and evaporating with a very gentle heat. The salt thus formed is more astringent than common alum.

FROM the preceding cases it is evident, that the first effect the Nitric Acid produces on the body, is a sensation of heat at the stomach, soon after it is swallowed, which for the most part is agreeable. This, though most frequently the case, is, by no means an universal occurrence. For in some of the patients to whom I gave the medicine no such sensation was experienced. I have myself (in order to ascertain the effect it would have upon my pulse) taken at one dose forty drops, and a fellow student of mine, at my request, took sixty,

and neither of us, experienced that sensation of heat in the stomach. Nor had it, in an hour (which was the time we attended to the pulse) the least effect on the pulse.

When taken in any considerable quantity, viz. from two drams and upwards daily, we find that from three to fifteen and twenty days (according to the idiosyncrasy of the patient) it produces a foreness of the gums, looseness of the teeth, ptyalism, increased heat of body, and in every respect increases the combustion of life. This increased heat and action in the arterial system, does not arise to such an height, as to wear down the system and bring on indirect debility. On the contrary, it appears to give strength and vigour to the body. We have even seen a case where the patient has been so much debilitated as to be unable to raise his head from the pillow, and after the exhibition of this medicine for a short time, he regained his strength in a most rapid and astonishing manner.

There is no medicine which Physicians have more reason to regret the want of, than a tonic which will act on every part of the system, and the exhibition of which can be continued for a

sufficient length of time, to produce durable effects.

I shall not I hope be considered as chimerical, nor as giving virtues to medicines which they do not possess, when I say, that I have no doubt but that the Nitric Acid will hereafter be acknowledged to possess these two properties. The effect it produced (in some of the preceding cases,) in restoring tone and strength to every part of the system, justifies the opinion of its being an universal tonic. And that it can be given (if proper care is taken in the exhibition) for a sufficient length of time to produce durable effects, I think is evident from the cases above alluded to.

We have seen every stage and form of syphilis cured by this medicine, and even in habits broken down by the antecedent use of mercury, under which the disorder gained ground. The patients recovered their health and strength in a short time, without the use of diet drinks, bark, or any other tonic medicine whatever.

The Nitric Acid is well known to have a strong affinity to calcareous earth, which earth is a component part of the teeth, and from a supposition

of a decomposition of the teeth, an objection to its use may arise.

That the acid in an undiluted state will have this effect, no doubt can be entertained. But this objection, can have no weight, when applied to the diluted acid, especially if it is combined with sugar, syrup, or mucilage of any kind. For in none of the cases in which I have seen it exhibited, have I heard the least complaint of this kind, nor did the teeth in a single instance appear to have suffered the least injury. Yet I think it advisable and prudent, always to wash the mouth immediately after every dose of the acid. If after what has been said any person should be timid on this account, his fears may be done away, and the objection obviated, by taking it through a glass funnel, in which manner it does not come in contact with the teeth.

OF THE Oxigenated Muriatic Acid.

THE nitric acid is known to be composed of an active principle, Oxigene, and an inert one Nitrogene. Its beneficial effects in diseases, have by Mr. Scott been attributed to the active principle alone.

In contemplating the subject, it occurred to me, that if the cure of syphilis and some other diseases, were to be effected by oxigene, other substances might be found, which contained a larger proportion of it, than the nitric acid, and which would, with greater facility part with it.

The Muriatic acid, is capable of combining with a very large quantity of oxigene, forming then, what by Chemists is called, the Oxigenated Muriatic Acid, or the Dephlogisticated Marine Acid. From this Oxigenated Muriatic Acid containing a very large proportion of oxigene, and from the facility with which it is decomposed. It appeared to me to be well calculated for the oxigenation of the system.

As reason dictated, and my situation gave me the opportunity, I thought myself justifiable in trying the experiment. I have never in the course of my reading, or in the conversation of my medical friends, met with, or heard of, the Oxigenated Muriatic Acid being given in diseases: and as from my experiments, it appears to be a very valuable medicine. I think it my duty in this place, to lay before the reader, the result of my enquiries on this subject.

CASE I.

Feb. 12th, 1798.

M—S—, aged 18, was admitted into the Alms House with a venereal complaint, she had a syphilitic discolouration of the skin, eruptions on almost every part of the body and particularly on her head, forming a true venereal Tenia Capitis, and an ill conditioned ulcer on the upper and back part of the œsophagus. The soreness of her throat and the eruption on the skin, commenced as nearly as she could recollect, about six weeks ago. Upon inquiry I found that six months previous to this, she had chancres, and a bubo which suppurated, for which at that time she took some medicine which did not produce a ptyalism or soreness of the mouth.

She took the following mixture

℞ Oxig. Muriatic Acid drach. iv.

Gum Arab. unc. fs.

Aquæ Menthæ unc. vi. M. F.

Cap^t. coch. mag. q. q. hora.

Feb. 13th. She had taken four drams of the acid, the gums between the teeth were a little swollen, and there was a slight ulceration, or rather, a diminution of gum at the roots of the teeth, and she made more water in the night than she had been accustomed to do.

15th. Has continued to take about half an ounce of the acid daily. Her mouth remains in the same situation as on the 13th. The pain in her throat is considerably less. And the urinary discharge is considerably increased.

Feb. 20th. Has continued the medicine as usual. She complains of her teeth being loose, but has no ptyalism or fœtor of the breath. Has no pain in the throat and the ulcer there is nearly well, many of the eruptions have disappeared, and the others are drying up fast. The secretion of urine is so great that she is obliged to rise three four and five times in the night to discharge it.

26th. Has continued the medicine. Her teeth are loose, and she spits a little, but has no foetor of the breath. The ulcer in her throat has healed, the eruption on her body has entirely disappeared and those on her head are nearly well but the discolouration of the skin still continues. Her urinary discharge continues increased.

March 1st, 1798. Has continued the medicine. Her mouth is in the same state as on the 26th, of Feb. The eruption is entirely well and the skin is resuming its natural colour, she continues to discharge a large quantity of urine.

12th. Has continued the medicine. Her skin is perfectly clear and of the natural colour; and she appears to be well. She was therefore discharged from the venereal ward.

CASE II.

February 2d, 1798. C——e N——e aged 20 years; applied to me for assistance. She had four small chancres, two about the clitoris and the others on the nymphæ, which she had contracted two weeks before. I desired her to take the following;

H

℞ Gum : Arab unc : fs.

Aquæ Menth : unc : vi.

Oxig : Muriat : Acid drach : iv.

M. Capiat : coch : Mag : q. q. : hora.

6th. She had taken the above mixture daily. Her chancres were less painful. She discharges more urine than customary.

12th. She has continued the medicine, she has no pain in her chancres and upon examination I find that two of them have healed and the others are better.

20th. Has continued the medicine. Her chancres are nearly well; has still a great urinary discharge.

February 28. Has continued the medicine, her chancres have healed and she thinks herself well. I directed her to take the Acid a fortnight longer by way of insurance which she did.

In this case the Acid did not appear to affect the mouth with soreness or ptyalism.

N. B. This patient did not take a grain of mercury.

The chancres were dressed with simple *cerate*.

C A S E III.

February 8th, 1798. M— D——n, aged 30 years put herself under my care for a chancre, which she had contracted three weeks before. I gave her the following mixture ;

℞ Gum : Arab : unc : fs.

Aquæ Menth : unc : vi.

Oxig : Muriat : Acid drach : iv.

M. F. Capiat, Coch : Mag : q. q. hora.

She took from this time to the twentieth of March about four drams of the Acid daily, when her chancre was healed ; the medicine had no sensible effect on the system, except its powerful action as a diuretic.

N. B. No mercury had been taken by this patient.

C A S E IV.

A— M——, aged 29 has for the two years last past, been a sufferer with the venereal disease, its first commencement was with pains in the bones, which were soon followed by nodes,

she has been several times relieved by medicine, and though she has, under the care of different physicians, gone through four courses of mercury, yet the disease has never been eradicated.

She was admitted into the Alms-house in November 1797; with nocturnal pains, an ulcer in the throat, and an other on her forehead, which exposed part of the frontal bone, from which there was an exfoliation. On the sixth of November she began her fourth mercurial course, and continued it until the 9th of January 1798, with little or no relief. For though both the ulcer in the throat, and that on the forehead had healed, her pains had not abated, and nodes appeared on different parts of her head, and one on each humerus near its articulation with the fore arm, which prevented the motion of those joints. By the use of mercury, the continuance of the disease, and the occasional occurrence of a diarrhœa, which it was difficult to restrain, the unhappy patient was very much emaciated and so debilitated as to be unable to rise from her bed. She had in addition to the symptoms just now related, a diarrhœa, night sweats and cough.

The mercury was omitted as the disease under its use, was rapidly gaining ground.

On the 19th of February, the patient, in the above situation, was directed to take ten grains of the nitrate of alumine every two hours. This medicine for two days agreed with her. It checked the diarrhœa, and she thought it diminished her flow of urine. But on the third day her stomach rejected it and it was omitted. She took for some days opium to allay her pains and the irritation of the stomach. On the 30th of February, she commenced taking the oxigenated muriatic acid. For the first three days after her commencement with this medicine, she took three drams of the acid per day. In which time she found considerable benefit from it. Her pains were less violent and she was in better spirits. The medicine had no other sensible effect except proving diuretic in a considerable degree. From this time she took from a dram and half to two drams of the acid daily. On the tenth day of taking this medicine, she found that her pains had almost left her, and she had so far recovered her strength, as to be able to get out of bed and walk across the floor. Her nodes were lessening. The only objection she had to the medicine was its proving powerfully diuretic. She complained that in the night she could not remain long enough in bed to get warm, on account of the frequent calls to evacuate her urine. In three

weeks she was able to make her own bed, her nodes were fast disappearing, and she could bend her elbow joints with ease. The acid continues to prove most powerfully diuretic.

She took the acid constantly till the 1st, of April, (one month) when it was discontinued, on account of her mouth becoming very sore, and a profuse ptyalism taking place. Her pains have entirely left her, and very little appearance of her nodes remain, on an average she discharges three large potfuls of urine a day. On the 16th of April her mouth was well, her pains did not return, her nodes have all disappeared but one which is on the malar bone and that one was on the decline. She thinks herself perfectly well. I advised her to take the acid three weeks longer by way of insurance.

The preceding cases certainly prove, 1st, That the Oxigenated Muriatic Acid, is competent to the removal of syphilis in any of its forms, and in as short a time, at least, as could be done by mercury.

2dly, That a salivation by it, is not necessary in the cure of the disease, for in Case 2d, and 3d, no ptyalism was induced.

3dly, That it acts as a tonic.

And 4th. That it proves powerfully diuretic.

From the oxigenated Muriatic Acid, in every instance in which it was exhibited, proving powerfully diuretic, I flattered myself that it would be found an invaluable medicine in dropfy. And a case of hydrothorax, which I shall proceed immediately to relate, (and which was the only case of dropfy, in which I had an opportunity of giving it a trial,) tends not a little to corroborate the opinion.

March 28th, 1798. E. S. A pauper in the Alms-House, complained to me, of an anxiety about her breast, a difficulty of breathing, which was encreased when she attempted to walk fast, and more especially when she ascended the stairs, she had frequent startings in her sleep and palpitations of her heart, she had also with these symptoms œdematous legs, and scantiness of urine. The dyspnea, she told me, she had had for a fortnight, and the swelling of the legs she discovered a week ago. She took the following medicine.

℞ Aquæ Menth unc : vi.
 Ox : ig : Muriat : Acid drach : iv. M.
 capiat coch :
 Mag : q. q. hora.

March 29th, 2d day. She had taken the Acid as directed without the least alteration.

3d day. Has continued the Acid; has made a great deal of water, and thinks her difficulty of breathing is somewhat less.

4th day. Has continued the medicine the secretion of urine is so much increased that she was obliged to rise five times last night to discharge it. She thinks too, that she discharges much more at a time, than she was accustomed to do before the use of this medicine. The affection of her breast and difficulty of breathing, are much less troublesome and her legs are not so much swollen.

5th day. She is better in every respect. She continued from this time, to the 10th of April, (the 13th day since her commencement with this medicine) from three to four drams of the Acid per day. The affection of the breast, has several days since disappeared, she is able now to ascend the stairs without the least inconvenience, which at the commencement with this medicine, she was not able to do without, sitting down to rest herself. The œdema of her legs are no more to be seen, and she appears in every respect perfectly restored to health.

In the above case it must be observed, that although the patient was ordered to use diluents freely, yet from an idea that it would encrease her swelling, she drank as little as possible, yet notwithstanding this it proved powerfully diuretic.

Now almost all diuretics, and even digitalis itself, which is justly esteemed one of the most powerful we are acquainted with, produce little or no effect that way, without the use of diluents.

I would not from this, be imagined, to recommend the prohibition of diluents, when the Oxigenated Muriatic Acid is exhibited as a diuretic. So far from it, that I am persuaded, that the free use of drinks, increases the action of *this*, as well as all the medicines of the diuretic class. My only intention in mentioning this, was to establish the fact, that the Oxigenated Muriatic Acid, proved powerfully diuretic, (at least in this case) without the assistance of diluents.

The Oxigenated Muriatic Acid which was exhibited in the preceding cases, contained the largest possible quantity, of *Vital air*. I made it by distilling the common Muriatic Acid on Manganese.

THAT the utility of the Nitric and Oxigenated Muriatic Acids, in curing diseases is owing entirely to the oxigene they contain, will I am persuaded, from a knowledge of their composition, be controverted but by few. And in my mind there exists not a doubt, but that mercury acts on the same principle with them, in the cure of lues venerea and some other diseases.

I am well aware, that it is the almost universal opinion among Physicians, that the anti-venereal properties of the different preparations of mercury, belong exclusively to the semi-metal, and that the different preparations, only serve the purpose of disposing it, to be taken into the system.

It may not therefore be improper in this place to take some notice of this opinion.

It is a fact well ascertained, and familiar to every practitioner, that mercury in its crude state, has no effect on the human body. Instances have been known where it has been taken from one to two ounces daily, for several years with-

out producing the least evident effect on the constitution. *

It is also a fact well ascertained, that those preparations of mercury, which have the greatest quantity of oxigene in their composition, are the most active.

A very striking example of the activity of the different preparations of mercury being owing to the quantity of oxigene they contain, appears on comparing the effects of calomel and corrosive sublimate. The calomel is a very mild preparation of mercury, and the corrosive sublimate, is a very active one. And the only difference in their preparation is, that calomel is made with the common muriatic acid, and the corrosive sublimate with the Oxigenated muriatic acid. In this case, the greater activity of the corrosive sublimate, can be attributed to nothing else, than its superabundant oxigene.

In the mercurial ointment, it is generally supposed, that the mercury is merely in a state of extreme division, and that the lard made use of serves no other purpose, than to keep the particles of quicksilver separate.

* Gertanner on the principle of irritability.

In answer to this opinion, I will observe, that mercury, like all other metals, is capable of *oxidation*; this has been proved by a number of experiments. I have at present lying on the table before me, near a dram of a dark coloured oxide, which was taken, from a vial containing mercury, which an old woman, now in the alms-house, from some superstitious notions, had worn next her skin for thirty years. The oxidation here, must have been effected by the almost incessant agitation of the mercury by her motions, in this great length of time.

The lard then, in making mercurial ointment, serves the purpose of dividing the mercury, and thus exposes a larger surface of the metal to the air for oxidation. Every man who has ever rubbed down mercury for his own use, must know, that the longer the trituration is continued, and of course the greater the surface exposed to the air, the more powerful will be its effects, and the deeper colour will it assume.

Now both lard and mercury are white, and if their mixture in making an ointment, was merely a mechanical diffusion, and no chemical combination, the ointment should be white also; but this is not the case, and as the oxide of mercury

is of a black or dark grey colour, is it not more reasonable to suppose that the mercury is oxidized, and this oxide gives its colour to the lard. The same arguments will apply to the blue pill and other preparations of the same kind.

As there is very little doubt but that all the preparations of mercury contain oxigene, a question may arise, are there any proofs of a decomposition of the different preparations of mercury in the body? The answer is, yes, numberless facts prove it. Doctor Garthshore, mentions an instance of a Gentleman, who took corrosive sublimate only, and who had those parts of his flute, which were silver, on which he played, evidently tarnished with mercury.

Mr. Clare, in an essay styled a new mode of curing lues venerea says, that he has repeatedly seen gold rings on the fingers, gold watches, and money in the pocket, become white and black from corrosive sublimate, calomel or *mercurius calcinatus* exhibited by the mouth. Now, neither, corrosive sublimate, calomel or *mercurius calcinatus*, either in their own form or mixed with water, have the least effect in amalgamating either gold or silver. And of course these preparations must have been decomposed and the mercury re-

duced to its pristine state, before the above amalgamation could take place. I could quote numberless instances, from authors, of mercury being found in its revived state in different parts of the body after death. But nothing can tend more to the establishment of this doctrine, than some experiments made by Dr. Thomas Kirkland "many years ago" (says the Dr. in his *Child-Bed Fevers*, page 114) "I gave a scruple of calomel to a dog that was very ill. It did not purge him and he died in the night. Next morning we opened him when I found, to my great surprize, the mercury returned to its pristine state, and globules of quicksilver adhering to the coats of the stomach." He likewise mentions that several other similar experiments were followed by the same results.

Mercury and Nitrogene in their simple state are known to be substances that produce no effect on the constitution, and it is more than probable that the base which with oxigene forms Muriatic acid, is likewise inert. Now as these three inert substances, which in their nature are perfectly dissimilar, are each united to oxigene, a substance of active properties, and we find that the different preparations formed by their union, are all easy of decomposition, and all produce the same effect

in some diseases, and as the effect produced is in proportion to the quantity of oxigene contained in the preparation. I think we may with justice conclude, that the power of these medicines depend on the oxigene alone, and that the inert substances, act only as vehicles to conduct it into the system.

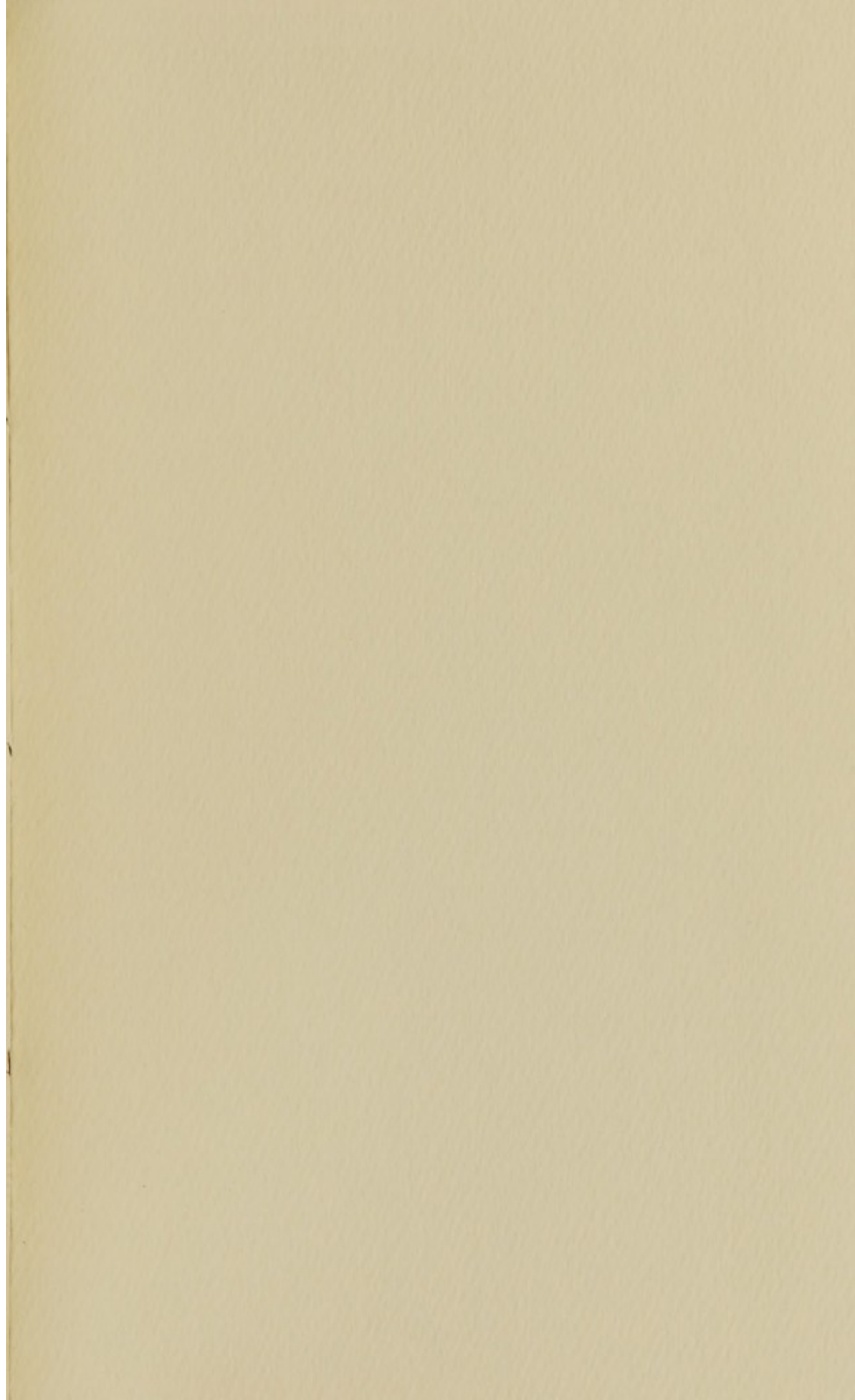
I have, in the preceding pages, given, in as concise a manner as I was able, the result of my inquiries on this subject.

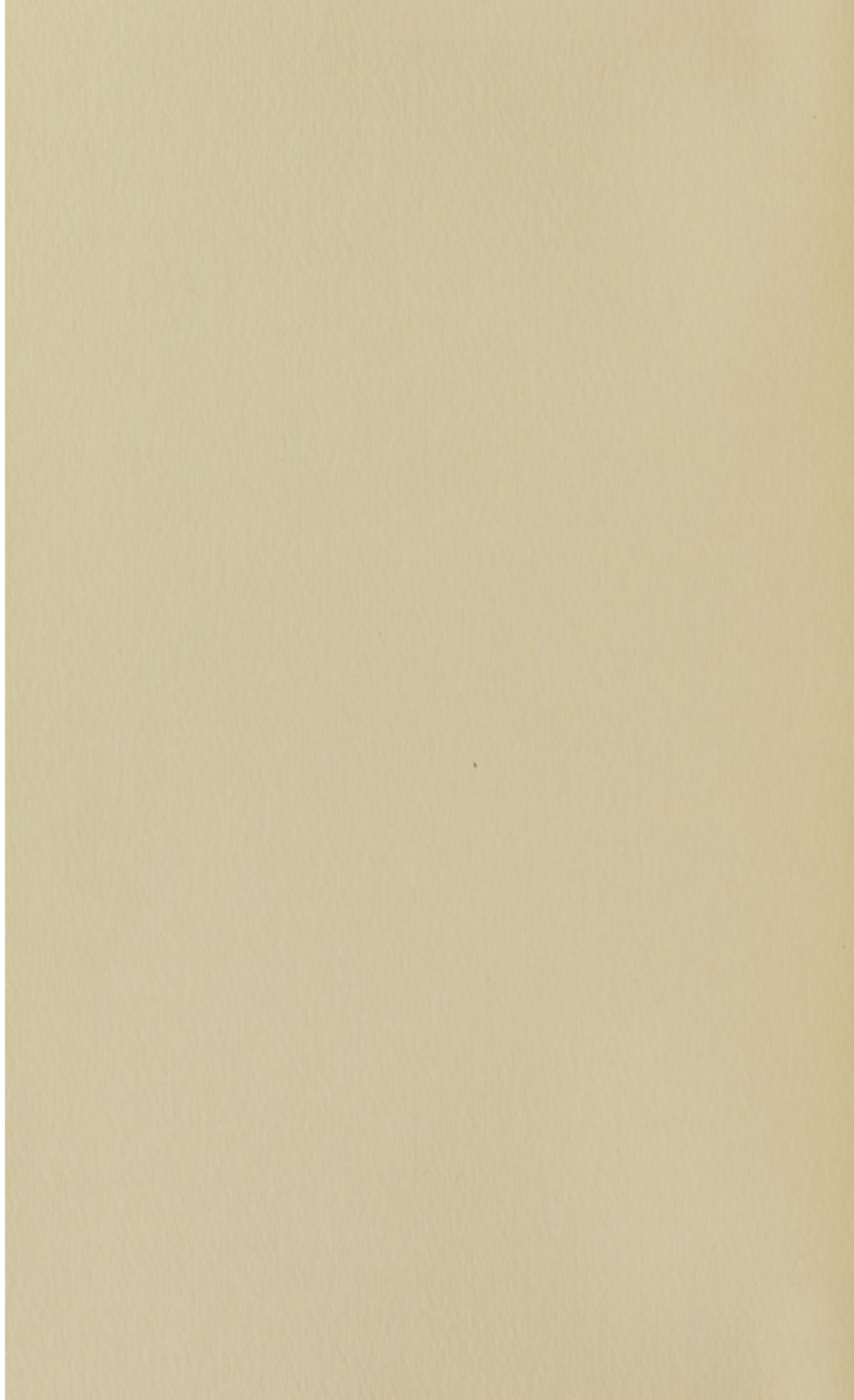
It was my intention when I first undertook it, to have ascertained the effects of a number of other substances, which contained a large proportion of Oxigene and are easy of decomposition: as Oxigenated Vinegar, Oxalic Acid; Oxigenated Muriate of Potash, and many other substances,* all of which I am persuaded will be found

* Since this essay has been in the hands of the Printer, I have seen the fourth number of the first volume of the Medical Repository which is just published. In it I have the happiness to find that Mr. Cruikshanks, has given the Oxigenated Muriatic, and the Citric Acids, as well as the Oxigenated Muriate of Potash, in syphilis with success. In the same No. we also find that Mr. Alyon, used the Superoxigenated Muriate of Potash in cases of chancre and syphilitic ulcers, and found the good effects from it, more expeditious and more certain than those of any mercurial preparation.

to possess nearly the same medicinal properties. But the shortness of time (six weeks) which was allotted for the preparation of this essay ; and a large portion of that time being necessarily occupied in my duty as an apothecary to an institution in which there are an hundred patients, and only another gentleman and myself to attend to them, obliged me, for the present, to abandon this very interesting subject.

It would be injustice in me to close these pages, without paying the debt of gratitude, due the physicians and surgeons, of the Alms-house and house of employment of Philadelphia, Drs. Samuel Duffield, William Boys, John Church, and Thomas C. James, who have generously permitted me to exhibit the Acids in some of the preceding cases. And I now beg leave to return them my sincere thanks both for *this*, and other favours conferred, since I have had the honour of being a pupil in that Institution.





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