

An inaugural dissertation on the influenza : submitted to the public examination of the faculty of physic, under the authority of the trustees of Columbia College, in the state of New-York, William Samuel Johnson, LL.D. president ; for the degree of Doctor of Physic, on the sixth day of May, 1794 / by Peter Irving, citizen of the state of New-York.

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Columbia College (New York, N.Y.)

National Library of Medicine (U.S.)

Publication/Creation

New-York : Printed by T. and J. Swords, printers to the faculty of physic of Columbia College, no. 167, William-Street, 1794.

Persistent URL

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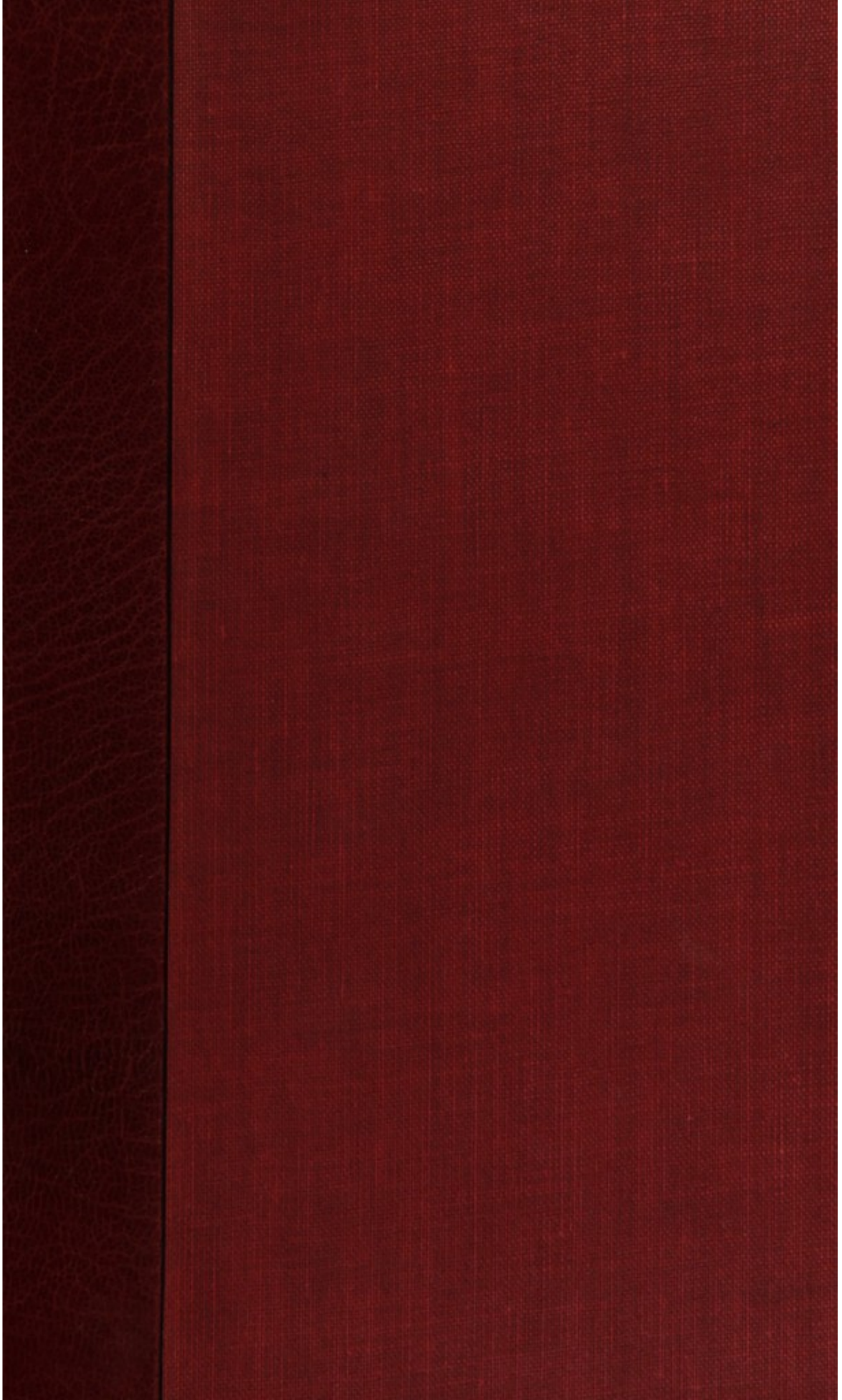
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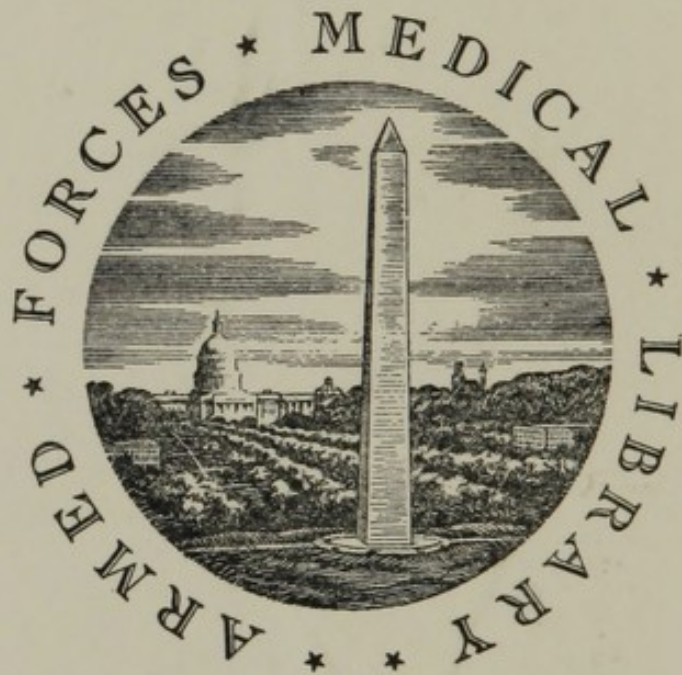
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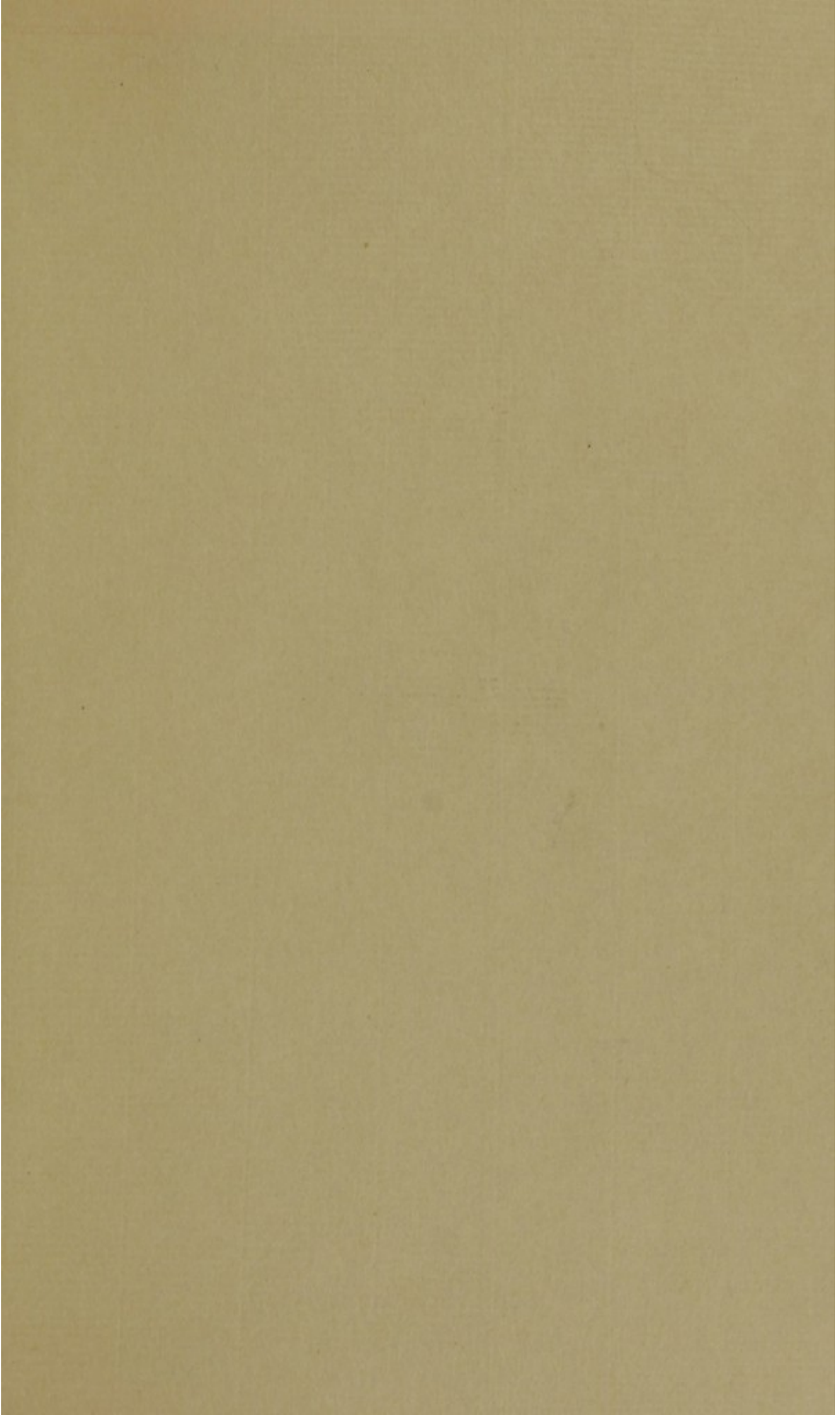


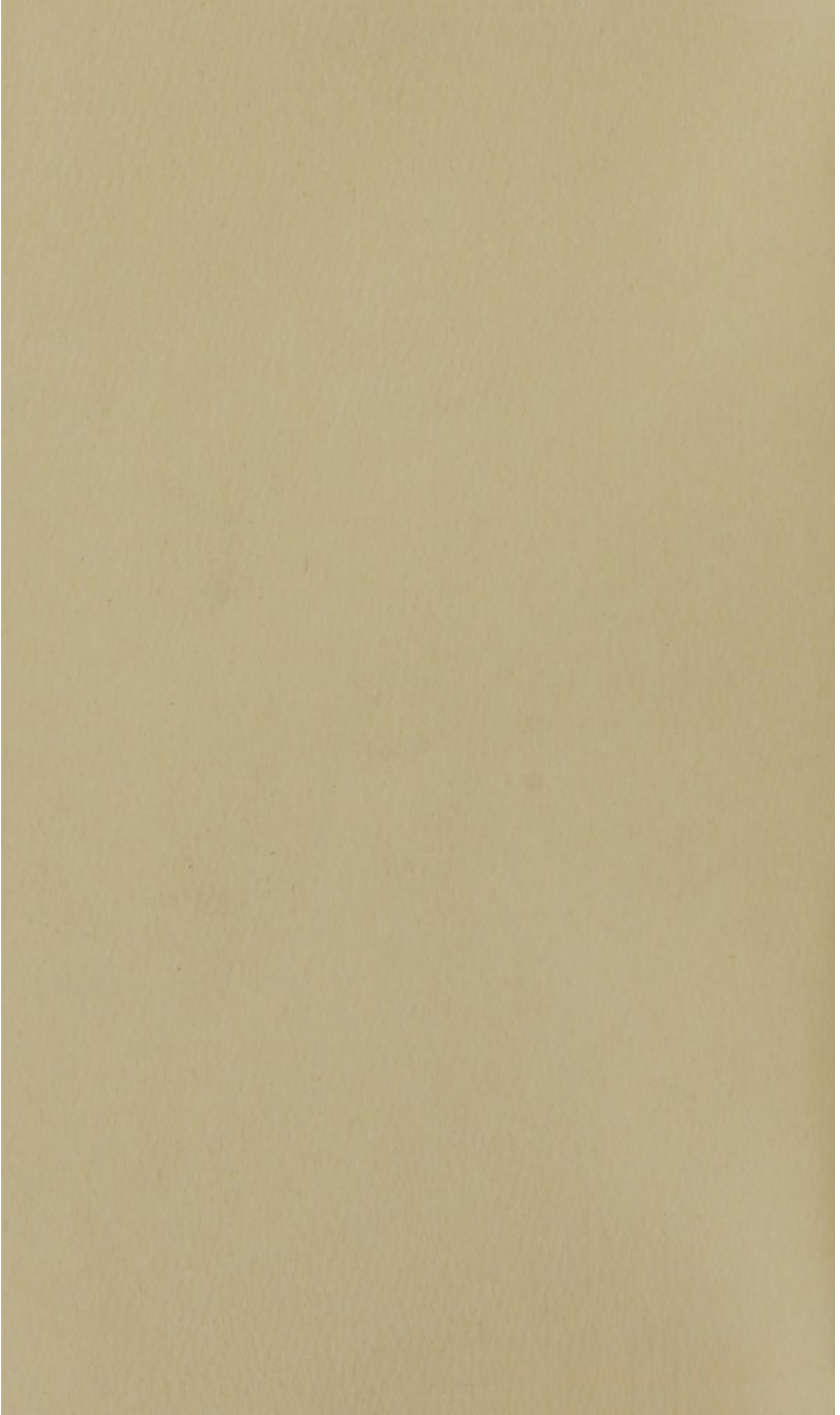
UNITED STATES OF AMERICA



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AN
INAUGURAL DISSERTATION
ON THE
I N F L U E N Z A.

SUBMITTED TO THE PUBLIC EXAMINATION
OF THE
FACULTY OF PHYSIC,
UNDER THE AUTHORITY OF THE
TRUSTEES OF COLUMBIA COLLEGE,
IN THE
STATE OF NEW-YORK,
WILLIAM SAMUEL JOHNSON, LL. D. President;
FOR THE DEGREE OF
DOCTOR OF PHYSIC,
ON THE SIXTH DAY OF MAY, 1794.

By *PETER IRVING,*
Citizen of the State of New-York.

Maxima pars hominum morbo jactatur eodem.

HORACE.

NEW-YORK:

Printed by T. and J. SWORDS, Printers to the Faculty of Physic of
Columbia College, No. 167, William-Street.

—1794.—

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Citizen of the State of New-York.

Printed and Sold by J. M. Smith, at the College.

SOLELY

NEW-YORK:

Printed by T. and J. Swarth, Printers to the Faculty of Physic of
Columbia College, No. 107, William-Street.

1794

TO

His Excel. GEORGE CLINTON,

Governor of the State of New-York;

Whose long and faithful Services to his Country,

Whose steady Attachment to the Cause of Liberty,

AND,

Whose Virtues as an Individual must endear him to
every American:

THIS

DISSERTATION

Is inscribed,

With the warmest Sentiments of Respect and Esteem,

By his most obedient Servant,

The AUTHOR.

Dr. Walter Jayson
with best wishes
from the Author

His Excel. GEORGE CLINTON,

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(0)
T O
JOHN BROOME, President,

A N D

ISAAC STOUGHTENBURGH,

JOHN CAMPBELL,

THEOPHILUS BEEKMAN,

GABRIEL FURMAN,

GEORGE JANEWAY,

NICHOLAS CARMER,

FREDERICK STYMETS,

ROBERT BOWNE,

WHITE MATLACK,

NATHANIEL HAZARD,

ROBERT LENOX,

Dr. MALACHI TREAT,

Dr. SAMUEL BARD,

Who compose the Committee of Health.

GENTLEMEN,

THE firm and determined manner in which you executed the arduous trust lately confided to you, and the service you have rendered the community by, in all probability, preserving this city from the dreadful calamity with which a neighbouring one was so lately afflicted, deserve the grateful acknowledgements of

your

your fellow-citizens: while your humanity, in tempering necessary strictness with compassion, and presenting the most timely and essential assistance to the disconsolate sufferers, ensure you their esteem.

Emboldened by the numerous marks of politeness and attention which I received while serving under your direction, I have taken the liberty of soliciting a renewal of your patronage, and of addressing to you this trifling production, which will need all your candour and all your indulgence.

It is with pleasure that I confess myself under peculiar obligations to one member of your respectable body-- Dr. MALACHI TREAT; not only for the information I have received from him in the science of medicine, but also for the many testimonies of his friendship which I have repeatedly experienced.

To merit, gentlemen, a continuance of your approbation, will ever be my highest wish.

I am,

With the greatest respect,

Your much obliged servant,

The AUTHOR.

PREFACE.

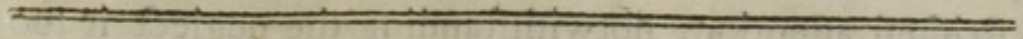
P R E F A C E.

THE difficulties under which a young man labors, who writes for public inspection, are numerous and discouraging; but the Medical Graduate is surrounded by peculiar disadvantages. Having as yet formed none but undigested opinions, the result of a flight, and, at best, but superficial knowledge of medicine; opinions of which a few years increase of information may perhaps render him ashamed; he is obliged to expose them to the view of the public, who possess no other criterion by which to judge of his abilities.

Agreeably, however, to the regulations of the University, I here submit to the perusal of my fellow-citizens the hasty production of a very few days; trusting that, when all circumstances are considered, it will be received with indulgence.

THE difficulties under which a young man labors, who writes for public inspection, are numerous and discouraging; but the Medical Graduate is surrounded by peculiar disadvantages. Having as yet formed none but undigested opinions, the result of a slight and at best, but superficial knowledge of medicine; opinions of which a few years increase of information may perhaps render him ashamed; he is obliged to expose them to the view of the public, who possess no other criterion by which to judge of his abilities.

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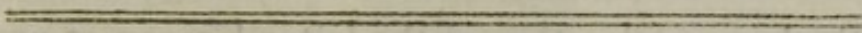


A

DISSERTATION

ON THE

INFLUENZA.



X IT is an old and well established adage, that custom reconciles all things. The universal prevalence of evil has long since habituated the world to its uncomfortable effects. Disease itself, though always an unwelcome visitor, has become an old acquaintance; and those complaints, not generally fatal, which are most common, are at length so familiarised to our ideas by the frequency of their occurrence, that while absent, they are rarely dreaded, and when felt, are commonly disregarded. **X**

Among diseases of this description, to which we are most accustomed, may *catarrh* be reckoned; and as it not unfrequently lays the foundation of disorders of a more serious and alarming nature, it merits the

B

strictest

strictest attention, notwithstanding the neglect it too often, and indeed almost always receives. From the slightest view of the causes which induce catarrh, it appears evident, that it has not lately commenced its existence, but that mankind have ever been subject to its evils, since they were first exposed to vicissitudes of cold and heat.

Systematic writers have divided it into two species.

1. The ordinary catarrh, or common cold.
2. The contagious catarrh, commonly known by the term Influenza.

To the consideration of the latter I mean at present to confine myself.

The influenza extends over vast tracts of country, and universally attacks the inhabitants of those places in which it prevails.

The characteristic symptoms are an increased discharge of mucus from the schneiderian membrane, accompanied with a fever of a contagious nature.

The accounts we have received of its appearance as an epidemic, extend as far back as the earliest ages of medicine; it has since frequently recurred, and has always been attended with similar symptoms, though described under very different names. It was more universal in Europe in 1781 and 1782 than it had ever been known before, and was then supposed to have been brought from the East-Indies to Russia, and thence to have passed to every
part

part of Europe in succession.* In 1789 it appeared in the island of Jamaica; and in the autumn of 1790 the inhabitants of New-York were pretty severely affected with it.

It seemed to pass over the country without observing any particular direction,† allowing few to escape its attacks; and returned in the spring of 1791 with unabated violence. Its progress was rapid, and though an immense number of persons were affected, the termination was very rarely fatal.

In the autumn of 1793 the influenza was again observed in this place, with symptoms similar to those which marked its former occurrence.‡ The same person was liable to be affected every time of its appearance, and some experienced two or three attacks in the course of the same epidemic. Children and aged persons, in Europe as well as America, were peculiarly exempt.§

The disorder was most severe in those of bad habits and impaired constitutions. The symptoms varied so much,

* Duncan's Inaug. Dissert. De Catarrho Epidemico.

† This was also observed in the influenza of 1782. "It observed no regular progression from any one point of the compass to another." Med. Transf. vol. iii. p. 61.

‡ By a gentleman of information from Demerara, I am informed, that in 1790 and 1793, the influenza made its appearance in that place also—that the disorder was severe, but the event very rarely unfavourable.

§ Rush's Medical Observations and Inquiries, vol. ii. p. 252.

"Out of 700 boys in Christ's Hospital, only 14 had it, and they in the slightest manner." Med. Transf. vol. iii. p. 55.

much, both in the manner and order in which they occurred, that an accurate enumeration of them is extremely difficult. It usually came on with cold shivering, alternating with sensations of heat; pain or soreness in all the limbs, with a disinclination to motion; obtuse pain in the forehead, dizziness, and vertigo; loss of appetite, nausea, and frequently vomiting. To these succeeded a sense of heat, and fulness in the nose, in most cases, and sometimes epistaxis. The eyes became stiff and sore, and a discharge of a thin acrimonious fluid soon took place from both nose and eyes, followed by sneezing and cough. The cough was often one of the primary symptoms: it was generally at first dry; but as the disease advanced, was attended with a copious expectoration. It was accompanied with difficulty of breathing, unusual sensation of heat in the mouth and fauces, hoarseness, frequently an inflammation of the throat, and consequent difficult deglutition. The skin was dry and hot; tongue commonly white and moist, without much thirst; sometimes a diarrhoea was present, at other times an inclination to costiveness, but in general the excretions were natural. A great variety was observable in the pulse. It was, however, commonly at the commencement of the disease full and soft; but often became in a short time small and weak. There was frequently a considerable degree of languor, lassitude, and depression of spirits from the beginning.

The

The fever increased toward evening: in the night delirium sometimes came on; but as morning approached a sweat broke out, which procured a remission of the symptoms. It seldom continued longer than three days, and very often not so long. With the fever all the other symptoms disappeared, except the cough, which remained some time, and then decreased gradually in frequency and violence until it ceased altogether. As the disease receded, if convalescents exposed themselves to the operation of cold air, and particularly if they went abroad in cold damp weather, their complaints were often renewed with increased violence.

The influenza was frequently much more slight than is here described: many were not prevented by it from attending to their ordinary business; but in general it appeared, with some variation, in the form above-mentioned.

In a number of cases, and particularly when the debilitating plan had been pretty liberally employed, all the principal symptoms of typhus fever took place in the advanced stages and toward the termination of the complaint.

Independent of the intervention of typhus fever, the disease sometimes proves fatal, in old and asthmatic persons, by inducing peripneumonia notha or the catarrhus senilis.

It

It is also sometimes attended with fatality, though in a more indirect manner, by hastening the approach of phthisis pulmonalis, in persons whose lungs are already affected with tubercles. The cough, by agitating the lungs and exciting an inflammation in the tubercles, appears to be the principal agent in producing this effect.

Repeated and long continued catarrhal affections may perhaps induce tubercles in those predisposed by their form to phthisis; but I cannot believe that the influenza alone, as has been asserted by some, has ever occasioned it: and I am the more confirmed in this opinion by observing, that in pleurisy the lungs may be affected with inflammation, and at the same time agitated by coughing, without any such consequence being produced.

D I A G N O S I S.

INFLUENZA, when it has continued for some time, may be distinguished from all other diseases, by the symptoms already mentioned; but in the beginning, the diagnosis will be attended with more difficulty, for obvious reasons.

The diseases with which it is most liable to be confounded are common catarrh and measles.

As the symptoms of common catarrh bear a very great resemblance to those which attend influenza,
considerable

considerable attention is necessary to make the distinction. They differ principally in degree. The former is, on its first appearance, generally unattended with fever; while, in the latter, the febrile symptoms almost always appear at the commencement of the disease, and are more violent: the attack is also more sudden. The diagnosis is not, however, of any considerable importance, as the mode of treatment in both is very similar; and always more so in proportion to their resemblance to each other; but the nature of the prevailing epidemic being considered, there will remain little room for doubt.

We will also find much difficulty in distinguishing it from the measles, but may succeed by enquiring whether the patient ever had that complaint before, and ascertaining whether or not it prevails in the neighbourhood, and whether he has not been exposed to the infection. If it be the measles, the irruption on the skin will soon afford a sufficient distinction. Fortunately, in this case also, a mistake will not be productive of any detriment, as the same remedies which are serviceable in the one are proper in the other.

PREDISPOSING CAUSES.

AS the influenza affected both sexes and all constitutions with little or no discrimination, it appears that no particular predisposition was essentially necessary;

fary; for the robust as well as the delicate, the healthy as well as the infirm,* were susceptible of its attacks. As, however, there are some circumstances which render the body peculiarly liable to be affected by diseases of this nature, and dispose it to be afflicted with greater violence, it will not be amiss to point them out, especially as by a little attention some of them may be readily avoided.

Preceding diseases, by rendering the body debilitated and irritable, dispose it to be operated on by contagion, and may therefore with propriety be ranked among the predisposing causes.

Large evacuations, depressing passions of the mind, and a sedentary life likewise operate by debilitating the system.

Intemperance, particularly in the use of spirituous liquors, as also fatigue, has a great tendency to induce predisposition---exercise, moderately used, increases the strength of the body, and is one of the best tonics employed in medicine; but, when carried to excess, it produces that species of debility termed by BROWN *indirect*. By a similar mode of operation,

* Persons laboring under other complaints are not exempt from influenza. When it appeared at Exeter, within a week it seized 173 persons in the hospital.

“These hospital patients, afflicted with such various distempers, and under the operation of the most efficacious medicines, were all affected almost at the same time and in the same manner by the influenza.” Dr. Cummings’ acct. Med. Obs. vol. vi.—See also Rush’s Obs. and Inquir. vol. ii.

tion, but in more dangerous degree, spirituous liquors prove detrimental. We generally observe intemperate persons more readily affected with contagious diseases than others, and they recover with greater difficulty. Having long been accustomed to the use of large quantities of diffusible stimuli, the remedies commonly employed are too feeble to be of any material advantage; and when the termination is fatal, they may, with more propriety, be said to have fallen victims to their own irregularity, than to the complaints which apparently produced their dissolution.

Influenza, approaching nearly in its nature to the ordinary catarrh, we may reasonably infer, that those causes which occasion the one, will also have a tendency to produce the other. Accordingly, we find that those who are exposed to the night air, to the operation of cold, either alone or combined with moisture, or to vicissitudes of cold and heat, are more particularly and more violently affected.* Cold proves evidently debilitating, especially when combined with moisture. According to the common opinion, it is injurious not only by simply diminishing the excitement, but also by obstructing the perspiration, and determining from the surface to the lungs.

The manner in which cold diminishes the perspiration is a subject of considerable dispute. Dr. CULLEN

C

supposes

* Cold, concurring with contagion, renders it more active. See Cullen's First Lines, par. DCLXXX.

supposes it possessed of an astringent power, which, producing a diminution of diameter in the vessels on the surface, allows a smaller quantity of perspirable matter to escape. In paragraph xc. of his Practice of Physic, he says, “ Beside the sedative and stimulant powers of cold, it is manifestly also a powerful astringent, causing a contraction of the vessels on the surface of the body, and thereby producing a paleness of the skin and suppressed perspiration; and it seems to have similar effects when applied to internal parts. It is likewise probable that this constriction, as it takes place especially in consequence of the sensibility of the parts to which the cold is applied, will, in some measure, be communicated to other parts of the body; and that thereby the application of cold proves a tonic power with respect to the whole system.”

With deference to such respectable authority, I cannot conceive cold possessed of so many contradictory qualities as Dr. CULLEN attributes to it. Indeed, that this apparently astringent power depends on its operation as a debilitant, appears to me not improbable. It is a fact, at present well ascertained, that the fluids contained in the arteries are not circulated through them by the impulse of the heart alone, but that these vessels also possess a power of propelling their contents, similar to that with which the heart is indued; and, by this mean, the circulation is carried on,

in the extreme vessels, in a great measure independent of any vis a tergo.

This being allowed, it will readily appear that cold applied to the surface of the body, debilitating these vessels, must diminish their power of circulating their contents ; in consequence of which the quantity passing through them will be lessened, and a smaller discharge of perspiration induced ; the fluids not finding the usual outlet at the skin, a determination will naturally take place to the lungs, where there is a large extent of surface from which they may be discharged. At the same time, in consequence of the diminished circulation in the extreme arteries, an accumulation will take place in the larger vessels, which, proving a stimulus to them, and increasing their action, will induce the train of febrile symptoms with which catarrh is attended.

Every thing that obstructs the perspiration in any considerable degree, produces a similar determination. Hence the remarkable consent which subsists between the lungs and surface, a diminished excretion from one being succeeded by an increased discharge from the other ; and, on this principle, it will follow, that in affections of the lungs, *or membrane investing them*, which arise from an increased flow of fluid, a determination to the surface is one of the most efficacious and most natural remedies.

The

The operation of cold air, in producing catarrh, is also very ingeniously explained on chemical principles.

In consequence of a diminution of temperature, the atmosphere, which is always expanded by heat, becomes condensed into a smaller space, and a greater quantity than usual is contained within a given circumference.

A person, breathing this condensed air, will inhale a larger proportion of oxigene gas, or vital air, than common, which will afford an ample stock of materials for chemical decompositions and combinations.

The blood being highly oxigenated, becomes more florid and stimulating; the heat from the evolution of caloric, by the decomposition of oxigene gas, is also increased, and, by these means, the attendant fever of catarrh is formed. Upon entering a warm room, the stimulus of external heat is added, and a fever more readily induced.

During the process of respiration, the water formed in the lungs, by a union of hydrogene from the blood with oxigene, is in greater quantity than natural; but in consequence of the accumulation of heat, it is discharged in the form of vapour, and the breath is apparently less moist.

This theory possesses great ingenuity and plausibility, and has, very probably, much real merit. On any
mode

mode of the operation of cold, if it is sufficient to induce fever, it will augment the violence of the influenza: as, in such cases, it acts at nearly the same time with the contagion, it is rather a concurring than predisposing cause.

EXCITING CAUSE.

WITH respect to the exciting cause, Physicians are considerably divided. The principal opinions entertained on the subject are the three following.

1st. That it depends on a peculiar state of the air, with respect to weight, moisture, or some more insensible qualities.*

2. That it is propagated by a particular contagious state of the atmosphere.†

3. That it is occasioned by contagion but only communicated, like the small pox, by intercourse with the affected, or through the medium of substances imbued with the contagion.

As a knowledge of the causes of diseases is frequently essential and always satisfactory, a more minute

* This opinion is ably and ingeniously supported in an inaugural treatise on the Influenza, by *Robert Johnson*, who graduated at Philadelphia, in 1793. His publication accidentally fell into my hands just as this dissertation was going to the press.

† The air of places in which the disease prevails, is supposed to be impregnated with the contagion which is dispersed by the winds to different parts, infecting them as it passes along.

nute investigation of these opinions may perhaps be deemed neither impertinent nor entirely useless.

The universality of the complaint, the celerity with which it proceeds, and the circumstance of persons most exposed being soonest and most violently attacked, argue strongly in favour of the causes existing in the atmosphere. Several instances are related in proof of this opinion, of persons being affected several miles at sea, who had no intercourse with the land. But the medical societies, which have made the most accurate inquiries into the nature of this complaint, do not consider these accounts as very authentic.* Many contrary facts are also recorded, which prove the regularity of progression which the disorder constantly observed, and which cannot be reconciled with the opinion above mentioned. It in some instances raged in one district, while others in the neighbourhood were entirely free.† The circumstance of persons being affected sooner, and with more violence, who were exposed to the air, is not difficult to explain: those who went abroad were more likely to receive the infection from others who had the complaint; and, by being exposed to sudden changes of the weather, which might produce predisposition, would become more liable to be attacked. In short, as it prevailed equally in climates extremely different,

* Medical Communications, vol. i.

† Pringle's account, Med. Obs. vol. vi.

different, and as its progress was not affected by any alteration of weather,* the supposition of its depending on the air, uninfluenced by contagion, does not appear to be well grounded. Irregularities of the atmosphere, with respect to weight, moisture, &c. aggravate the symptoms, but do not seem to occasion the disorder.

It is true, that by chemical changes in the component parts of the atmosphere, many diseases, for which we cannot account, may be induced. From some changes of this nature, the influenza may have first originated; but I am inclined to believe, that it is continued at the present day by means of contagion.†

The opinion of the contagion's residing in the air, is also liable to numerous objections. We cannot conceive it possible, that this contagion, by no means the most powerful with which we are acquainted, should

* Pringle's account, Med. Obs. vol. vi.

† Dr. *Johnston*, in the inaugural dissertation before referred to, makes the following remark: "The morbid matter, exciting the disease, must have originated at some time and some where; and a cause, like to that which gave rise to it in any one country, at any one point of time, might produce it in another country, at the same time, under similar circumstances." This observation is too extensive to have much weight. We may, with equal propriety apply it to the small-pox, measles, plague, and all other contagious diseases: they must have arisen in the first instance, independent of any contagion; and the same cause may recur in any number of countries at any time. This is equally within the bounds of possibility: we are, however, well convinced, that they are at present entirely supported by infection.

should admit of diffusion in a large portion of atmospheric fluid, without losing its active qualities. We are, it is true, convinced by daily experience, that large quantities of the miasma of marshes, may be blended with the air, or held in solution by it, and by this mode of conveyance, exert its injurious effects on the human body.

With the source of this miasma we are well acquainted, and know that continual supplies of it are constantly furnished by the numerous fens and marshes with which all parts of the world abound. Yet, notwithstanding this extensive, this unceasing supply, we never find the air sufficiently impregnated to convey it to far and distant parts in all its native virulence.

The activity of the effluvia from marshes, seems to be lost by its being diffused through, and diluted with the innoxious particles of the atmosphere, that in a short time it becomes perfectly inert. Thus it is in the vicinity of marshes, of low and wet situations, replete with pools of stagnant water, where the air is loaded with perpetual exhalations, the products of heat and moisture operating on the surface of the earth, covered with putrid vegetable and animal substances: it is in such places, and in such only, that intermittents usually appear.* The inhabitants of the

* It is not my intention to maintain that intermittents are produced only by marsh miasma. It is, however, universally allowed, that this is the most common cause of them.

the adjacent country, and particularly of upland situations, are entirely free from all traces of the complaint.*

If a miasma of this kind can exist in the air, without being injurious at any considerable distance from its source, though fresh quantities are constantly generating; it is difficult to suppose a contagion which shall impregnate the air, swiftly passing over places in which the disease prevails, and when thus diffused, preserve sufficient activity to infect the inhabitants of other parts over which it glides with the same rapidity.

The universality of the disease, and the swiftness of its progress, can be readily accounted for on the principles on which the spreading of other contagious complaints depends. Even the plague, one of the most universally spreading diseases known, which has thinned the inhabitants of the most populous cities, and desolated the most fertile and thickly inhabited countries, is, by modern observations, discovered to be entirely independent of any state of the air. The infection, which is possessed of the highest degree of virulence, is, by mixture with the atmosphere, rendered harmless in a short space of time; and the disorder is only propagated by some direct mode of communication; in which case the air immediately surrounding *only* is noxious.†

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That

* Sir John Pringle, page 57.

† Cullen's Pract. par. lxxxii.

That the contagion producing the plague does not operate far from its source, is proved by well attested accounts of its prevailing on one side of a street, while the other is unaffected, and of the Europeans at Constantinople escaping it, merely by confining themselves to their houses, and keeping up no intercourse with the other inhabitants.

The small-pox is another instance of a widely spreading epidemic produced only by direct communication: before the practice of inoculation was introduced, when it prevailed in any place, it raged as universally, and was diffused with as much celerity.

The whole catalogue of contagious diseases might be brought forward to the same effect; and as it is satisfactorily ascertained, that the most active do not impregnate the air to any considerable distance, a strong presumption may be formed, that the operation of catarrhal contagion is confined within similar limits. And this presumption will be further substantiated, by a consideration of the manner in which it proceeded in the late and former epidemics.

When the influenza appeared in any place, it soon became diffused universally round in all the neighboring parts, without observing any particular direction.*

Sometimes it could be traced to the arrival of persons from some place already infected. †

It

* Rush's Observ. and Inquir. vol. ii. page 256.

† Med. Transf. vol. iii. Rush's Obs. and Inquir. vol. ii. p. 248.

It appeared earlier in towns than villages---in villages than detached houses,* and in general observed a regular and gradual mode of proceeding.

The circumstance of persons being affected sooner, and with more violence, who were exposed to the air, is not difficult to explain: those who went abroad were more likely to receive the infection from others, who already had the complaint: by being exposed to sudden changes of the weather, which might induce predisposition, they would also become more liable: while, on the contrary, if it depended on the atmosphere, certainly this atmosphere would find its way into the houses with the greatest facility.

From all these considerations, I am induced to embrace the opinion, that it is communicated in the same manner with other contagions, by the sufficiently near approach to some person labouring under the disease, or some substance impregnated with the infection; and that the air has no agency in the business, except a *small* portion of it immediately surrounding the source of the contagion, which is the medium of conveyance.† It is well known, that the
halitus

* Med. Transf. vol. 3.

† In this manner we may, in some measure, account for contagious diseases being frequently endemic in particular cities. A great number of persons having been affected, a large proportion of clothing contains contagion, and frequently no inconsiderable quantity of the atmosphere is impregnated with the effluvia; much of which being confined in buildings and alleys, where ventilation is but feebly

halitus arising from the body of a man in health, forms a little atmosphere round him; and it is within the limits of this atmosphere that contagion operates.

The peculiar nature and mode of operation of this, and every other contagion, is still involved in obscurity, and may be ranked among those mysteries of nature into which the researches of man have not as yet been attended with success. But, as the science of chemistry is rapidly approaching to perfection, and has already thrown great light on the theory of medicine, we may entertain a hope, that these, and several other important and obscure points, which are totally inexplicable on the present medical theories, will, at some future period, be satisfactorily elucidated and explained on chemical principles. While, therefore, we are unable to explain the cause, we must endeavour to obviate the effects; and, as experience has brought us well acquainted with them, we may expect here to meet with better success.

PROXIMATE CAUSE.

THE proximate cause appears to consist of an increased afflux of fluids to the schneiderian or mucous membrane carried on, remains almost stationary. In confirmation of this remark it may be observed, that such complaints rage with most violence in calm weather, and are generally relieved by storms and high winds, which, on any other principle, would increase the disorder.

membrane already mentioned---proving a source of irritation to it, and thus producing and supporting the symptoms which constitute the disease.

In support of this opinion it may be observed, that the remote causes all concur in occasioning an increased determination to this part, and that such a state of it is also evidently pointed out by the symptoms.

The contagion seems to possess a peculiar property of causing this determination, probably by acting as a stimulus to the membrane, when inhaled in breathing; independent of its effects on the system in general; and it is frequently assisted by the concurring operation of cold.

P R O G N O S I S.

IN a disease so rarely attended with fatality, the doctrine of prognosis possesses no considerable degree of importance. It is, however, of great advantage, in the cure of diseases, to have a previous knowledge of those symptoms which may occur, as it will enable us either to prevent their appearance, or guard against their effects.

When the fever attending influenza is gentle; the cough not very troublesome, and accompanied with a free expectoration; respiration little affected, and a disposition to sweat manifest, there will be no doubt of a favourable termination.

If,

If, on the contrary, the patient's health has been injured by previous diseases; the febrile symptoms run high, or are followed suddenly by great debility; the cough is frequent and dry, with difficult or laborious respiration; and the patient is very restless and afflicted with much pain, we may expect a dangerous disorder, and perhaps fear a fatal event. When the person affected appears to be disposed by his form to phthisis pulmonalis, and we have reason to suspect tubercles already formed in his lungs; while, at the same time, the symptoms are violent, and the cough in particular continues long, we have reason to dread its terminating in a complaint which has as yet baffled the powers of medicine.

METHOD OF CURE.

THE fever with which influenza is attended, I am inclined to believe, is commonly mild synochus. I have heard of some instances in which the inflammatory symptoms were very great, at least the remedies used were such as could only be serviceable in high degrees of synocha; but, from the general tenor of the disorder, and the ill success that too frequently attended such practice, I am induced to conclude that real cases of violent synocha very rarely if ever occurred.

Concerning

Concerning the nature of synochus fever, Physicians entertain very different sentiments. One party supposes that it is induced by the same causes which occasion synocha; that it is in fact a real synocha; and that the symptoms of typhus which attend its latter stages, exist in consequence of the previous inflammatory state being allowed to run on to indirect debility.*

The supporters of the other side of the question assert, that it is only a variety of typhus fever, and that the difference is produced by the causes of typhus operating on a system possessed of considerable vigor, or what is termed a sthenic or phlogistic diathesis. I confess that I am rather disposed to subscribe to the latter opinion. In confirmation I would observe, that the influenza was accompanied, even at its commencement, with a degree of languor and depression of spirits, which are never attendant on pure synocha fever: and though the pulse and other symptoms were such as denoted an increase of excitement, which was also evidenced by the salutary effects of debilitating remedies; yet this increase was no more than generally attends the first stages of synochus: and I think it probable, that the very near approach of it, in some cases, to synocha, was occasioned, in addition to the

sthenic

* This appears to be the opinion of Dr. Rush, of Philadelphia; and it was on this principle that he recommended blood-letting and cathartics so strenuously in the late malignant fever—with a view of preventing indirect debility.

sthenic diathesis of the person affected, by the exciting causes of common catarrh operating at the same time.

To effect a cure, the excitement in the beginning of the disease is to be moderated---troublesome symptoms are to be alleviated---and the strength of the patient, which, toward the close of the disease, suffers considerable diminution, should be restored.

The first indication---to moderate the excitement, is frequently the only one necessary. It may be fulfilled when the complaint is but slight, by the use of the antiphlogistic regimen only: indeed, when moderate in degree, the influenza generally yields to confinement, rest, and a spare diet. It, however, often happens that these are not sufficient, and we must then have recourse to more powerful means.

As it was frequently cured by spontaneous sweating, sudorifics are thus pointed out as the natural and most proper remedies. Emetics, either given in such quantities as to produce full vomiting, or in nauseating doses, are of great use, but particularly the latter. They promote an easy expectoration, relieve the cough, and at the same time determine to the surface.

The emetics in common use are, ipecacuanha, and that preparation of antimony called tartar emetic. For the purpose of simply evacuating the contents of the stomach, I would prefer ipecacuanha, as it is most gentle; and being readily thrown out by the
act

act of vomiting, the operation is not increased in violence, in proportion to the quantity taken; but in influenza, the emetic tartar is most eligible, as it seems to relax the system more powerfully, and can, with greater certainty, be given in nauseating doses.

Emetics, combined with opium, in the form of Dover's powder, are also very serviceable as sudorifics, especially when the warm bath is employed at the same time.

Warm bathing claims considerable merit, as it proves powerfully diaphoretic. Physicians have been over-cautious in the use of it, from an idea that the stimulus of the heat would over-balance the relaxing effects of the moisture with which it is combined. By using a tepid bath these objections will be obviated.

Blood-letting has been considerably employed by some Physicians, and an opinion entertained, that the influenza generally and almost always required this evacuation. This practice may have arisen from the inflammatory symptoms with which it is at first attended, and particularly from the state of the pulse, which was frequently full: influenced by this fullness, blood-letting was largely prescribed, which inducing a great degree of debility, was too often followed by death, or a tedious recovery. In *some* constitutions, the inflammatory symptoms ran so high, that it was productive of benefit--but such instances were rare, and might, most probably,

bably, have been relieved by less powerful and less dubious remedies.*

Even where the pulse and other symptoms seemed to indicate it, the nature of the epidemic being taken into consideration, Physicians of the greatest eminence bled sparingly and with caution. From the mistaken opinions of some, fatal consequences resulted; and melancholy facts may be related of persons, particularly in the southern states, who fell sacrifices to the use of the lancet.

It may with propriety be laid down as a general rule, in contagious complaints, to be cautious of bleeding, as they rarely require, and often will not bear the evacuation.

Blood-letting may also have proved prejudicial, in violent attacks of the disorder, by not being used till indirect debility was already formed, and thus adding *direct* debility to *indirect*. Hence the impropriety of unnecessary delay, since this remedy can *only* be useful in the commencement of the disease, and at a more advanced period may prove highly prejudicial.

Cold, externally applied, has been recommended in catarrhal complaints, but from what has already been said concerning it, in the former part of this dissertation,

* "It was seldom necessary to take blood, some were relieved by it, but in general it did hurt by depressing the patients."—Dr. White's account of the influenza, Med. Obs. vol. vi.—Dr. Ash's account, *ibid.*—Rush's Obs. vol. ii. page 259.—Medical Communications, vol. 1.

differtation, it must be evident that I am averse to the use of it. Whether it operates on the surface as an astringent or debilitant, is immaterial; for as its permanent effect is to obstruct the perspiration and determine to the lungs, it must consequently be disserviceable; and this opinion is supported by facts; for experience has proved, that, so far from being useful, an exposure to cold has brought on a relapse when the disease was almost cured.

However objectionable I may consider the external application of cold, I am of opinion that internally it may be employed with advantage. It diminishes the tone of the system, and frequently proves powerfully diaphoretic, and may with safety be given in every case of increased excitement.

Cathartics of a gentle kind, such as come under the term laxatives, are very serviceable in obviating costiveness and diminishing the superabundant excitement, and are more safe than the drastic, which are apt to prove too debilitating.

The second indication---to alleviate troublesome symptoms, is not productive of much difficulty.

When there is a considerable fixed pain in any part of the chest, which is augmented by coughing, volatile linament or a blistering-plaister may be applied, and will generally remove it.

The cough is commonly the most troublesome symptom, and is principally to be relieved by mucilaginous

luginous drinks, which operate on the fauces, sheathing the parts and defending them from irritation. Oily mixtures are also used, but they are apt to grow rancid, and even if they do not, are generally disagreeable to the stomach.

When there is considerable debility, and particularly when the patient is of advanced age, gum ammoniac, volatile alkali, and other expectorants of a stimulant nature, are preferable. Opium, by allaying irritation, moderates the cough, and is most effectual. Elixir paregoric, combined with mucilage, is found extremely useful, and its utility is principally owing to the opium which enters its composition.

With respect to the third indication---the strength of the patient may be restored in most cases by the use of a nourishing diet only. When we have reason to suppose that this will not be sufficient, tonic remedies, as bark, bitters, &c. will prove beneficial.

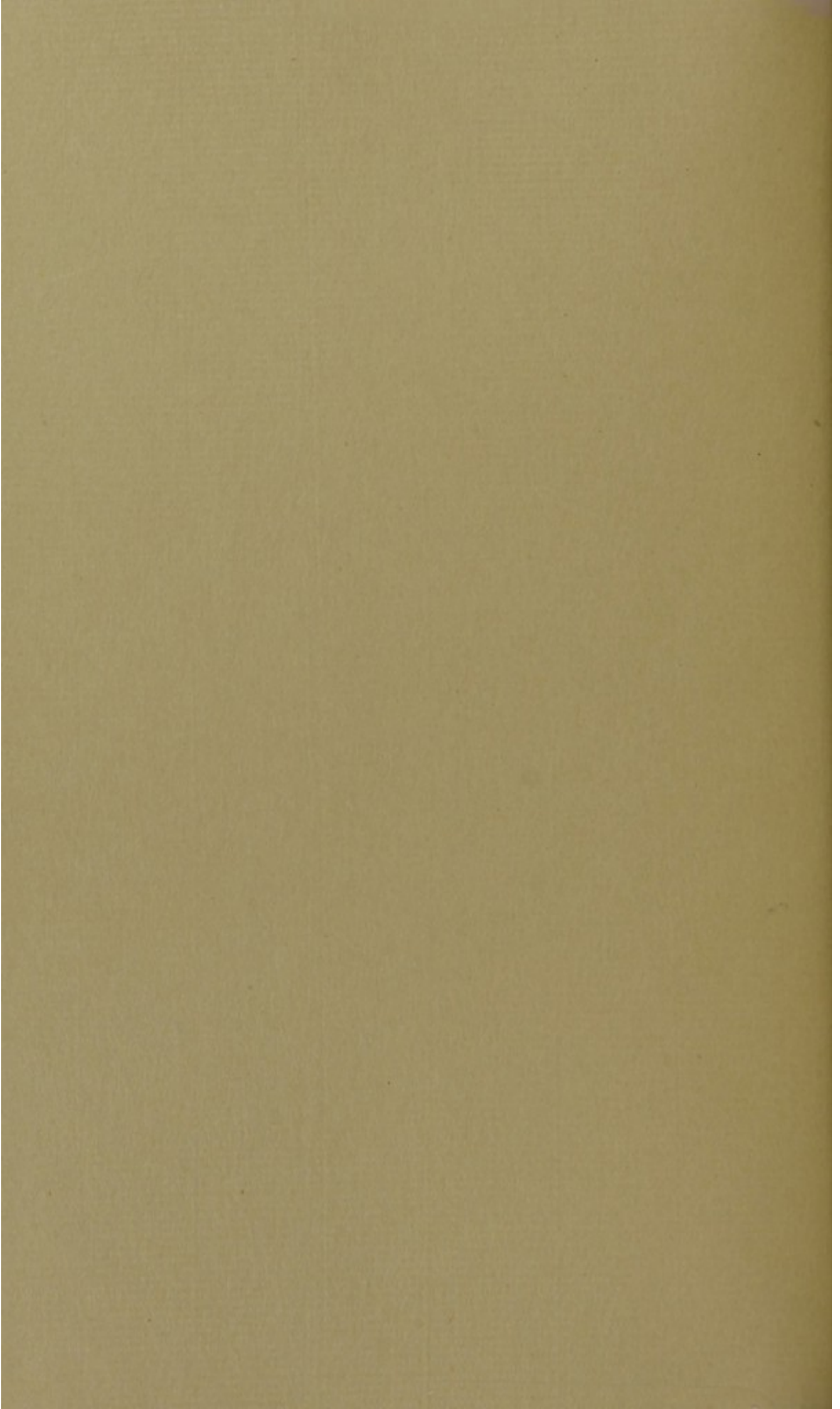
Where a dangerous degree of debility takes place, the remedies found serviceable in typhus fever should be employed.

Previous to concluding, I cannot omit acknowledging myself highly indebted to Dr. JOHN R. B. RODGERS, who, to many useful precepts which I received while under his tuition, has embraced every opportunity of adding the services of a friend. The favors
he

he has conferred are too important to be *soon* forgotten, and will ever intitle him to a high claim on my gratitude and esteem.

I am happy, also, in an opportunity of expressing my grateful thanks to Dr. NICHOLAS ROMAYNE, both for the information I have received from his valuable lectures, and for numerous private marks of his friendship.





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