

An inaugural dissertation on chorea Sancti Viti : submitted to the examination of the Honorable Robert Smith, provost, and of the medical professors and regents of the University of Maryland for the degree of Doctor of Medicine / by Ernestus A. Dunkel.

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University of Maryland (1812-1920)
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Publication/Creation

Baltimore : Printed by John Wane ..., 1815.

Persistent URL

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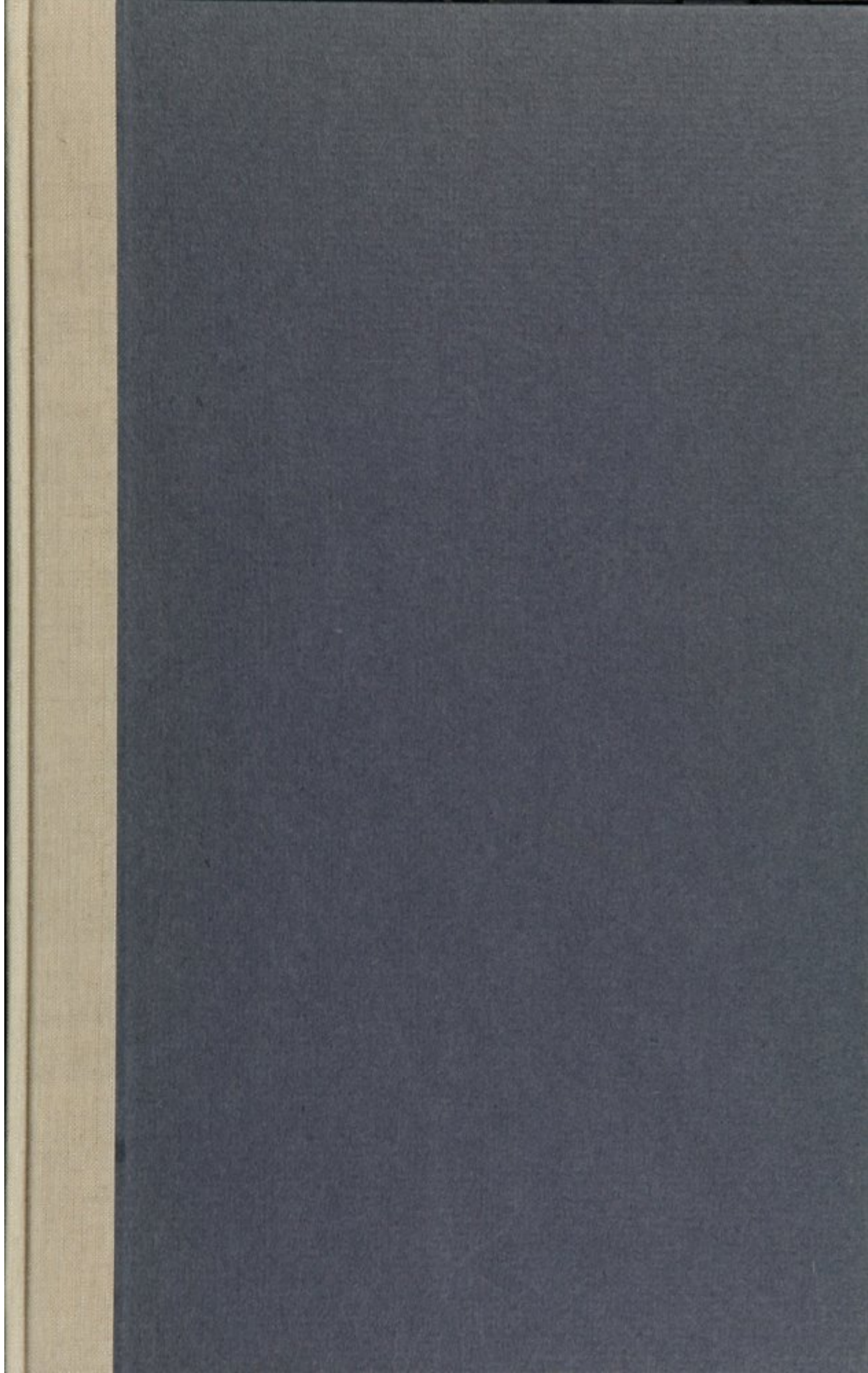
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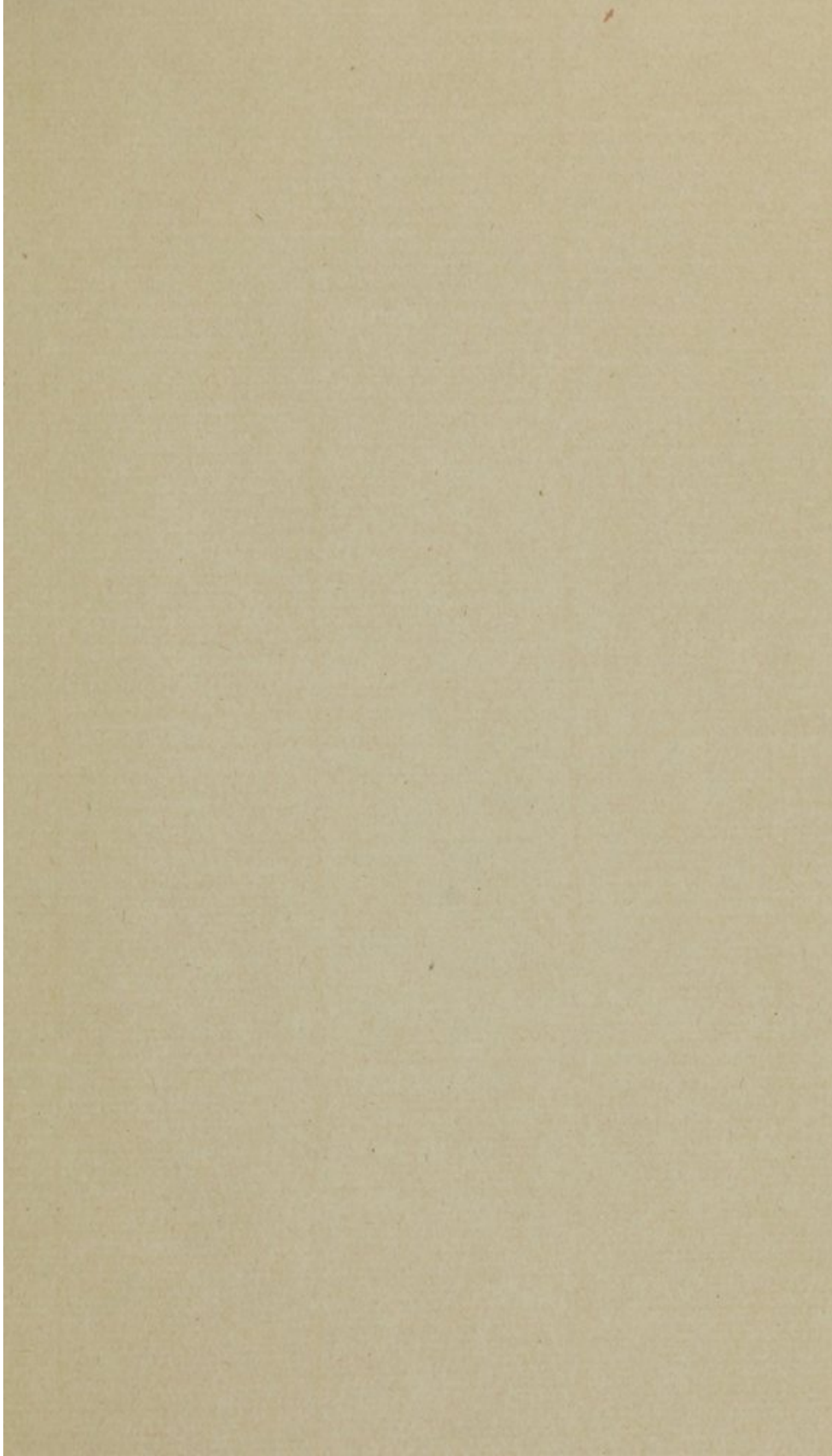
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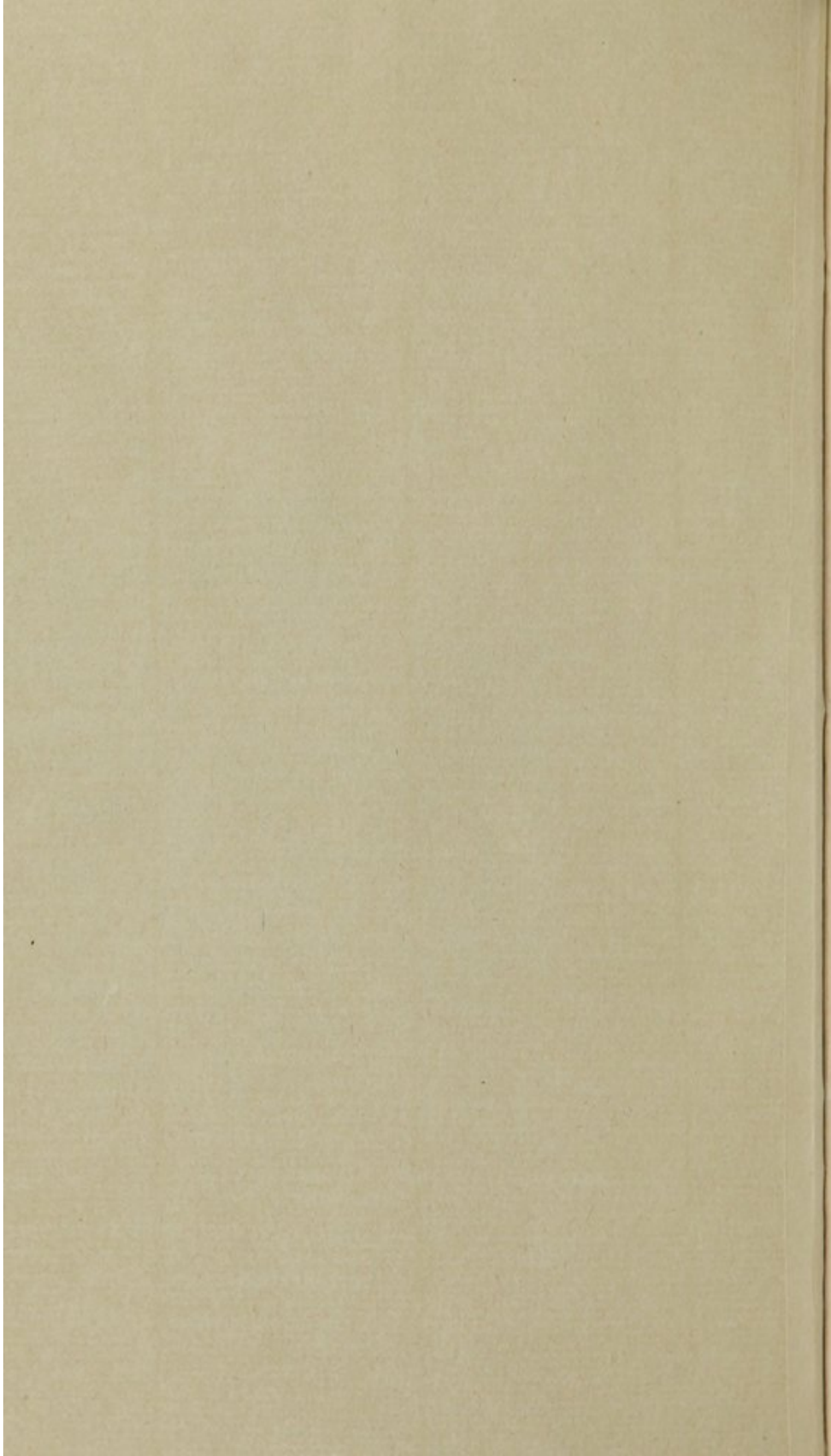
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Inaugural Dissertation

ON

CHOREA SANCTI VITI,

SUBMITTED TO THE EXAMINATION

OF THE

HONORABLE ROBERT SMITH, PROVOST,

AND OF THE

MEDICAL PROFESSORS AND REGENTS

OF THE

UNIVERSITY OF MARYLAND.

FOR THE DEGREE OF

DOCTOR OF MEDICINE.

BY ERNESTUS A. DUNKEL,
OF BALTIMORE, MARYLAND.

“*Mobilitas ipsa nimia esse potest,
Probe distinguendum est hanc inter et vigorem.*”
GREGORY.

Baltimore :

PRINTED BY JOHN WANE,

NO. 22, NORTH GAY-STREET.

1815.

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ERRATA

Errata.

Page 8, line 16, for *curiusque* read *utriusque*.

Do, 19^o, for *utplurimum* read *utplurimum*.

TO

Dr. GEORGE A. DUNKEL,

This Essay is respectfully and gratefully

inscribed, as an humble tribute of

Filial Affection and kindness, for

the many favors and benefits

which have been conferred on

His Son and Pupil,

THE AUTHOR.

TO
THE MEDICAL PROFESSORS,

Of this University, this Essay is also
offered, as a testimony of gratitude,
for the many marks of attention
which have been shewn to

THE AUTHOR.

INTRODUCTION.

AS the laws of the institution, in which I have imbibed the principles of Medical Science, make it obligatory to write, publish and defend a dissertation, any apology for obtruding my juvenile production upon the world would be superfluous. Among the great diversity of subjects that have presented themselves to my mind, during my state of probation, none appeared more worthy of inviting attention than Chorea Sancti Viti.

From the great diversity of opinion that has existed concerning the causes and theory of Chorea as well as from the variety of cures which have been proposed, I was induced to select it as the subject of an Inaugural dissertation. I was also urged by another motive, which was that I might bring into more general notice, a remedy which has been recently employed with the greatest success.

Chorea, commonly called chorea Sancti Viti derives its name from *χορεία* a dance, and from a supposed resemblance to the gesticulations performed by certain fanatics, before the shrine of Saint Vitus.

This disease, so formidable in modern times, must have occurred formerly less frequently, and in a much mild-

er form than at this day, since Sydenham, whose practice was very extensive, met with but five cases, which appear to have been of a low grade, when compared with those related by Hamilton and other eminent authors. This opinion, is strengthened by the silence of Boerhave, who makes no mention of it in his aphorisms, and the declaration of Doctor Henry Buyzen, of Haerlem, who translated Sydenham with annotations. He says he never saw a perfect case of chorea, but observes that Plater and Tulpius have given an accurate description of it.

Chorea has been confounded with Scelotyrbe, and is treated of by Sauvage under the name of Scelotyrbe chorea viti; but from the description of Scelotyrbe, left us by the ancients, I am induced to believe that they are distinct diseases. Galen describes it as a species of paralysis of the legs, which renders the person afflicted by it, unable to walk in a straight line, crossing the left foot over the right, or the right over the left or both alternately; and sometimes raising his feet, as if he were ascending a great acclivity.

Chorea generally attacks young persons of both sexes. It has been supposed that girls are more liable to it than boys; as they are of more delicate frames there is probably some foundation for this remark. Dr. Potter of this

University, supposes, that of those attacked by chorea, two thirds are girls. It appears, from what different authors have said on the subject, that children are most liable to an attack of chorea, from the fifth to the fourteenth year of their ages. Dr. Hamilton has related two instances, of which one was sixteen and the other eighteen years of age. Dr. Heberden saw a person who had it in her twentieth year.

Sydenham, in his *Schedula Monitoria de nova febris ingressu*, thus describes chorea—“*Chorea sancti viti convulsionis est species, quæ ut plurimum pueros puellasve a decimo ætatis anno, ad pubertatem usque invadit; primo se prodit claudicatione quâdam vel potius instabilitate alterutrius cruris, quod æger post se trahit fatuorum more; postea in manu ejusdem lateris cernitur, quam, hec morbo affectus, vel pectori, vel alii alicui parti adplicitam, nullo pacto potest continere in eodem situ, vel horæ momento, sed in alium situm, aliumque locum convulsione quâdem distorquebitur, quicquid æger contra nitatur. Si vas aliquod potu repletum in manus porrigatur, antequam illud ad os possit adducere, mille gesticulationes, circulatorum instar, exhibebit; cum enim poculum rectâ lineâ ori admoveere nequeat, deducta a spasmo manu, huc illuc aliquam diu versat, donec tan-*

dem forte fortuna illud labris proprius apponens, liquore derepente in os injicit, atque avide haurit; tanquam missellus id tantum ageret, ut dedita opera, spectantibus risum moveret."

Doctor Francis Home seems to have copied Sydenham's description of the disease. "Chorea sancti viti, says Home, est et alia convulsionis species chorea sancti viti nominata, ubi crus claudicatione, et brachium ejusdem lateris convulsione corripuntur."

Doctor Cullen, in his genera morborum class the second Neuroses, Order the third Spasmi, and forty-eight Genus, Convulsio, thus defines chorea—"Musculorum contractio, clonica, abnormis, citra soporem."

Doctor Davidge, in his description of chorea, in his *Nosologia Methodica*, has improved upon Cullen. In his second class Neuroses and fifth genus, he says—"Impuberes oviusque sexus, ut plutum intra decimum et decimumquartum ætatis annum adorientes, motus convulsivi ex parte voluntarii, plerumque alterius lateris, in brachiorum et manuum et pedum motu, histrionum gesticulationes referentes, in gressu, pedem alterum sæpius trahentes quam attollentes."

Doctor Hamilton, of Edinburgh, thus describes the symptoms of chorea:—

“ The approaches of chorea are slow. A variable and often a ravenous appetite, loss of usual vivacity and playfulness, a swelling and hardness of the lower belly in most cases, in some a lank and soft belly, and in general, a constipated state of the bowels, aggravated as the disease advances, and slight irregular involuntary motions of different muscles, particularly of the face, which are thought to be the effect of irritation, precede the more violent convulsive motions which now attract the attention of the friends of the patient. These convulsive motions vary : the muscles of the extremities and face, those moving the lower jaw, the head and trunk of the body, are at different times, and in different instances, affected by it. In this state, the patient does not walk steadily ; his gait resembles a jumping or starting ; he sometimes cannot walk, and seems palsied ; he cannot perform the common and necessary motions with the affected arms. This convulsive motion is more or less violent, and is constant, except during sleep, when, in most instances, it ceases altogether. Although different muscles are sometimes successively convulsed, yet in general, the muscles affected in the early part of the disease, remain so during the course of it. Articulation is now impeded, and is frequently suspended—Deglutition is

also occasionally performed with difficulty. The eye loses its lustre and intelligence ; the countenance is pale, and expressive of vacancy and langour ; and these circumstances give the patient a fatuous appearance. Indeed there is every reason to believe, that when the disease has subsisted for some time, fatuity to a certain extent, interrupts the exercise of the mental faculties.

“ Fever, such as arises in marasmus, is not a necessary attendant on chorea ; nevertheless, in the advanced periods of the disease, flaccidity and wasting of the muscular flesh take place, the consequence of constant irritation, of abating appetite, and impaired digestion, the common attendants of protracted chorea, and which, I doubt not may, in some instances, although contrary to the opinion that chorea is not fatal, have been the forerunners of death.”

Doctor Stoll, in relating a case of chorea, states none of the symptoms that are here enumerated by Doctor Hamilton, except the convulsive motions ; there being no previous disorder of the functions of the body, the patient's appetite remaining undiminished throughout the whole course of the disease.

DIAGNOSIS.

Chorea is easily distinguished from other diseases— For although all the spasmodic and convulsive diseases have symptoms in common with each other, yet the convulsions of the muscles of the legs, arms, and in fine, of the whole body, accompanied by difficult deglutition, and the other symptoms already mentioned, will render it impossible to commit an error in forming a diagnosis. In the last stage of hydrocephalus internus, there is sometimes a convulsive motion of the leg and arms, resembling very much the gesticulations of chorea. “In one case,” says Willan on hydrocephalus internus, “there was paralysis of the right side; in two others, the irregular motions of the limbs, called the dance of Saint Vitus, took place at the second alteration of the pulse, and continued till within a day or two of the patient’s death.”

Hydrocephalus internus is a symptomatic affection, the consequence of inflammatory action, and runs its course in a short time, and generally terminates fatally. Chorea is long continued, and seldom terminates unhappily. Pyrexia precedes as well as accompanies hydrocephalus internus in its first stage; in chorea there is very seldom any fever.

CAUSES.

The causes of chorea may be arranged under two heads—Predisposing and Exciting.

I.—PREDISPOSING CAUSE.

That the predisposing cause is increased mobility, seems to be conceded by all the authors who have written on the subject. It will not be difficult to shew, that Dr. Hamilton's successful practice does not militate in the least against this theory.

II.—EXCITING CAUSES.

Any of the depressing passions, particularly fear, tainted food, impure air, propensity to imitation, dentition, or any irritating matter in the intestinal canal, are capable of producing the disease. Of the first of these causes, Stoll relates a remarkable case. A child, five years of age, was thrown from a carriage with her parents, was very much frightened, and was soon after seized with chorea. Doctor Monro the younger, was the first who observed that chorea was sometimes produced by dentition. He saw a girl, nine years of age, labouring under chorea; he perceived that the gums of one side were inflamed and swollen, and three molar teeth making their way with difficulty through the gums. The gums were cut with a scalpel, chorea vanished, and the

teeth soon appeared. The disease returned in a short time; three molar teeth on the opposite side were making their way; he had recourse again to the scalpel; chorea ceased, and never returned. Many examples of the like might be brought forward, but these are sufficient to answer our purpose.

PROGNOSIS.

The prognosis is generally favourable, more particularly if the disease is not very severe, and is not of long continuance. It seldom remains after the person has attained the age of puberty, and it very seldom recurs after that period. But when neither nature, nor the changes which the human system undergoes at the age of puberty, nor the skill of the physician, can counteract the violence of the disease, fatuity and the violent convulsions remain during life, as is exemplified in the following melancholy case, related by Doctor Thomson, in his inaugural dissertation:—“*Miserum, annorum prope triginta, agricolæ filium nuper apud Hawick, in provinciâ Roxburgh, vidi hoc modo plexum. Quasi equitabat, sed pars sellæ posterior formam semicircularis, ad lumbos, attigit. Pedes ad stapites, genua ad sellæ cingulas et partes pendulas, frænum ad manum unam, et flagellum ad alteram, alligata fuerunt. Caput, oculi, facies,*

os, lingua, brachia, crura, et corpus totum, perpetuò movebantur. Corporis summa macies; fatuitas in vultu depicta; vox debilis continuò fere prolata, cum loquendi conatibus, quos tamen intelligere non potui. Vota et mentis pathemata, si aliquid mentis perstitit, signis non verbis enuntiavit. Hoc modo vectus equum per forum impulsit; morbi causa, historia, et progressus mihi ignota sunt."

OF THE METHOD OF CURE.

Sydenham, in his indications of cure, says, "As this disorder appears to me to proceed from some humour thrown upon the nerves, which by its irritation, occasions such preternatural motions. I conceive that the curative indications are to be directed, first, to lessen those humours by bleeding and purging, and secondly, to strengthen the nervous system. To answer these, I use the following method:—I order seven ounces of blood to be taken away from the arm, or such a quantity, whether more or less, as best suits the age of the patient; on the next day I give half, or a little more, of a common purging potion, according to his age, or his being easier or harder to be purged, and in the evening an anodyne draught. I order the purge to be thrice repeated, with the interposition of a day between each

time of taking it, and the opiate to be given always in the evening after the operation." On the intermediate days he prescribed tonics and julaps.

Doctor Home says, "*Sanatur hic morbus repetitâ venæsectione et purgatione, cum antiepilepticis et roborantibus viz Cort Peruviano, chalybeatis, et Balneo frigido. Confert musculis convulsione affectis admovere secundo quoque die cucurbitulas siccas.*"

Cullen and Brown depended upon tonics for the cure of this disease.

Doctor Maximilian Stoll, in the case before mentioned, which occurred about the middle of November, first attempted the cure by purgatives and emetics; he then gave the flores zinci, but with as little effect—He then discontinued their use, and directed that the sixth part of a grain of belladonna should be taken every fourth hour. On the second day, he saw symptoms of amendment, and increased the dose. In six days she could sit up alone, and within eight days she could stand and walk a little. About the last of December, she could run about as usual, but had not perfectly recovered the use of her arms, as she could not feed herself. Sometime after this she was seized with an intermittent fever;

bark was administered, and on the ninth of January she was perfectly restored to health.

Doctor Coxe, of Philadelphia, in the Medical Repository, has related the case of a girl nine years of age, whose body was affected with convulsions. He gave calomel, bled and blistered her, without any change being produced; he then salivated her, which did not answer any good purpose, and he finally was obliged to have recourse to tonics; and although the disease was strengthened by long habit, the girl was completely cured by their use in one and twenty days.

Doctor James Hamilton, dissatisfied with the method of cure that had been pursued since the time of Sydenham, introduced a new theory and mode of cure, which it may be proper to relate. "Notwithstanding, says the Doctor, the employment of these remedies (tonics) chorea has been found a tedious disease; experienced practitioners having admitted that it has continued for many months, nay, for years, terminating only, on some occasions, about the age of puberty. This confession is not much in favour of the modern practice, or of the doctrine on which it rests. I now began to desert a practice in which I had lost confidence, and to consider chorea in a different light from that in which it had been

commonly viewed. I conceived that the debility and spasmodic motions, hitherto so much considered, might not be the leading symptoms of the disease, but might depend upon previous and increasing derangement of health, as indicated by irregular appetite and constipation of the bowels. If my conjectures were well founded, the first and principal object of practice would be to remove the constipated state of the bowels. In pursuance of this object, I began to try the effects of purgative medicines, given regularly in moderate doses."

He used purgatives so liberally, that the fœcal matter discharged in ten days, nearly equalled the weight of the body of his extenuated patient. The Doctor supposes, that by the use of purgatives, chorea can be cured in a fortnight; and yet he soon after narrates two cases which proved more obstinate. "Four or five weeks elapsed, says he, before I could pronounce them in the way of recovery." This practice of continued purging, may be insisted on in hospitals, but would not, I am persuaded, be submitted to in private practice.

Doctor Thomas W. Smith, of Loudon county, Virginia, in September, 1807, transmitted to Doctor Coxe, of Philadelphia, a description of four cases of chorea.

In the first case previous to the Doctor's being consulted, bleeding and purging had been employed for some time, without producing any change in the patient's situation. When he was called in, he prescribed various tonics, which in two months restored the patient to health. In the three other cases which came under his observation, the patients were cured in a few weeks by the exhibition of tonics.

The successful treatment of the three following cases will shew that we possess a remedy which appears to possess advantages over all other tonics. It is powerful, pleasant, and cheap. If Doctor Sydenham had been acquainted with its virtues, he unquestionably would not have considered it necessary to prescribe an electuary of seven articles, and a medicated wine of twelve; nay, I am convinced, that if Doctor Hamilton had experienced its efficacy in the cure of chorea, he would have preferred it to his *methodus curandi*.

“John Wigart, a dutch gardiner, on the Pratt Street road, requested me on the fourteenth of May, 1808, to visit his daughter about ten years old. He informed me that she had been grievously afflicted with Saint Vitus's dance for nine weeks, and that in his opinion, she was becoming worse instead of better. I saw her on my first visit, in a

most piteous condition, all the muscles of voluntary motion appeared incessantly agitated. I requested her to shew me her tongue, she thrust it out, but it was in an instant retracted involuntarily. She appeared conscious of the difficulty she must encounter to comply with my request, but by the sudden exertion of the will, she accomplished it, by opening her mouth and protruding her tongue at one effort. I met the attending Physician in consultation for several days, when finding no symptoms of amendment, I suggested to him the propriety of changing the remedies which had been given for so long a time, without the least perceptible benefit and mentioned the Arsenite of Potash as an excellent tonic. He appeared shocked at the proposition, and unhesitatingly declared himself opposed to the exhibition of Arsenic in any form. He had never used it, he said, nor would he consent to the employment of it in this case ; fortunately for our patient, he soon discontinued his visits, and left me at liberty to pursue my plan. I put her immediately upon the use of it : She commenced with it on the second of June and had improved so much by the fourteenth, that I did not see her again till the twenty sixth, and then found her still improving : She took the medicine a considerable time after all the symptoms had ceased, with the intention of pre-

venting their recurrence. She did not take a single purgative after she began to take the arsenite of potash, but she had taken them repeatedly before, as well as tonics and antispasmodics. In this case there was no appearance of fatuity, nor of gastric affection, her tongue was not furred, and she did not complain of her head."

"On the sixteenth of July 1811, I was desired to visit the same girl afflicted with another violent attack of chorea. She was now at the house of her brother-in-law beyond Saint Mary's College. She had been ill a fortnight or more. This attack appeared to me more distressing than the former: Her sister whose constant attendance upon her appeared necessary, had placed her bed upon the floor from an apprehension of her falling from the bed if it were left on the bedstead. The house was small and low, there was but one room in it, of course, at this season of the year, she could not but suffer from the heat. The first day she took a purgative powder of rhubarb and Sulphate of Potash. On the seventeenth, she began to take the Arsenite of Potash; on the eighteenth she took Ol. Ricini; On the twenty fourth she had another deobstruent, on the twenty sixth I bled her—on the fifth and twelfth of August she took deobstruents. She was now so well restored, that I did not visit her any more. In this attack there were no symptoms of fatuity observable."

“Sometime after this a boy five or six years of age, was seized with chorea in the same quarter, and placed under the care of a dispensary Physician. As no symptoms of amendment appeared, his mother becoming impatient called in another Physician, who, as I was afterwards informed by her, considered his case hopeless; but told her she might as a dernier resort, have his head blistered and get him bled. He had, I suppose, adopted the theory of Dr. Coxe. He now became my patient, the Arsenite of Potash which had, in two attacks of a higher grade of this disease, so satisfactorily fulfilled the hopes I entertained of its efficacy, with an eccoprotic occasionally, in the short space of two weeks, restored him to health. He however continued to take it some time after, in order to guard against a relapse.”

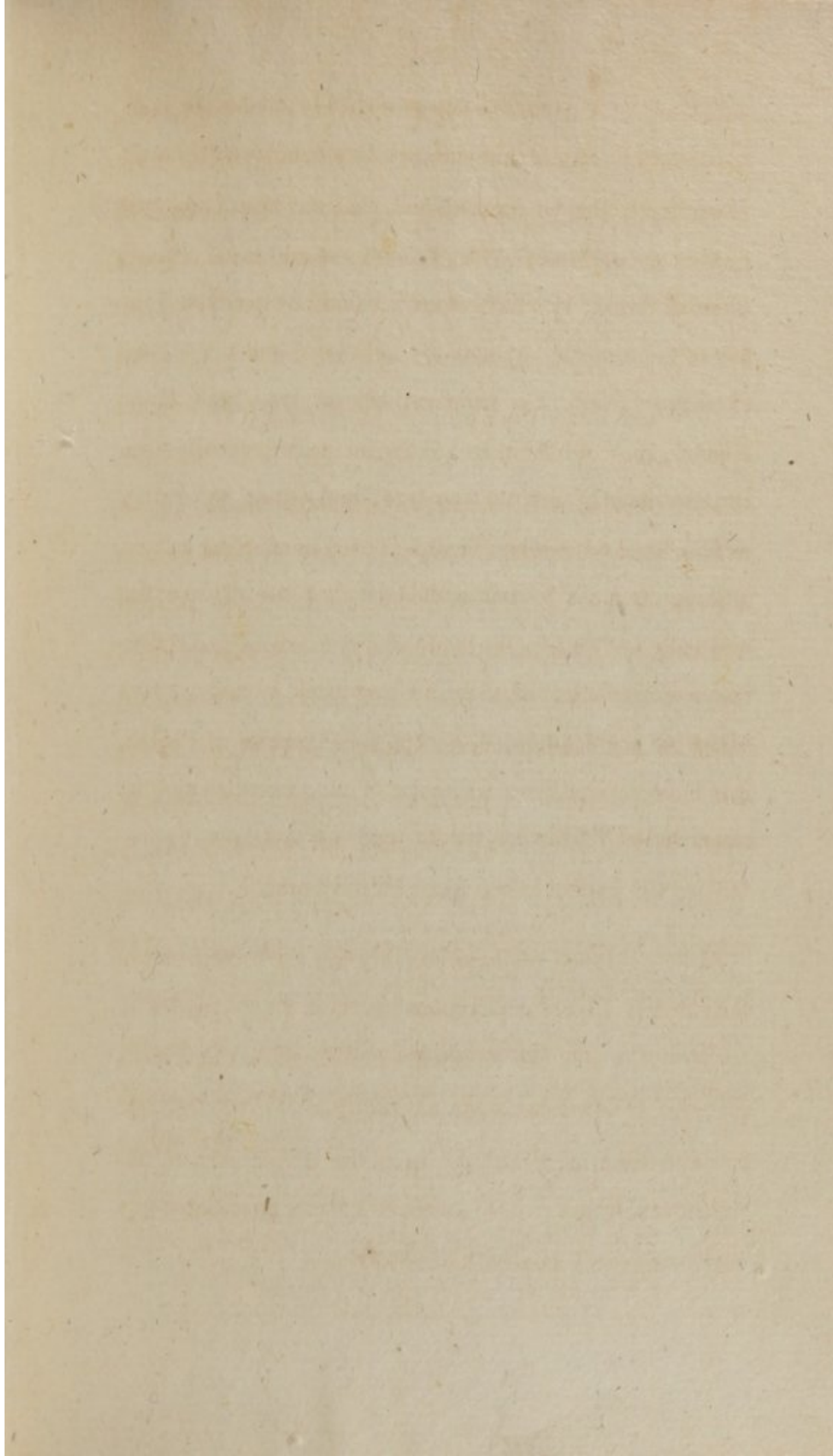
The above cases of chorea are extracted from the note book of my Father.

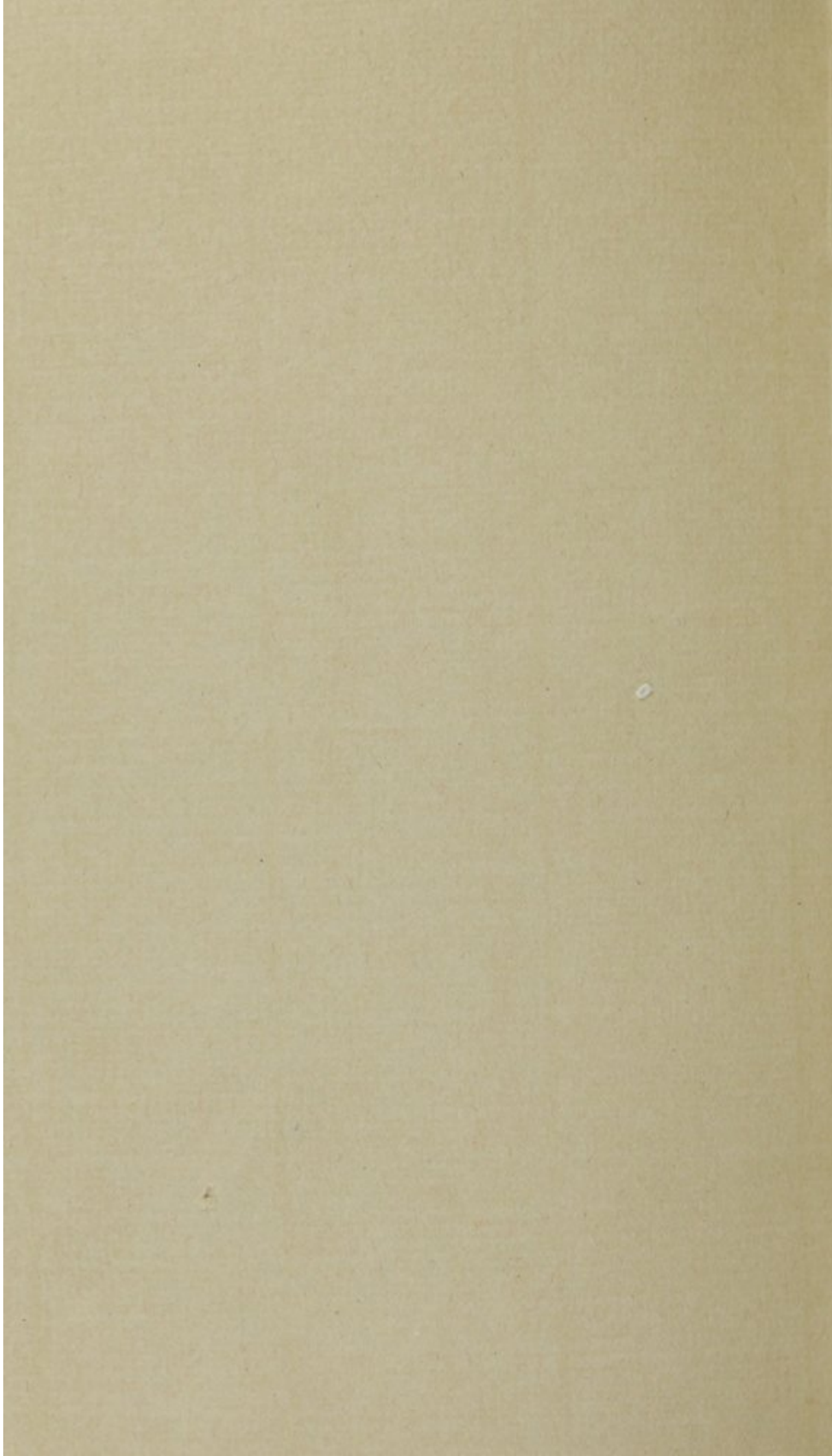
Doctor Potter, professor of the Theory and Practice of Medicine in this University, stated in his lecture on this disease, the particulars of a case cured by the Arsenite of Potash, after three months duration, and another that had recently appeared.

With respect to its modus operandi, I may be asked, how does it effect a cure? I should answer, by exciting and

sustaining actions sufficiently powerful to subdue the morbid actions produced and supported by debility. Its tonic power is excelled by no medicine, that has been employed in the cure of chorea. Its pleasantness and great activity in small doses, are advantages, which are possessed by few of the remedies, commonly arranged under the class of tonics. Bark, the preparations of Iron and Zinc, Electricity, Cold Bath, and Valerian, have severally been recommended by different writers, and either seperately or combined have sometimes succeeded in effecting a cure, although it must be acknowledged that the disease has generally baffled the efforts of the Physicians who have recommended them. If there be any other remedy, with which we are acquainted, except the Arsenite of Potash, it is to be derived from a change of air, exercise and the interruption of former habits and associations, by removing the patient into a scene entirely new.

Although I may not have suitably met the importance of the subject, I have endeavoured to do it all the justice in my power, under the circumstances in which I have been placed. It now remains for me to do justice to my feelings, by expressing my gratitude, to all the Professors of this institution, under whose auspices I have prosecuted my studies in search of medical knowledge.





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