

An inaugural essay, on the dysentery : submitted to the examination of the Rev. J. Andrews ... the Trustees & medical professors of the University of Pennsylvania, on the twenty-first day of April, 1806 : for the degree of Doctor of Medicine / by Lewis Creager.

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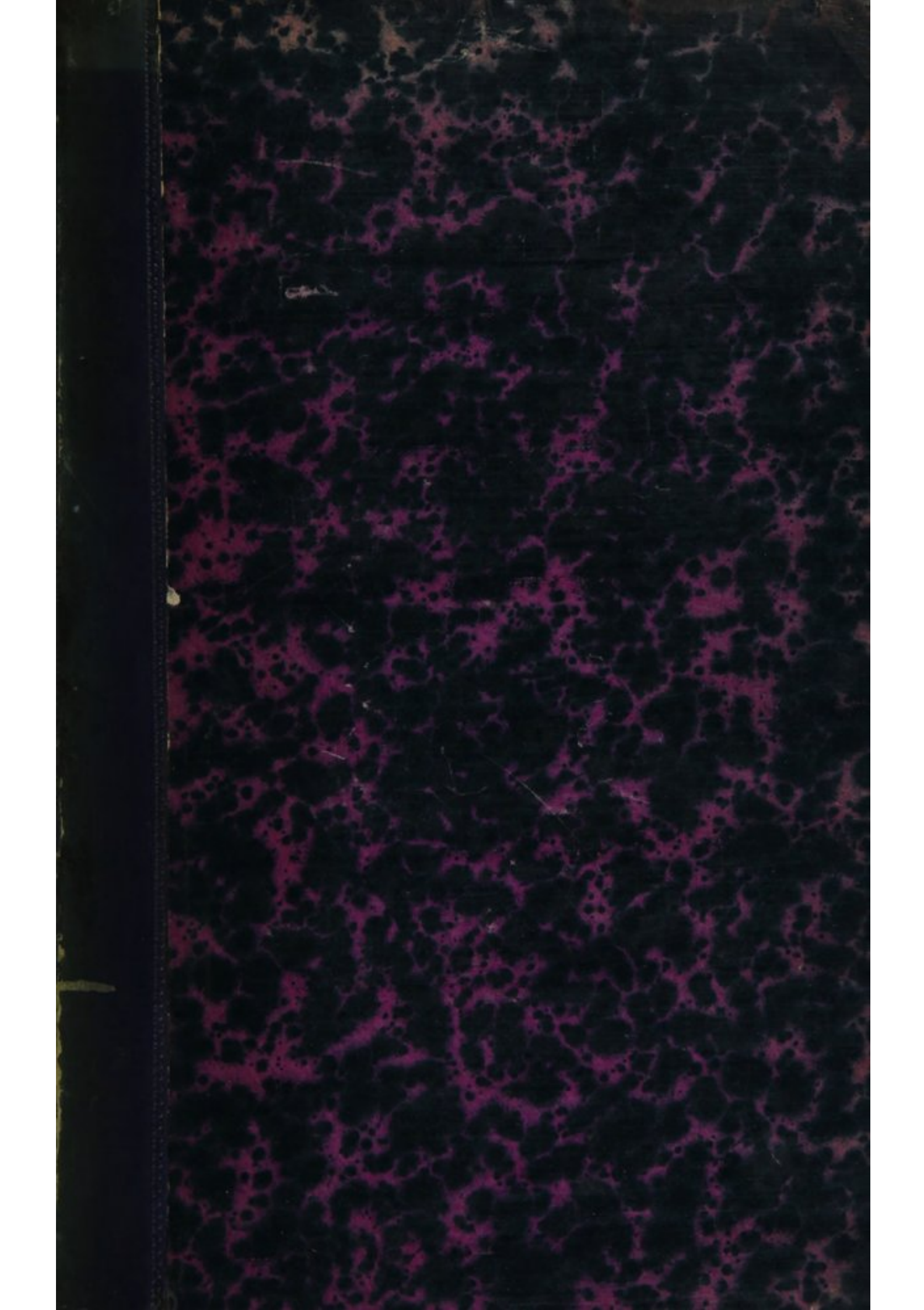
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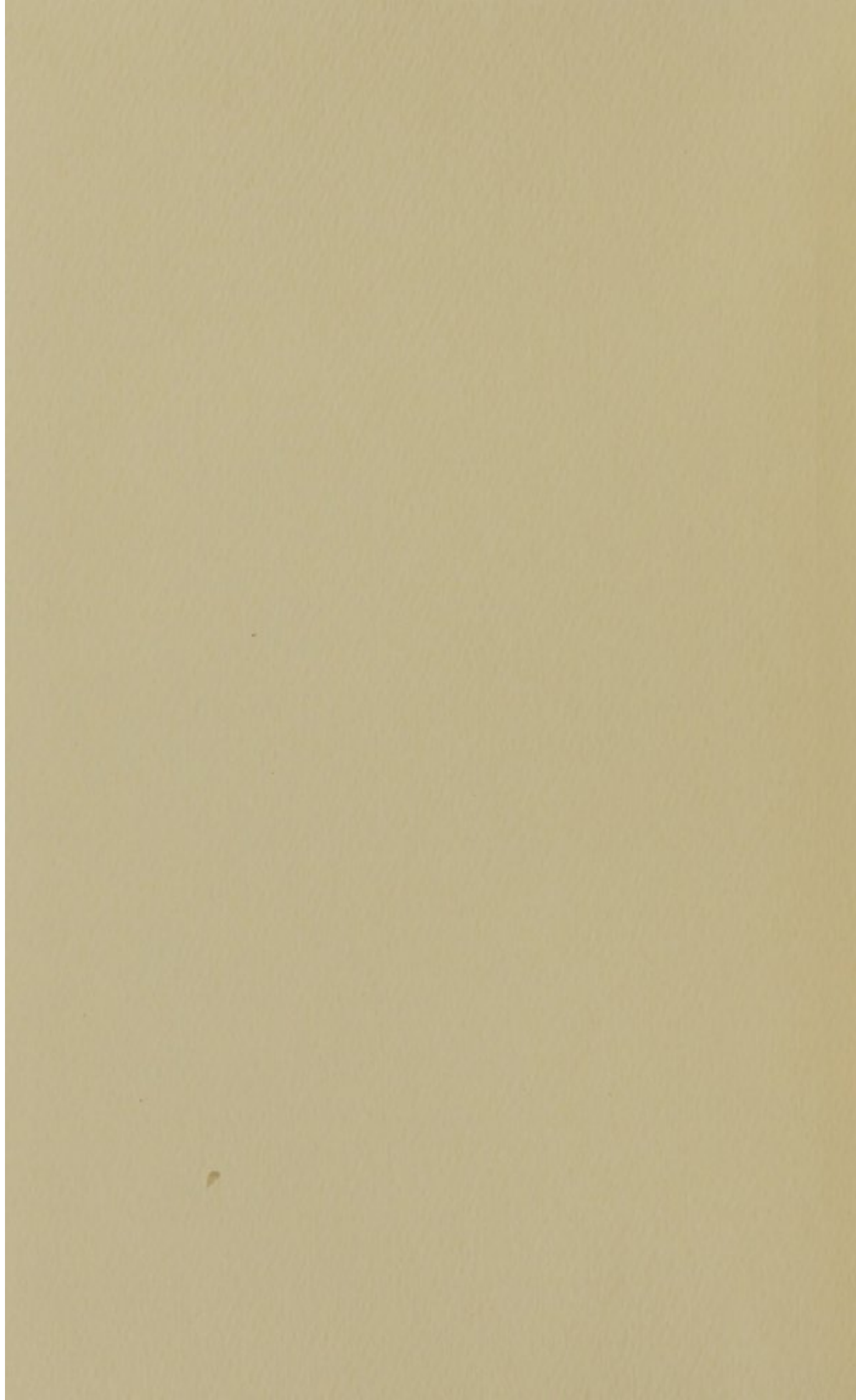
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AN
INAUGURAL ESSAY,
ON THE
DYSENTERY,
Submitted to the Examination
OF THE
REV. J. ANDREWS, D. D. PROVOST
(PRO TEMPORE.)
THE
TRUSTEES & MEDICAL PROFESSORS
OF THE
UNIVERSITY OF PENNSYLVANIA,
ON THE TWENTY-FIRST DAY OF APRIL, 1806.
FOR
THE DEGREE
OF
DOCTOR OF MEDICINE,

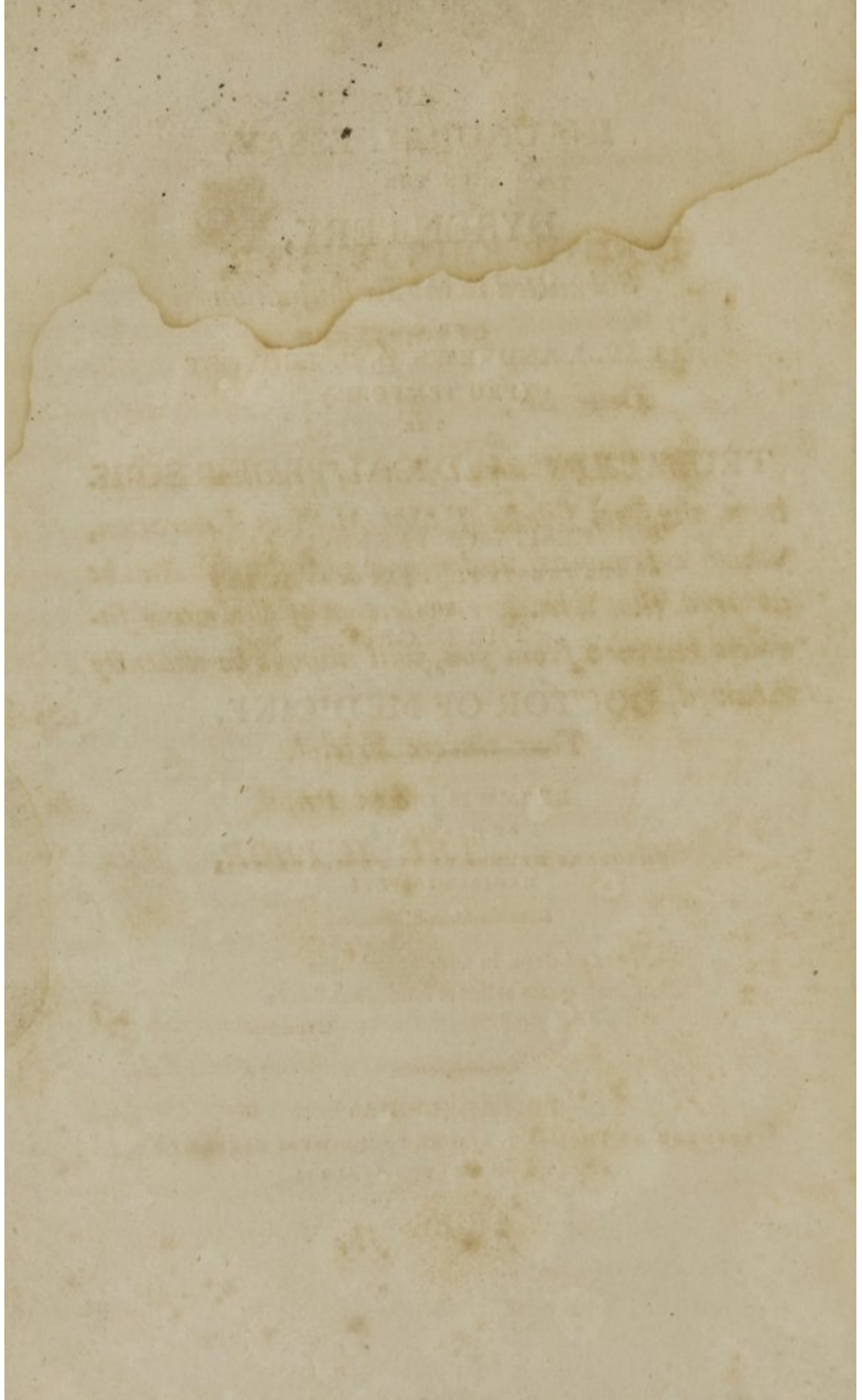
BY LEWIS CREAGER,
OF MARYLAND,
HONORARY MEMBER OF THE PHILADELPHIA
MEDICAL SOCIETY.

Homines ad deos, in nulla re proprius
Accedunt, quam salutem hominibus dando.

CICERO.

PHILADELPHIA:
PRINTED BY THOMAS T. STILES, SOUTH-WEST CORNER OF
FRONT AND WALNUT-STREETS.

.....
1806.



TO
DOCTOR JOHN FISCHER,
OF MARYLAND.

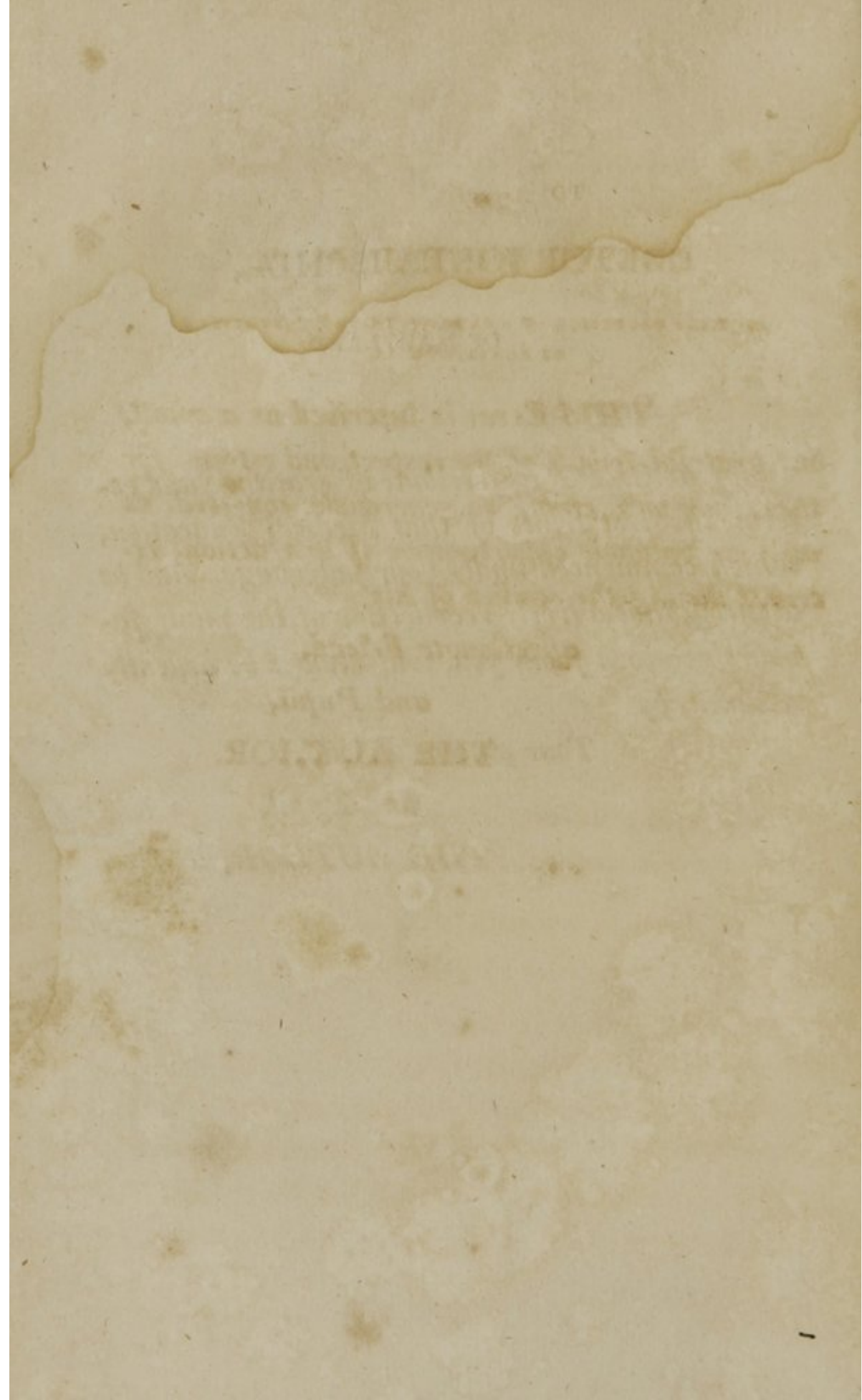
Dear Sir,

ACCEPT as a tribute of gratitude and esteem, the first fruits of that Medical Education, which commenced under your patronage. And be assured, that a lively recollection of the many favours received from you, will always be ardently retained, by

Your sincere Friend,

and Pupil,

THE AUTHOR,



TO
CASPER WISTAR, M. D.

ADJUNCT PROFESSOR OF ANATOMY, IN THE UNIVERSITY
OF PENNSYLVANIA.

*THIS Essay is inscribed as a small,
but grateful tribute of the respect and esteem, for
the many obligations so generously conferred, as
well as valuable opportunities of instruction, re-
ceived during the studies of his*

affectionate Friend,

and Pupil,

THE AUTHOR.

INTRODUCTION

CHAPTER I

THE first object of this work is to present a clear and concise account of the principles of the theory of numbers, and to show how these principles are applied in the solution of problems of the highest importance. The second object is to give a full and complete account of the history of the theory of numbers, and to show how the theory has been developed from its earliest origin to the present time. The third object is to give a full and complete account of the applications of the theory of numbers to the solution of problems of the highest importance. The fourth object is to give a full and complete account of the history of the theory of numbers, and to show how the theory has been developed from its earliest origin to the present time. The fifth object is to give a full and complete account of the applications of the theory of numbers to the solution of problems of the highest importance. The sixth object is to give a full and complete account of the history of the theory of numbers, and to show how the theory has been developed from its earliest origin to the present time. The seventh object is to give a full and complete account of the applications of the theory of numbers to the solution of problems of the highest importance. The eighth object is to give a full and complete account of the history of the theory of numbers, and to show how the theory has been developed from its earliest origin to the present time. The ninth object is to give a full and complete account of the applications of the theory of numbers to the solution of problems of the highest importance. The tenth object is to give a full and complete account of the history of the theory of numbers, and to show how the theory has been developed from its earliest origin to the present time.

INTRODUCTION.

AMONG all the blessings with which mankind are favoured, there is certainly none more desireable than the enjoyment of health. It behoves us therefore, to exert every means in our power, to preserve ourselves from those distressing maladies, to which the human frame is continually exposed. Among these, the Dysentery, which I have chosen for the subject of my Inaugural dissertation, has an especial claim to our attention. Every year tends more and more, to produce a conviction on our minds of its danger and mortality.

I must confess, that it is not with the most distant view, of doing the subject more justice than it has hitherto met with, or of saying any thing new respecting it, that I have selected this disease; but merely because I had some opportunity of becoming acquainted with it, and although it has heretofore been treated at large, by many of the most respectable me-

dical writers, which the world has produced, yet even at the present day Physicians appear to be undecided in their opinions respecting it. The frequent occurrence and melancholy effects of this disease, will therefore, I hope be admitted as a sufficient apology for every attempt to investigate its cause, to elucidate its nature, and to obviate with success its fatal tendencies.

In compliance with the laws of this university, the following dissertation is published. Fully aware however, of the many inaccuracies contained in these sheets, I solicit the indulgence of the public, and hope that every reader on perusal of them will remember the disadvantage of youth, inexperience, and a hasty publication,

AN

INAUGURAL ESSAY, &c.

THE Dysentery which is intended for the subject of the present Essay, is termed by latin writers "*difficultas intestinorum*" importing a difficulty or a disturbance of the functions of the intestines. Various other names have been given to this disease, by different authors, but to take notice of all of them, would be superfluous, and require more room than the narrow limits of this Essay permits.

The Dysentery is peculiar to no country, for instances of it, are recorded by writers in almost every part of the world. It may occur at all seasons, but generally makes its appearance about the end of summer, or beginning of autumn, at which time intermittent and remittent fevers are most prevalent. In camps where a great number of soldiers are crowded together, it is observed to spread most extensively, and to assume the most formidable and malignant aspect,

Various opinions have been offered respecting its nature by different authors, but that which has been advanced by Doctor Rush, seems to be the most correct, he calls it one of the intestinal states of fever. It is also very happily called by Dr. Sydenham “*Febris Introversa*,” or the fever of the season turned upon the bowels.

Many authors have taken great pains to draw nosological distinctions, between dysentery and other diseases; but fortunately for us and for the welfare of our future patients, the science of medicine has been so much improved, and at the same time rendered so simple by Dr. Rush, that these nice, and almost inscrutable distinctions are rendered entirely useless : guided by the doctrine of the unity of disease, which we have been taught in this university, we need no longer involve ourselves in perplexity and doubt, in the search after pathognomonic signs, but attend only to the state of the system, and considering all diseases as different modifications of the same morbid action, we will be led to a practice, at once more reasonable, and more successful.

HISTORY OF THE DISEASE.

The Dysentery (as has been already observed,) generally occurs at the end of summer, or beginning of autumn, and declines gradually towards winter.

It is for the most part distinguished by the following symptoms. The patient is affected with languor, lassitude, and disinclination to motion, sickness at the stomach, general uneasiness in the bowels, flatulency, small but frequent stools, tenesmus and griping. The stools consist sometimes of a frothy, but more generally of a mucous matter, mixed with blood and attended with great heat, thirst, loss of appetite, and other symptoms of fever. Very often too, costiveness is a leading symptom, at other times a diarrhoea precedes. Although the evacuations by stool are very frequent, yet, natural feces are rarely discharged, and when they do at any time appear, they are discharged in the form of small indurated masses, termed by writers scybala. When these are voided, whether by the efforts of nature, or solicited by art, they procure a remission of all the symptoms, and more especially of the frequent stools, griping, and tenesmus. This alleviation, is however, but of short duration, for the troublesome symptoms returning with redoubled violence. Small filamentous or sebaceous substances appear in the stools, which much resemble the washing of flesh.

The fever now becomes more violent, and is generally of that type which Dr. Cullen calls inflammatory, but there is no certainty in this as it assumes many different forms. Morgagni is of opinion, that

the filamentous matters, and pieces of membrane, which are frequently observed in the stools are often formed of inspissated mucous, lymph, and other liquors: and not the fibres, or pieces of the villous coat of the intestines, as is asserted by many authors.* The disease sometimes comes on with a simple purging, often composed of thin excrement and mucous, mixed with bile and more or less of blood: some authors say that pure unmixed blood, is sometimes voided. Morgagni observes, that blood may come from the intestines without any rupture of the blood-vessels, and only by their greater dilatation. The blood discharged has been supposed to be a favourable symptom in the disease; which appears to be very rational.

Sydenham makes the following observation, "That sometimes not the least blood is mixed with the discharges, throughout the whole course of the disease," nevertheless, says he, "if the stools be frequent, mucous, and accompanied with gripings, the distemper may be as justly entitled a dysentery, as if blood was evacuated along with them."† A stranguery, together with a prolapsus ani, has sometimes attended this disease, which are very troublesome symptoms to the patient. Sydenham seems not to have witnessed this, as he takes no notice of it, but

* Magagni de sedibus morborum epist. xxxi. † Sydenham, page 227.

they certainly do occur in violent cases. The strangury may be owing to the inflammation spreading from the rectum, to the neck of the bladder, and the prolapsus ani, to the violent straining.

The irritability of the intestines, sometimes becomes so great, that a slight irritation, which in health would pass off without any sensible effect, has been communicated in dysentery, thro' the whole intestinal canal : for instance, a draught of cold water has often scarcely had time to pass into the stomach, before it produced an inclination to go to stool; according to Dewar this effect has also been produced by smoaking tobacco.* The same circumstance, is taken notice of by another author,† worms are sometimes discharged during the course of the disease. Sydenham observes, “ that the dysentery often proves mortal in grown people, and especially the aged ; but it is nevertheless, says he, mild in children, who have it sometimes for months without any inconvenience, provided the cure be left to nature.”‡ This may be the case in the country where Sydenham practised, but it certainly is quite the reverse in this country : I have seen it prove uncommonly fatal to children, when at the same time, grown persons suffered but little from it. Dr. Rush

* Dewar, page 91. † Hunter's diseases of Jamaica, page 222.

‡ Sydenham, page 230.

makes the same remark in his lectures, and accounts for it by observing,

First, That children require bleeding, equally to grown persons, but that this remedy is for the most part injudiciously neglected. Hence in them, the disease rapidly proceeds to its fatal termination.

Secondly, That it is impossible to get children to take medicine.

Miliary eruptions, sometimes occur in this disease.

The dysentery, occurring at that time of the year, in which intermittent and remittent fevers generally prevail, we might with propriety conclude, that it will arise from the same causes which produce these fevers. Dr. Cleghorn tells us he has observed, "that when one of these diseases are suppressed, the other often ensues:" nor says he "is it uncommon for dysenteric fevers to put on the form of Tertian, and for the fits of Tertians to be regularly accompanied with gripes and stools."* It is really curious to see an intermittent fever, prevail at the side or bottom of a hill, while a dysentery is raging at its top. That this is the fact, is well ascertained, and it is very readily accounted for. The temperature of

* Diseases of Minorca.

the air, being cooler at the top of the hill, perspiration is checked, and thrown upon the intestines.

APPEARANCE ON DISSECTION.

FROM the accounts we have in authors of dissection, of the bodies of persons, who have died of the dysentery, it would appear that there is no part of the alimentary canal, which has not in some measure been found inflamed, ulcerated, or gangrened. Morgagni observes, That in this disease, the intestines are sometimes affected with ulcers, and sometimes not; and in another place, he takes notice of the ulceration happening only in its more advanced state. But the dissections of Cleghorn and Pringle, prove that this affection of the intestines is a very rare occurrence. In the accounts given by Sir. John Pringle, of his dissections of the bodies, of those who died of a dysentery, besides the common appearances of the inner surface of the rectum and colon, being covered with a bloody slime, and their coats being inflamed, or gangrened; he mentions the appearances of a number of little tubercles, or excrescences on the inside of the lower part of the colon, and upper part of the rectum, which resembled the small pox of a flat sort, at the height of the disease, but differed from them in this, that they were of a firm consistence without any cavity.

Sometimes the intestines are found not to be in the least affected; this may be accounted for by recollecting the principles laid down by Doctor Rush, that, in some instances the morbid^{*} action, may be so great, as to transcend inflammation. Dr. Rush, also mentions in his lectures, that the intestines have been found to all appearances gangrened, when there really was nothing more than an effusion of blood between the coats, or in other words, an Ecchymosis of the intestines. Cleghorn relates two cases of dysentery, that came under his notice, in both of which the omentum was almost entirely consumed, and a purulent matter found in the cavity of the abdomen. In short it appears that there are none of the abdominal viscera which have not been sometimes, found more or less affected in this disease.

Respecting the tubercles mentioned by Pringle, it may be observed; they certainly are the effect of the disease and not the cause, and we also know that they are not only found in the intestines but in the lungs, liver, &c. Those in the lungs have been and are as yet by some supposed to be the cause of phthisis pulmonalis. If this be the case we must conclude that the tubercles in the intestines must be the cause of dysentery and not the effect; but I believe both these opinions are obsolete.

* Rush's Lectures.

Physicians have at length learned to harness the horses which draw the car of medicine, before, instead of behind.*

Dewar mentions that in some dysenteries, the intestines have been eroded through all their coats, and a quantity of foeces have been found on dissection lodged in the cavity of the abdomen†

DIAGNOSIS.

THE dysentery is distinguished without difficulty from Diarrhoea.

It may be distinguished from this disease by the circumstance of no primary symptoms of fever occurring in the latter; which is always an attending symptom of the former, and in Diarrhoea natural stools are voided which seldom happens in dysentery. Diarrhoea is never propagated by contagion, while dysentery frequently is; cholera morbus is distinguished from dysentery by violent vomiting and purging consisting of bile only, and also by the absence of griping and tenesmus, as well as the more rare occurrence of fever. Finally, the cholera arises suddenly from exposure to cold, after too great heat, and indigestible aliment, and never is contagious.

* Rush on Pulmonary Consumption.

† Dewar, page 81.

PROGNOSIS.

THERE are but few diseases, that we are acquainted with, whose prognosis requires more diligence and attention than that of which I am at present treating. It sometimes proves fatal, notwithstanding all the means that can be taken to prevent it. This generally happens when it takes on a malignant type from its commencement.

Sometimes it ceases spontaneously without medical aid, but instances of this are few. Doctor Rush mentions in his lectures, that it terminated in a spontaneous salivation, and in ophthalmia, &c.

It appears to be more dangerous to those of weak and infirm bodies, than those of strong and robust constitution. When it attacks pregnant women, great danger is to be apprehended. When the attending fever is violent it is unfavourable; but when the fever is mild, it often continues for months and terminates favourably. When the disease is attended with hiccough, vomiting, great thirst, small irregular pulse, delirium, convulsions, and apthæ; the greatest danger may be apprehended. The return of enemata immediately after they are injected, is unfavourable. In the generality of cases, unless a proper method is resorted to in the beginning of the disease, we will too often regret its melancholy ter-

mination. It is said, that even the delay of medical aid for a few hours, when it is violent will frustrate our best measures to check its fatal tendency. It has been observed, that the dysentery is always more malignant, the earlier in the season it makes its appearance, and that it manifests much less virulence, when it does not appear until the latter end of summer.*

But even when these above mentioned bad symptoms appear, I should think it would be prudent in the practitioner, not to be too precipitate in pronouncing the disease incurable, as we frequently see a patient recover after all hopes are lost.

REMOTE CAUSES.

THESE are all such as induce debility either directly or indirectly, particularly of the intestines. Those which act by inducing direct debility, or as it is termed by Doctor Rush, debility from abstraction, are

1st. Cold, This abstracts the heat of the system, producing languor, sluggishness, and disinclination to motion.

2nd. The depressing passions of fear, grief and despair, these act on the whole system, but particularly on the alimentary canal, as is evidenced by the loss of appetite, nausea, vomiting, &c.

* Zimmerman, page 146.

3rd. All excessive evacuations as hæmorrhages, purging, &c.

4th. Famine, or the absence of the usual quantity of food. To these may be added want of cleanliness, &c.

Those which act by inducing indirect debility or debility from action, are

1st. Heat: hence it occurs oftenest, in hot and warm climates, and hot weather.

2nd. Intemperance in eating and drinking, particularly of stimulating, and indigestible aliment.

3rd. Improper food, as unripe fruit, unwholesome water, and the use of vegetables in excess. Hence it is more common in the country than in cities.

4th. Fatigue.

5th. Causes which act mechanically, by over stretching, or straining a part, or the whole of the body. A case occurred in the Pennsylvania Hospital, which seemed to have been produced by a contusion received on the abdomen.

The debility induced by these causes is always succeeded by an increase of excitability or stimulability. Hence ordinary stimuli act on the system, with an accumulated force, and a full meal, a slight exposure to heat or cold, the smallest intemperance or over exercise, become exciting causes, and the dormant disease is brought into action.

But the most common exciting causes of the dysentery, are marsh and human miasmata. These act either on the stomach by mixing with the saliva, or by being received into the lungs in inspiration.

PROXIMATE CAUSE.

MANY different opinions have been advanced respecting the proximate cause of the dysentery : some have supposed it to be an acrid state of the bile, irritating the intestines, and inducing the symptoms which characterize the disease, others attribute it to an acrid matter, somehow introduced into them. Dr. Cullen says, it is a preternatural constriction of the colon. But, it is now, I believe, generally admitted, that it consists, in an excessive morbid excitement or irregular action in the vessels of the intestines, in other words an inflammatory affection of those parts. Much might be said on this subject; but I hope this will be deemed sufficient.

METHOD OF CURE.

As long experience and observation, are necessary to enable us to write with confidence, on the treatment of disease, the candid reader will, I hope, excuse me, when I tell him, that I can give him nothing new, on the method to be observed in the cure of the Dysentery. I will, however, endeavour to notice the best, and most effectual modes which have been recommended by authors.

Three principle objects are to be kept in view, in the treatment of this disease: they are,

1st. To moderate and remove the fever.

2nd. To evacuate, the intestines of the hardened foeces, and other irritating matter.

3rd. To diminish the irritability of the intestines, and to restore their tone.

WHEN the disease is recent, and the fever mild; gentle purges and Diaphoretics will generally put an end to it.

BUT when the pulse is hard, full, and tense, attended with great heat, thirst, headach, and other symptoms of high morbid action, bloodletting becomes essentially necessary. Indeed, there are but few instances in which it is not required, in the first stage of the disease. It is not forbidden by a low pulse, for this often rises as the blood flows, and even becomes tense from the sudden evolution of latent excitement: it also relaxes the pores of the skin, and promotes diaphoresis; thus, answering another important indication. The farther a diseased part is removed, from the course of the circulation, says Dr. Rush, the more blood-letting becomes necessary. Hence, in excessive action in the vessels of the intestines, it would seem to be peculiarly proper.

EMETICS. It cannot be doubted that these often prove serviceable by evacuating the first passage, especially when the disease is attended with sickness, nausea, and vomiting. But they do most good, when they excite diaphoresis thereby producing a determination to the surface of the body, and assist in alleviating the fever. The best Emetics for this purpose, are the Emetic Tartar and Ipecacuanha or both combined.

2. PURGATIVES. These should be of the mildest kind, such as the sulphate of Soda, and sulphate of Magnesia; both have been strongly recommended. Castor Oil is esteemed by practitioners the best of purges in dysentery. Its use has been sanctioned by the approbation of many of the most learned writers on this disease. Zimmerman, Dewar, and Monro, speak of it in the highest terms. Pringle recommends rhubarb, combined with calomel. The form of injection or enemata is often the best, in which purgative medicines can be exhibited. Mucilaginous injections are highly beneficial.

3d. Diaphoretics. There is nothing more essential to the cure of dysentery, than to keep up a constant warmth, and gentle diaphoresis. For this purpose, the vitrum antimonium ceratum, has been highly recommended by Sir John Pringle. Nauseating doses of emetic tartar, have also been resort-

ed to with this view. Mosely speaks highly of the use of James's Powder. Dr. Barton in his lectures, dwells with emphasis on the utility of small doses of Ipecacuanha frequently exhibited. The Dovers powder has been used with effect, given after the operation of an emetic and cathartic, in obviating the irritation produced by these medicines, and at the same time inducing sleep and a determination to the skin. A new remedy has been recommended by Dewar, which has a promising appearance. It is a flannel bandage for keeping up a constant warmth, and pressure over the abdomen. The method of applying it, I shall mention in his own words. "Four or five folds of fine flannel, or a large piece of thick fleecy hosiery, is to be laid over the abdomen, and over this a flannel bandage should be bound rather tight, and in an uniform manner, from the groin nearly to the arm pits; and back again; to prevent the bandage from becoming loose and slipping upwards, so as to uncover the lower parts of the abdomen." He first made it firm round one of the thighs, and after putting it once or twice about the body, brought it round to the opposite thigh, proceeding afterwards to apply it fully round the body.

The immediate effect of this swarthing, he continues: are,

First, "The removal of that local torpor of the abdomen under which a dysenteric patient often labours,

2nd. "It removes rawness and griping.

3rd. "It corrects that dyspnoea, which is so often the consequence of dysenteric debility.

"Its ultimate good effects, are an increase of real strength, and a healing process in the intestines, proceeding from an improved state of sensation in these organs."* The advantages it possesses over the warm bath, are that it allows of an equal and never varying temperature, being kept up; and does not confine the patient or interfere with his common avocations.

BLISTERS. When the pain in the abdomen continues obstinate, the application of a large blister over it often procures immediate relief. Blisters applied to the ankles or wrists are also said to have produced excellent effects, after all other remedies had been used without success.

OPIUM. I have heard that Professor Richter, of Göttingen, relies exclusively on the use of opium,

* Dewar on the Dysentery.

in curing this disease. But few practitioners, I believe have imitated his practice with success. Without this noble remedy, however, we would be much at a loss how to conduct our patients with safety and ease, through so dangerous and troublesome a complaint. It is the best of remedies for removing irritation: it may be managed so as to prove an excellent diaphoretic, and even when the violence of the disease bids defiance to us, it alleviates the sufferings of the patient, and smooths his exit from a life of trouble.

DEMULCENTS. These are also very useful, in obviating the irritation produced by the disease and the remedies used. They sheath the inner surface of the intestines, from the acrimony of the stools, and when this is in any degree abated, supply, as it were, a new one. Those demulcents which have been particularly recommended, are starch, gum-arabic, and lintseed, variously prepared. During the above treatment a bland diet should be adhered to, and spirituous liquors avoided. To restore the strength of the patient, Bark, Simarouba, and other Tonics should be used. But the best remedies for answering these indications, are gentle exercise, temperate and demulcent diet, rich fruits, such as grapes and plums, are highly recommended by Zimmerman; broths, sago, tapioca, jellies, rice, and barley water or gruel for drink. As convales-

ence progresses, more nourishing diet may be allowed, as fresh, and particularly the white, meats.

In the meantime the patient should make his meals moderate, avoid all the exciting causes of the disorder, and return gradually, to his former habits.

By following this plan he will seldom be in danger of relapsing, a catastrophe which frequently punishes the imprudence of those who act with less circumspection.

Having now finished the history of the acute stage, I will say a few words on the chronic, or as it is called by Dr. Rush, dysentericula. This arises from a neglect of all the remedies in the beginning of the disease, as well as from leaving them off too soon from errors in diet. In this stage, the patient is very weary, has very little, or no appetite with indigestion and pain in the stomach: the pulse is generally weak, and small: the stools are not so copious as in the other, and the pain and griping are less frequent. The excrements are of the same consistence as in the acute. This stage of the dysentery is extremely obstinate, and is fatal to many people. It terminates in many diseases, but chiefly in the dropsy, and is never cured without great diligence and care. It often continues many years without much

inconvenience. Zimmerman relates the case of a man, who had the dysentery for two years, with the usual evacuations; and notwithstanding all that, still went about and did some work.*

In the treatment of this stage of the dysentery, tonics are the principle medicines to be depended on. Cold water is very highly recommended; the decoction of simaruba, and cascarilla, have also been used with advantage. Lime water diluted with milk, has been very effectual, opium combined with Ipecacuanha, has been found of service. The patient should use the same diet, as is recommended in the acute: he should be warmly clothed. Gentle purges should be given from time to time. He should occasionally take opiates, use gentle exercise such as riding an horse back, or in a carriage, and enjoy the fresh air.

For further information relative to the treatment of this stage of the disease, Zimmerman, Cleg-horn, Monro and other authors may be consulted.

* Zimmerman on the Dysentery.



