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A DISSERTATION
ON THE
MUTUAL INFLUENCE
OF
HABITS AND DISEASE.

SUBMITTED AS AN
INAUGURAL THESIS,

TO THE EXAMINATION OF THE
REVEREND JOHN ANDREWS, D. D. PROVOST,
(PRO TEMPORE),

THE
TRUSTEES AND MEDICAL FACULTY OF THE UNIVERSITY
OF PENNSYLVANIA,

ON THE FIFTH DAY OF JUNE, 1804.

FOR
THE DEGREE
OF
DOCTOR OF MEDICINE.

BY WILLIAM DARLINGTON, OF PENNSYLVANIA.

MEMBER OF THE AMERICAN LINNEAN AND PHILADELPHIA MEDICAL
SOCIETIES.

.....CUSTOM moulds

To every clime the soft promethean clay.

ARMSTRONG.

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.....
1804.

A DISSERTATION

MUTUAL INTEREST

HABITS AND DISASTERS

DIAGNOSTIC THESIS

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TO
DOCTOR JOHN VAUGHAN,

OF

WILMINGTON, DELAWARE,

THIS DISSERTATION IS INSCRIBED

AS A

SMALL BUT GENUINE TRIBUTE OF RESPECT

FOR HIS TALENTS AS A MEDICAL PHILOSOPHER,

ESTEEM FOR HIS WORTH AS A MAN,

AND

GRATITUDE FOR THE KIND ATTENTION, AND VALUABLE
COUNSEL,

WHICH

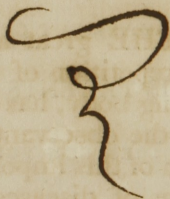
AS PRECEPTOR,

HE HAS

SO OFTEN AND SO OBLIGINGLY CONFERRED UPON HIS SINCERE
FRIEND AND AFFECTIONATE PUPIL,

THE AUTHOR.

For Mr. Mendenhall
With the best Wishes
Of the Author



DISSERTATION
ON THE
MUTUAL INFLUENCE
OF
HABITS AND DISEASE.

“ Man is a bundle of Habits.”

THE great and universal influence of custom, or repetition of action, upon the operations of the living body, has long been known and acknowledged by the observant part of mankind; but the application of this important principle to the prevention and cure of diseases has been too much neglected by physicians. The justly celebrated Doctor DARWIN has, indeed, thrown great light on the subject of associate motions, and the diseases of association; but much remains yet to be known respecting the power of disease in destroying the habits of the system, and also of the influence which the introduction of new habits, or a recurrence to old ones, where they have been violated, may have in *removing* diseases.

It is with a view of turning the attention of the accurate observers in medicine to this interesting subject, that I have selected it as the object of my inquiries in this inaugural Essay. I am fully sensible of the difficulties attending a thorough investigation of it, and the necessity of much more experience than it was possible for me to possess, to do justice to it:—But a desire of seeing the subject prosecuted by extensive and ingenious prac-

tioners, and of having the degree of its influence ascertained, induced me to adopt it.

The nature of the living body is such, that it can accommodate itself to a great variety of impressions which were at first disagreeable, and even prejudicial to it : A repetition of them, agreeably to one of the laws of sensation, renders them less and less detrimental, until they finally not only cease to be disagreeable, but become necessary to the support of health and life.—When any habit has become thus established, the continuance of it may be considered as a proof of health, and a violation as one of the premonitory signs of disease. Many peculiarities, and unnatural operations often become habitual by subjecting ourselves to the influence of custom, or repetition of impression and action,—as is finely illustrated by the ingenious author of *Zoonomia*.

Doctor CULLEN in his Lectures on the *Materia Medica* observes, that “ both temperament and idiosyncrasy may be variously affected by *custom*, insomuch that by this any temperament may be corrected, confirmed, obliterated, or even a new one induced.”—Custom, he defines to be “ the frequent repetition of impressions on the system. Custom is often confounded with habit. *Habit* is only the *effect* of custom, as when frequent repetition of impressions *has given laws to the system*.”

By this distinction we may understand why, in many instances, customs appear to be easily prevented from taking effect,—and also why many attempts to introduce new *habits*, fail. *The repetition of impression is not continued long enough to give laws to the system*:—Hence we may perceive the propriety and necessity of long perseverance in difficult cases, where we wish to induce a new action that shall be permanent.

The explanation of the phenomena of habits is founded principally upon the theory of the celebrated

JOHN HUNTER: *viz.*—That two different actions cannot exist at the same time in the same part, or system of the body;—and that the most powerful exciting cause will always produce an action of its own kind, to the extinction, or removal of the one previously existing. The correctness of this theory is so evident that it is now generally admitted, and taught in the schools of medicine.

The living body is endowed with a certain susceptibility, or aptitude for action, upon the application of stimuli, which is denominated *excitability*. This excitability may be defined a *condition* of the system which owes its existence to a particular organization of matter. With this organization it is capable of being excited into action when stimuli are applied; but it is entirely *passive* as it respects the *kind of action* into which it may be excited. Every different stimulus has the power of producing an excitement peculiar to itself.* The ever-varying state of the system is owing to the great variety in kind and force, of the exciting powers applied.—However, when any particular impression is continued for a considerable length of time, or *repeated to a certain degree*, and is of sufficient *force* to produce its specific excitement, the previously existing action is destroyed, and a new one takes place which will often become *permanent*, even if the cause should be removed.

* To avoid circumlocution I shall employ the word excitability as expressive of the *system in a certain condition*. When I say a stimulus acts upon the excitability and converts it into an excitement, I mean, that organized matter, possessed of this property, is thrown into action when an impression is made. This condition of matter is common to *all* bodies duly organized, and the various phenomena of life are owing to the variety in organization, and of stimulus applied. Hence I infer that in the *same system*, the variety of excitement is owing to the various nature of the exciting powers.

Although the system be passive in the abovementioned relation, yet it cannot remain dormant, or inert. If the more powerful of the usual stimuli be abstracted, the aptitude increases so as to be acted upon by the weaker; which cannot be all abstracted. This being the case, it behoves all who prize a healthy excitement to apply such powers, and such only (as far as practicable) as are calculated to produce this effect.

Some curious facts are related of the influence of custom in giving laws to the operations of the system,—as of the Idiot of Stafford, England, who, being accustomed to tell the hours of the church clock, as it struck, told them as exactly when it did not strike, by its being out of order. There is also a story told by MONTAIGNE, of some oxen that were employed in a machine for drawing water, who, after making three hundred turns, which was the usual number, could not be stimulated by any whip nor goad to proceed farther.

By the light of this principle, I apprehend, are the habitual operations of the body to be traced to their source. By it we may learn how the frequent and regular application of the durable stimulus of aliment is capable of preserving the habit of healthy excitement, in opposition to those causes which have a contrary tendency; and to which we are unavoidably more or less exposed. The stimulus of aliment, however, like many others, is of such a nature that it cannot establish a habit which will continue after the removal of the cause:—A constant and regular application is necessary to the permanence of the effect: hence any considerable interruption of the process leaves the excitability unemployed,—other less favorable agents take effect, and convert it into an excitement of injurious tendency.

The influence of any habit with respect to diet on the system is very great, and should never be overlooked in the treatment of diseases; more especially in those of long standing, or of weak morbid action, such as chronic dyspepsia. L. CORNARO, who *dieted* himself very strictly, was possessed of good health whilst he observed his regulations, but when he deviated from his rules he found his health and temper much affected:—Many other facts evince a similar effect of custom in this respect; wherefore Professor RUSH, among the *prophylactics* of

apoplexy, and some other forms of disease, recommends to avoid becoming *habituated* to any *one kind* of diet,—for a change would then be dangerous; and few people can avoid changing it in the course of a life-time.

This theory is equally applicable to the operations of the mind,—or more properly speaking, of the *brain*; for the mind is as much an effect of the operation of external agents upon the brain, as vision is of the impression of the rays of light upon the retina. The knowledge of this unfolds to us the immense importance of my subject in relation to *morals*; and points out the necessity of an education that will give permanence to such *habits of thought* (and consequently of action) as are calculated to promote the happiness of man, and the welfare of society.

The susceptibility of acquiring habits of thought and action is much greater in youth than in adult age; because the excitability at that period of life has not been acted upon by any stimulus long enough to establish its particular excitement, or to give a lasting and definite mode of action to the system; and therefore, the new impression has no old established habit to overcome. It is similar to the taking of a new country, or one inhabited only by a few defenceless savages, by a company of adventurers,—they meet with no obstacle in obtaining possession, nor in establishing what form of government they choose;—but if that country had been long occupied by a brave and well-disciplined people, the conquest would be extremely difficult, if not impossible. Hence it becomes an object of great interest, both in a national and social point of view, that the rising generation should be subjected, as far as possible, to such impressions as are adapted

to produce an habitual excitement of patriotic and moral ideas.

The influence of habit upon the mind was long since known, and expressed in the following just and interesting admonition: "Train up a child in the way that he should walk, and when he is old *he will not depart from it.*"

A healthy, or rational state of mind, depends upon correct perception, association, comparison, and induction, or inference from propositions:—But our perceptions may be correct, and yet from a too great frequency of heterogeneous impressions, the habitual trains of thought, or operations of the brain will be interrupted; and hence we may understand why booksellers, reviewers, and all those whose occupations subject them to great variety and dissimilarity of mental exertion, are so apt to become maniacal upon the least predisposition*. From their distracted and unconnected state of mind, they might be said (if the expression were allowable) to be *habitually destitute of habit* in their operations. The probable means of restoring a regular train of thought will be hinted at hereafter.

There is also a derangement in mental operation which is induced by too exclusive an application of any particular impression which is calculated to excite wrong ideas. This is most frequently occasioned by great distress, or mistaken notions of religion.—In these cases, such a despotic habit of action is established in the brain, that most others are excluded; and therefore the patients are for ever dwelling upon one theme.

Absence of mind, as it is called, is to be explained upon the same principle. It is a continued and exclusive excitement of the brain which cannot be overcome by the usual impressions upon the senses;

* Professor Rush's M. S. Lectures.

hence some of the greatest personages, those who have prosecuted abstruse inquiries with the greatest success, have been most subject to it.

Having premised thus much concerning the nature of habits, and the principles by which I conceive they are to be explained, I shall next proceed to consider the influence which disease exerts over the more remarkable habitual operations of the system, and to notice the practical inferences which are to be made from an attention to it.

INFLUENCE OF DISEASE UPON HABITS.

THE approach of disease may very generally be discerned by its causing a suspension, or sudden violation of the accustomed operations of the body; and more especially in those who are subject to conspicuous or remarkable habits:—For example, in those who are affected with habitual discharges from the system; as the hemorrhoids, issues, chronic diarrhea, and others:—Or in those who are accustomed to the use of tobacco, or other powerful stimuli. Under the head of habitual discharges may be considered the periodical evacuation of the catamenia; the state of which is at all times an important index to the condition of the system, in females.

The suppression of those established evacuations, is generally considered as the *cause* of the diseases which follow; but it is only a *symptom*, or *necessary consequence* of the operation of a more powerful incitant than that by which they were sustained, producing a different kind of action. Thus, when conception takes place, the menses are suppressed, because there is a new excitement induced by the application of a more powerful stimulus; and the

previous excitement, or habit, must necessarily cease*.

This principle likewise applies to the suspension of those habits which are acquired by the frequent application of stimulants;—the remote and exciting causes of disease produce a new action in the system, and thereby obliterate the former one,—doing away the necessity, or appetite for the accustomed stimulus. These effects so uniformly appear as harbingers of disease, that they ought always to give the alarm when observed. There is also an inaptitude to the usual actions: the excretions are affected, &c. &c.—A long list of premonitory signs of this nature, is given by authors, which indeed are generally so well understood, that all we have to do is to endeavor to make a proper use of them. By a due attention to them we may often be able to remove diseases whilst in their *forming stage*, which would otherwise baffle the skill of the ablest practioners.

..... “ For want of timely care,
“ Millions have died of medicable wounds.”

ARMSTRONG.

When we have been exposed to the remote causes of disease, and perceive their effects upon the habitual operations of the body, we may consider them as the premonition of impending evil, and should take measures accordingly.

There are *two* stages, says Professor RUSH, in which diseases may be prevented, *viz.* in the *pre-*

* As disease is only a different excitement from that which constitutes health, or that by which all the functions of the body are performed with ease and regularity, pregnancy may very properly be considered as a diseased state. (Vide Med. Repository, Hexade I. Vol. vi. pages 31 and 150; where Doctor VAUGHAN has ingeniously and ably proved that pregnancy is a form of disease.) The violation of the *menstrual habit* is one of the first symptoms of the disease,—and health cannot be said to be completely restored until this habit re-appears, as it is essential to a perfect state of the female system. This does not take place upon delivery,—but the disease may, at this period, be said to have come to a *crisis*; and lactation seems to be the most eligible method of bringing the system gradually back to the healthy state of excitement; when it again assumes that important habit.

disposition and in the *forming stage*. Where the system is predisposed to *great* morbid action, such remedies as lessen the action should be used; as fasting, rest, gentle cathartics, or small bleedings; and particular care should be taken to avoid *irritating* or *exciting causes*. Where the predisposition is to *weak* morbid action, the use of gentle stimulants, as the pediluvium, and warm teas, will generally remove it.

Doctor LOCKETTE, in his inaugural Dissertation on the *Warm Bath*, speaks highly of it as a *prophy-lactic*; and it certainly has great efficacy in restoring an equable and healthy excitement, when used during the predisposition to, or even in the forming stage of many diseases. The value of warm diluting drinks, and gently stimulating vegetable infusions, was frequently experienced by my respected Preceptor during the prevalence of the yellow fever in Wilmington, Delaware, in the autumn of 1802. By the timely and judicious use of those simple remedies, he evidently avoided the fatal epidemic, by removing the predisposing debility, and preventing the formation of disease, after the fatigue of professional duties had favored it.

There is an account of a comedian who lived to near the age of 100 years, and was never sick during that long period, in consequence of always going to bed as soon as he found himself under the action of the predisposing cause, or in the forming stage of disease. By inducing a gentle diaphoresis in this state, he restored that equilibrium, which a few days, or perhaps a few hours neglect, might have rendered a copious depletion, and a tedious confinement necessary to accomplish.

The approach of the dysentery is almost always announced to the patient by a violation of the habitual operations of the bowels; and, in this state, a gentle *cathartic* will generally prevent the formation of the

disease. It was prevented in a company of soldiers during the revolutionary war, by causing them to drink *sea water* freely, which operated as a purge *.

In the *forming stage* of catarrh, the free use of diluting drinks, and an abstinence from, or sparing use of cordial and stimulating diet, will almost universally remove the disease. It is said the celebrated DAVID GARRICK was in the practice of removing catarrhal affections, in this stage, by eating a salt herring; the object, and good effect of which was the thirst it produced, thereby inducing him to drink largely of diluting liquids, which gave the disease a centrifugal direction, and restored an equable excitement. This disease being one cause (and a very frequent cause) of consumption, should never be neglected †.

The accession of mania is generally to be foreseen by an obvious interruption of the habitual trains of thought. A diseased perception, or a derangement of any of the other operations of the mind, is very quickly manifested, either in conversation or in actions;—and when once observed, should be immediately attended to. In this early state, a proper application of physical and metaphysical remedies will often have the happy effect of checking the progress, and preventing the formation of this deplorable disease. It is much easier to repair the mind when but one pillar is deranged, than after the whole fabric is demolished.

As mental derangement, particularly that kind or grade called melancholy, or hypochondriasis, very frequently *originates* from *erroneous perception*, we need not, we cannot in such cases, expect a return of rationality until the perception be corrected: *ex. gr.* If a man admit the idea that he is composed of glass, it will be impossible to convince him by

* RUSH'S M. S. Lectures.

† Ibid.

any *argument* that there is no danger of accident from blows or falls.—The idea of fragility will inevitably be associated with that of vitreous structure: Therefore, to produce a radical cure, or to prevent such cases from degenerating into confirmed habits of wrong action in the brain, we should aim at restoring a correct perception as soon as it is observed to be diseased.

Erroneous perceptions very often require, and are relieved by the application of such remedies as alter the state of the system and organs of sense;—but there are also wrong perceptions from the partial subjection of objects to the inspection of the senses. Sometimes it is necessary that several of the senses should *unite* in their report of objects to the sensorium, in order to produce a *correct* perception; hence, it would be proper in all cases where we suspect this has not been the fact, to call in the aid of the other senses. Many diseases of the mind are rendered incurable, and many errors propagated in society, by a neglect of this valuable, this essential rule.

Vice is a morbid excitement, or operation of the mind, or brain, which tends to injurious consequences in society. The will, or perhaps more properly, the capacity of volition, is acted upon by morbid motives, and a new excitement of pernicious tendency is the result. If those motives be repeated in their application to a certain degree, a vicious habit of thought and action becomes established, and the moral faculties are impaired. Here we see the necessity of a preponderance of such motives as excite to virtuous actions.

It has been said that education is not sufficient to establish habits of probity and rectitude which will endure through life, because there are many instances of parents of exemplary morals having children of dissolute, or exceptionable character:—But

this assertion originated in an ignorance of the laws of the mental economy. It is true, such cases are often observable,—but the persons are constrained to moral acts by parental authority, and not suffered to exercise their reason on the subject. No motives are held out calculated to *volunteer* them into good actions. The will is rather suppressed; and therefore, agreeably to the laws of excitement, is more readily excitable into wrong action, upon subsequent exposure to morbid motives.

“ For Virtue is the Child of Liberty,

“ And Happiness of Virtue; nor can they

“ Be free to keep the path, who are not free to stray.”

BEATTIE.

It is a mistaken notion, both in domestic and national governments, to make the dread of punishment the inducement to upright conduct:—There ought to be motives of such nature and force applied, as would ensure a virtuous volition; and this is just as practicable as it is to ensure a healthy excitement of body by a proper use of alimentary, and other suitable stimuli.

When a person of virtuous habits has been exposed to immoral causes until they begin to take effect, their influence may soon be perceived. His old habits will be violated by the formation of a new excitement; or a different direction being given to the will. In the predisposition to, or in this forming stage of vice, many persons by a proper management, might be arrested in their mischievous, and often fatal career. How many, in this stage of the disease, have been converted to permanent rectitude, by presenting motives to them of a more powerful and salutary nature!

The pathology of the mind presents a vast and important field for observation; in which it is the peculiar province of physicians to display the true principles by which the various phenomena are to

be explained. Volumes would be requisite to detail and apply every circumstance illustrative of this beautiful theory of the mind, as taught by the ingenious Professor of the practice of physic in this University;—but the limits of this essay render it necessary that I should dismiss the further consideration of the subject under this head, and proceed to consider the influence which a repetition of impressions may have in producing new habits of action, and thereby removing previous actions of morbid nature.

INFLUENCE OF HABITS UPON DISEASE.

PROCEEDING upon the principle of the unity of action in the particular systems of the body, and of removing one kind of action by exciting another, we may understand how a continuance, or repetition of those impressions which are sufficiently powerful to induce a new excitement, can eradicate the original morbid action; or, in other words, how habits of wrong action may be removed by producing those which are more favorable to a return of healthy excitement.

In cases of wrong action induced by subjection to new impressions, the first object in the treatment is the removal of the cause; and if the excitability be not too completely converted into the peculiar excitement of the new stimulus, the effect will soon cease.—But if it have been so long applied that its particular action is confirmed in the system, that action will continue, even though the cause be removed. The system appears to acquire an independence from repetition, by which it can *of itself* continue those actions that could only be produced

originally by the presence of the exciting powers. When this is the case, morbid excitement must be destroyed by such agents as will produce a new action.

If the morbid action be violent, it must be diminished before a new exciting power can be safely applied:—if it be more moderate, but of long continuance, and deeply rooted in the system, it will often be necessary to take an intermediate step, and eradicate it by inducing another disease; but one which will be afterwards much more easily removed. We have an instance of this in the treatment of old cases of syphilis,—we destroy it by bringing on a mercurial disease; and when we have completely removed the syphilitic habit by introducing this new one, such applications are used as are calculated to displace the latter, by producing the excitement of health. And lastly, when morbid action is feeble, and not of long standing, the diseased habit may often be destroyed by such exciting powers as are suitable to induce, *directly*, the action of health.

When any acute or recent disease is occasioned by an *excess* of those agents which are adapted to the support of health and life, it may be removed merely by restoring an equilibrium of excitement in the different systems of the body;—but where causes are applied which produce a pernicious excitement in every degree of force (provided they take effect at all), the case is widely different. No man ever cured syphilis by simply equalizing the excitement:—It must be destroyed by such remedies as have the power of producing a new and different action.

It is upon those principles, which were first systematized by the ingenious HUNTER, that we propose to explain the action of habits upon disease; or rather, the influence of one kind of action upon

another ;—for an acquired habit is nothing but a *different action* rendered permanent by repetition.

To remove an established excitement of evil tendency, often requires the aid of extensive observation, and acute reasoning. There is a certain grade in the force of every particular excitement, above which it is not safe to attempt a change by the *immediate* application of different exciting powers ; hence it is generally necessary in the *beginning* of diseases to diminish the excitement of the system by depletion, before we can administer such remedies as are suited to restore healthy action, with advantage.

The neglect of a due degree of this has been the cause of much mischief in the practice of physic. It is a truly important part of the treatment ; and to the illustrious Professor RUSH are we indebted for much light and information on this subject. By attending to the circumstance, we may be enabled to introduce new habits of action upon rational principles, instead of groping in empirical darkness.

In our regard of the effects of custom, in the management of diseases, we should never lose sight of those habits which are induced by the revolutions of the celestial bodies, by the return of the seasons, and our connections with mankind ; more especially the connections of friends and relations*, neither should we overlook those laws of the system which have been occasioned by any particular mode of living ; whether of dress, diet, drinks, &c.—nor of those established by any particular medicine, whether it have disagreeable or salutary effects. They all have their influence, which by attention may be converted into use, but by neglect are always liable to counteract our endeavours.

* Doctor CULLEN.

We see somewhat to this purpose in intermittent fever; the disease appears to be sustained by the united influence of the remote cause, and the diurnal revolution of the earth. It has been supposed that medicines given just before the expected paroxysm would have most effect in preventing it, by exciting a different action; but Professor BARTON informs us,* that he has often found the paroxysm aggravated by this practice; and that he has had most success in the treatment by applying the remedies immediately *after* the paroxysm, or for a considerable time previous to the expected period of the next one; unless there were danger of the succeeding one proving fatal; which is sometimes the case.

This would certainly seem the most rational practice; for in this case, there is but the influence of the remote cause to counteract, and therefore a new action would be much easier excited by the stimulus applied, than when it had to combat the above-mentioned additional force. To prevent relapse, the application should be continued until the new action be established.

The unmanagable disease of epilepsy appears to be often rendered habitual in the system by the influence of the periodical revolutions of the globe. The scientific Professor of materia medica relates a case in his lectures, which was originally brought on by fright, but which became periodical; recurring daily about the same hour. He removed the disease by exciting an action, previous to the expected paroxysm, which was superior to the accustomed epileptic action.

The cure of intermittent diseases, or those which occur at stated times, is most commonly effected by some of the more powerful incitant, or tonic medi-

* M. S. Lectures.

cines ;—but to show that there is nothing specific or exclusive in their operation upon the diseased action, we need only mention the fact, that they have all been occasionally removed by exciting a superior action of a different kind, without the exhibition of any thing internally.

Intermitting fever has frequently been cured by violent emotions of mind, or great bodily exertion ; or, which is perhaps more effectual, by the united exertions of body and mind. Doctor CULLEN prevented several paroxysms of epilepsy in a girl by threatening her with punishment if she had any more.

It is certainly our duty to remove diseases by those powers which will produce a healthy excitement, or one the most *favorable* to health :—Yet the above, and many other facts evidently show, that it is not any particular remedy *alone*, which will destroy an existing morbid action ; but that *any* cause will do it which is sufficiently powerful to produce a new excitement.—*Therefore, the best medicine is that which will produce the best new action.*

The influence of custom in rendering motions or operations periodical, was well understood by Doctor CULLEN :—“ An instance of this,” observes that great man, “ we have in sleep, which is commonly said to be owing to the nervous power being exhausted, the necessary consequence of which is sleep, *i. e.* a rest of the voluntary motions to favor the recruit of that power : But if this were the case, the return of sleep should be at different times, according as the causes which diminish the nervous influence operate more or less powerfully ; whereas the case is quite otherwise, these returns of sleep being quite regular.”

This law of habit might be applied with great advantage, in conjunction with other means, in cases

of morbid or preternatural wakefulness ; by favoring a regular periodical return of sleep, this distressing affection would probably be often relieved, where it now resists the operation of the most valuable soporific medicines, promiscuously given.

Any habits of patients respecting sleep, should at the same time be always attended to ; for instance, if they have been accustomed to sleep in the neighborhood of a great noise, the continuance of that noise will be necessary to the production of sleep in them, however it might prevent it in others.

The same principle has been applied by Doctor DARWIN and others, to the regulation of the alvine excretions. A regular stated time of evacuation, or even an *attempt* at evacuation, has been found effectual in obviating and removing a constipation of the bowels.

“ Custom, or repetition, gives strength to motion.” “ This,” says Doctor CULLEN, “ is of considerable importance in the practice of physic, though but too little regarded : for the recovery of weak people, in a great measure depends upon the use of exercise suited to their strength, or rather *within* it, frequently repeated and gradually increased.”

Doctor RUSH has amply illustrated this principle by his own practice in the Pennsylvania hospital, in the treatment of rheumatalgia and paralytic cases. Many of the patients affected with those disorders, have recovered their wonted strength, by beginning to lift small weights, and repeating the exercise every day, gradually increasing them.

As disease is a habit of wrong action, so I would reverse it, and say that all habits of injurious tendency are diseases ; and of course require medical treatment. The management of them all requires

a knowledge of the laws of the animal economy : otherwise the practice will be empirical, and the success fortuitous.

The habit, or disease of *drunkenness* is a truly pernicious one ; and the treatment of it proportionally difficult and critical. The cure is becoming daily an object of more solicitude and importance, and to accomplish this *radically*, is the province of the observing physician. IT HAS BEEN TREATED SUCCESSFULLY.—And were those principles, before laid down, properly enforced in practice, I have no doubt but we should frequently arrive at this grand desideratum.

When the use of an active or diffusible stimulus has become so habitual as to render it a necessary support of animal life, it is in vain to attempt the disuse of it, without at the same time substituting an equivalent. If this be neglected, the system languishes from defect of its accustomed support, and a train of symptoms ensue which are generally disagreeable in proportion to the power, or previous continuance, of the stimulus omitted. It is from this cause that we see so many fruitless efforts at reformation among the unhappy votaries of Bacchus. How often have the unfortunate subjects of the habit of intoxication, upon seeing its fatality, resolved, and pledged themselves to abjure it for ever ! But, alas ! from an ignorance of the laws of organic life, they have

“ Resolv’d, and re-resolv’d—yet died the same.”

The abstraction of so powerful a stimulus leaves the system in a state of distressing languor and debility, in which it is not calculated to re-act under the pressure of business and domestic wants. In this situation they again have recourse to the insidious poison, in order to restore the pleasurable excitement they have lost. But it is an error pregnant with every

evil. They restore an excitement which hurries the body to dissolution.—They follow a pleasure which allures but to destroy.

The disease of drunkenness is often kept up by customs which might, with a little resolution, be easily broken. Many persons addicted to it, only get intoxicated at certain times in the day, or among certain companions,—others only at certain places of resort, or at certain festivals, &c.—and some only when they can procure their favorite potation *.

By observing those circumstances, we may be enabled to dissolve the charm by breaking a link in the chain of association, and substituting a new one which will finally, with proper management, establish a new habit.

Even when repetition has made the stimulus necessary to health, if the patient be convinced of its evil tendency, and resolved on reformation, we may render his determination effectual by inducing a new action with a different stimulus; and thus pave the way for a radical cure. If the habit have been of long standing, it may be proper first to excite a *new disease*, as was formerly mentioned. The patient may begin by only changing the *kind* of drink; afterwards he may substitute a powerful stimulus of a different nature; as opium, some of the metallic preparations †, or strong infusions of the vegetable bitters and incitants.

By thus gradually effecting a revolution in the habits of the system, he may descend by means of tonics, and moderate stimulants, to a state of healthy excitement. Or if a continuance of some extraor-

* RUSH's M. S. Lectures.

† How would a salivation do, where other circumstances do not forbid? There is no process which has a greater effect in revolutionizing the system.

Since writing the above, I have been informed by Professor RUSH that it was tried with success upon a gentleman in Virginia. Blisters, he likewise informs me, have been known to suspend this destructive habit.

dinary stimulus be requisite, he can use such as will prove least detrimental.

My friend Doctor GIDEON JAQUES informed me of a case much to my present purpose, which came under his own care. He removed this destructive habit in an elderly man, by exciting a new action with other stimuli; which supported the system at the same time that they produced this effect. The principal substitutes on which he relied, were opium and seneka snake root, gradually diminishing the dose.

It is said that the celebrated Doctor JOHNSON intirely conquered a propensity for drinking ardent spirits, by the free use of strong *tea*. This, and other powerful vegetable infusions, might probably be often substituted with advantage for the lethean draught.

Drunkenness has frequently been cured by exciting disgust, shame, and other new actions. Religious impressions have often removed the habit likewise. These facts prove in this case, what was formerly proved by great exertion, or emotion, when considering periodical diseases. There is nothing peculiar or exclusive in the operation of the above-mentioned remedies on the habit of intoxication:—*any* application sufficiently powerful, will support animal life in the place of the vinous stimulus; but those ought to be chosen which produce the best excitement: and when the cure is attempted by moral or religious impressions, they ought always to be aided by the proper physical remedies; otherwise the chance of a radical and permanent restoration will be much less.

All other pernicious habits, as the excessive use of opium, tobacco, &c. are to be treated upon the same plan. A substitute must be used to support animal life; and if the excitability be not too much

destroyed by the long use of the stimulus, the system may be gradually brought back to the healthy state. But if the habit have been of such long standing as to induce a permanent exhaustion of excitability,—or, in other words, if the impression have been so powerful, and so durable, as to derange that exquisite organization which renders the body capable of re-action when the *usual stimuli* are applied, and if this derangement be lasting, it will be necessary to continue the use of the substitute *. Therefore, all that we can expect in this case, is to remove one evil by submitting to what with a healthy person would be another; but which previous circumstances have here rendered necessary, and of course, comparatively salutary.

There is an account of some Turks, who, being at sea, had used all their opium, which from habit had become an essential support of life: In this dilemma they sustained themselves, at the expence of conscience, by drinking wine which they had on board.

As different stimuli produce different actions, and as they possess different powers of acting upon the excitability, it shows the propriety of being provided with a variety of stimulating agents, as recommended by Professor BARTON. They might probably be tried with advantage in cases of great exhaustion of excitability; for it has been found that medicines of apparently less active powers, will sometimes effect a cure, where more potent ones have failed.

* The susceptibility of action from the application of any stimulus being destroyed, in great measure, by the excessive use of that particular agent, may we not plausibly infer, that the reason why small-pox and measles can only be communicated once to the system, is because the morbid stimulus which produces them destroys, permanently, the excitability; or that peculiar organization which is essential to the production of such an action?—The action of these contagions is so effectual, and of such specific nature, that the system is no longer excitable by them.

This circumstance may lead us to understand why a stimulus which could remove a tenacious habit of action, may have its action removed in turn by a cause seemingly weaker than itself, one which could not destroy the first action ; as is seen to be the case in the treatment of syphilis.

After continued use has rendered tobacco a necessary stimulus, it is not uncommon for those so accustomed to it, to vary the *form* of using it without any inconvenience. Those who chew can leave it off, provided they supply the defect by smoking or snuffing. But I have also known persons long habituated to chewing tobacco, to substitute *ginseng*, and other vegetable stimuli, with complete success ; thereby obviating the disagreeable effects of the former.

These facts likewise show the practicability of changing any particular habit, when attention is paid to the state of the system, and a new one at the same time introduced. This must be done ; for one habit can only be destroyed by the introduction of another.

In the treatment of mania, as of all other forms of disease, it is necessary to attend to the state of the system. If the action of the sanguiferous system be violent in this disease, depletion is just as requisite as it is in a pleurisy ; and in mania from physical, or mechanical causes, the cure is almost as easy. But where there is a morbid excitement of long standing in the brain, induced by causes which acted directly upon the senses, or where false associations have become established, the management of the system generally, can only be considered as a preparatory step towards a cure. Physical remedies, strictly speaking, can only act *indirectly* on mania from what are called *mental* causes : and hence, as those remedies are principally trusted to in *all* cases, we may understand why mania from mental

causes has been found more difficult to cure. Besides, in this species of mania, the causes very often continue to act while the remedies are using.

The senses, like so many great rivers, expose the brain to the invasion of every inimical idea; and therefore while those sources of wrong action are unattended to, physical remedies may often be used in vain. It is frequently in our power to exclude some of the most unfriendly causes; and the channels which admit the enemy, are always open to convey the well-disposed.

It is the business of the practitioner to attend to this, and to prevent the operation of morbid causes, as far as possible, by removing those which can be removed, and making such impressions as are suited to introduce rational trains of thought.

Where the excitement is not violent, or when it has been sufficiently reduced, we may gradually attempt to produce a new action by other causes. If the mind be exclusively occupied with one theme, as is most commonly the case in hypochondriacal affections, the brain should be subjected to the various impressions which are afforded by agreeable society, and travelling. If it be void of connected operation, a cause should be applied which will produce a regular excitement; and continued, or repeated until this excitement be established.

We have many instances of the efficacy of this practice. A lady was maniacal at all times, except when she played at cards; her friends observing this, played with her by turns, until her brain had recovered its healthy action so completely that she did not relapse afterwards.

A judge was perfectly rational whilst on the bench; but as soon as he left it he became deranged*. In this case the pressure of business pro-

* Rush's M. S. Lectures.

duced a rational excitement which overcame the previous wrong action; but it was not continued long enough to become permanent. Could he have been occupied in this way a sufficient length of time, no doubt he would have been perfectly cured, as in the case of the lady.

The good effects of business closely followed, or any continued impression of salutary nature, in restoring a regular train of thought, have often been experienced: and it is to be wished that more attention was paid to those remedies which act directly upon the brain. By observing that operation of the deranged mind which is most allied to rationality, and supporting it as long as possible by the proper impressions, either conversation, objects, or both,—it is more than probable, we might often accelerate the recovery of maniacal patients;

.....“ For the attentive mind,
 “ By this harmonious action on her powers,
 “ Becomes herself harmonious.”

AKENSIDE.

Vicious habits are to be treated upon the same principle. If the patient have not been so long subject to the impression of morbid motives as to impair the moral faculties, the disease will disappear upon simply withdrawing the cause. But if a habit of thought and action, which is of injurious tendency to society, be established, the mere abstraction of the cause will not be sufficient. The diseased action will continue, independently of the original cause;—and hence we often see persons in this condition commit vicious acts without any apparent motive; or at least, from motives which would have no effect on others. In this case a change is only to be effected by the application of causes which are sufficiently powerful to excite a new action; and on the nature of that cause depends the nature of the action produced.

If the vicious excitement be violent, it must be reduced before salutary impressions can take effect. This fact has received a negative proof from the experience of all ages, by the vain attempts which have been made to induce a healthy action, in such cases, by the violent remedy of ignominious punishments inflicted in public. Such treatment, instead of exciting the desired action, generally renders the case desperate. Like ardent spirit in an inflammatory fever, it hurries the system on to a state of gangrene and death.

But the propriety and utility of the abovementioned practice has received *positive* and ample proof, from the successful management of those dangerous cases, in the new jail in the city of Philadelphia. This valuable institution is in reality an hospital for diseased morals. If the action be too great to admit of the immediate application of salutary causes, it is reduced by putting the patient in the solitary cells;—and no treatment has ever been found to produce a state of mind so favorable for the introduction of a new and healthy excitement. This being premised, motives are then applied which are calculated to restore industry and integrity; and they are continued until it is believed the habit is established.

This method of treatment has been found so effectual, that numbers have been discharged completely cured. They have returned to society with the character of honesty and sobriety, which they have ever after retained.

It may be said that many have relapsed; but no more happens here than is often seen to take place in mania, and intermittent fever. It weighs nothing against the principle. If the remedy had been applied sufficiently long, the cure would have been perfect.

That accurate delineator of the human mind, the immortal SHAKESPEARE, was well apprized of the great influence of custom upon our actions; as is evinced by the following lines :....

- “ Assume a virtue if you have it not.
- “ That monster, custom, who all sense doth eat,
- “ Of habits devil, is angel still in this;
- “ That to the use of actions fair and good
- “ He likewise gives a frock or livery,
- “ That aptly is put on; Refrain to night;
- “ And that shall lend a kind of easiness
- “ To the next abstinence; the next more easy;
- “ *For use can almost change the stamp of nature*
- “ And either master the devil or throw him out
- “ With wondrous potency.”.....

Religious impressions exert great influence upon the *immoral form of disease*. The morbid excitement is subdued, or diminished by the terror of future punishment; and a virtuous action produced by the pleasing prospect which is held out, of the enjoyment of everlasting happiness. What has been said will point out the propriety, when a reformation is attempted, of first depicting the evils resulting from a destructive career, and then to pourtray the motives to upright conduct in all their alluring beauties.

RECURRENCE TO OLD HABITS.

WHERE the confirmed habits of the system are not attended with much inconvenience, it would be better to endure them than attempt a reformation; and indeed under all circumstances they should be borne with, unless pains be taken to proceed upon the same principles as above directed: for an omission of the accustomed stimulus has been known to produce disagreeable, and even fatal consequences.

A patient of Doctor HOPE was affected with vertigo, coma, &c. to an alarming degree, in consequence of leaving off the use of *snuff*, through complaisance to his wife: The doctor, upon inquiry was informed of the circumstance; he advised the person to return to his former *habit*, which intirely relieved him. The same remark applies to habits acquired by the repeated use of any other stimulus, or to any habitual discharge from the system: and when guided by this principle, the treatment will be easy to understand in all cases.

The application of preternatural stimuli to the healthy body is at all times prejudicial, and often dangerous. They interrupt the usual operations; and until the system accommodates itself to the force of the impression, its condition is more or less precarious. Resorting to the use of snuff has been known to cause *fatuity*—and by leaving it off, health was again restored. This should teach us to be cautious how we attempt innovations of this kind; and also to make inquiry in every case where such a circumstance may be suspected.

The *re-appearance* of those habits which were attendant on the health of the patient, after they have been suspended by diseased action, is likewise a matter of great importance, and should never be neglected, nor overlooked by the practitioner who is ambitious to make an early and correct *prognosis*.

In all dangerous, or critical cases, the friends of the patient demand and expect the opinion of the physician respecting the event; and much of his reputation depends upon the correctness with which it is given. By a nice observance of the healthy habits as they return, he may be enabled to predict a favorable issue, before the negligent attendant can perceive any alteration.

Sometimes, indeed, where the disease has been violent, and of considerable duration, some of the

more remarkable habits have been permanently destroyed, as I have myself witnessed. But otherwise they are not ; and in *all* cases, upon a favorable crisis, it is the light of returning healthy operations which produces the dawn of convalescence.

I might here give a long list of the symptoms which indicate a termination of diseases in health ; but they are so amply detailed by authors, and so judiciously commented upon by Professor RUSH in his lectures, that in me it would be a work of supererogation. Besides, any person who directs his attention that way cannot fail to observe them ; and observing them, he will soon learn to make the proper inference.

There is an additional consideration attending an observance of the first symptoms of convalescence, which is of still greater importance ; and that is, the more early use of restorative, or tonic remedies than is frequently thought advisable by the generality of practitioners. It is a point which requires great judgment, it is true, and mischief may often be done by commencing the stimulating plan too soon ; but I believe a proper attention to the above mentioned circumstances would obviate this evil in great measure.

That a neglect of them has produced evils on the other hand, I have no doubt. How many instances are related of patients breaking over the rules of regimen prescribed by their physicians, and indulging their appetites in what was strictly forbidden, not only with impunity, but with great advantage ! Almost every experienced nurse can relate an instance of such transgression, whereby the patient has evidently accelerated his recovery.

In those cases, the habits of health have returned unattended to by the physician, and the patient, by obeying the early indications of convalescence, has

rendered his recovery more speedy than it would have been by observing the formal regulations of system, under its present imperfections. By disregarding, or counteracting those indications, in the infancy of their return, we may often retard the cure, if not prevent it altogether.

The recovery of convalescent patients may be much promoted by attending to the recommendation of Professor RUSH, of having every object removed from their view which can tend to prolong the disease by association. The sight of old plaisters, pill-boxes, remnants of juleps, &c. exert a very unfavorable influence upon patients of delicate constitution, where the recovery is tedious. They should be taken away as soon as they can be dispensed with; or if practicable, the patient should be removed to another room, where objects will be presented to him which are calculated to make him forget his disease.

The same observations may be extended to the treatment of mental and moral diseases. When the maniac discovers the least sign of returning reason, it should be encouraged and assisted by every humane endeavor*:—And when the prodigal retraces with penitent steps the destructive path in which he has strayed, he should be received with open arms, and kindly directed in the way that leads to peace, prosperity, and happiness.

I have mentioned very few of the instances in which the influence of custom is evinced; but, if the explanation be correct, they can all be understood from what has been said; and may be turned to our advantage in the practice of physic.

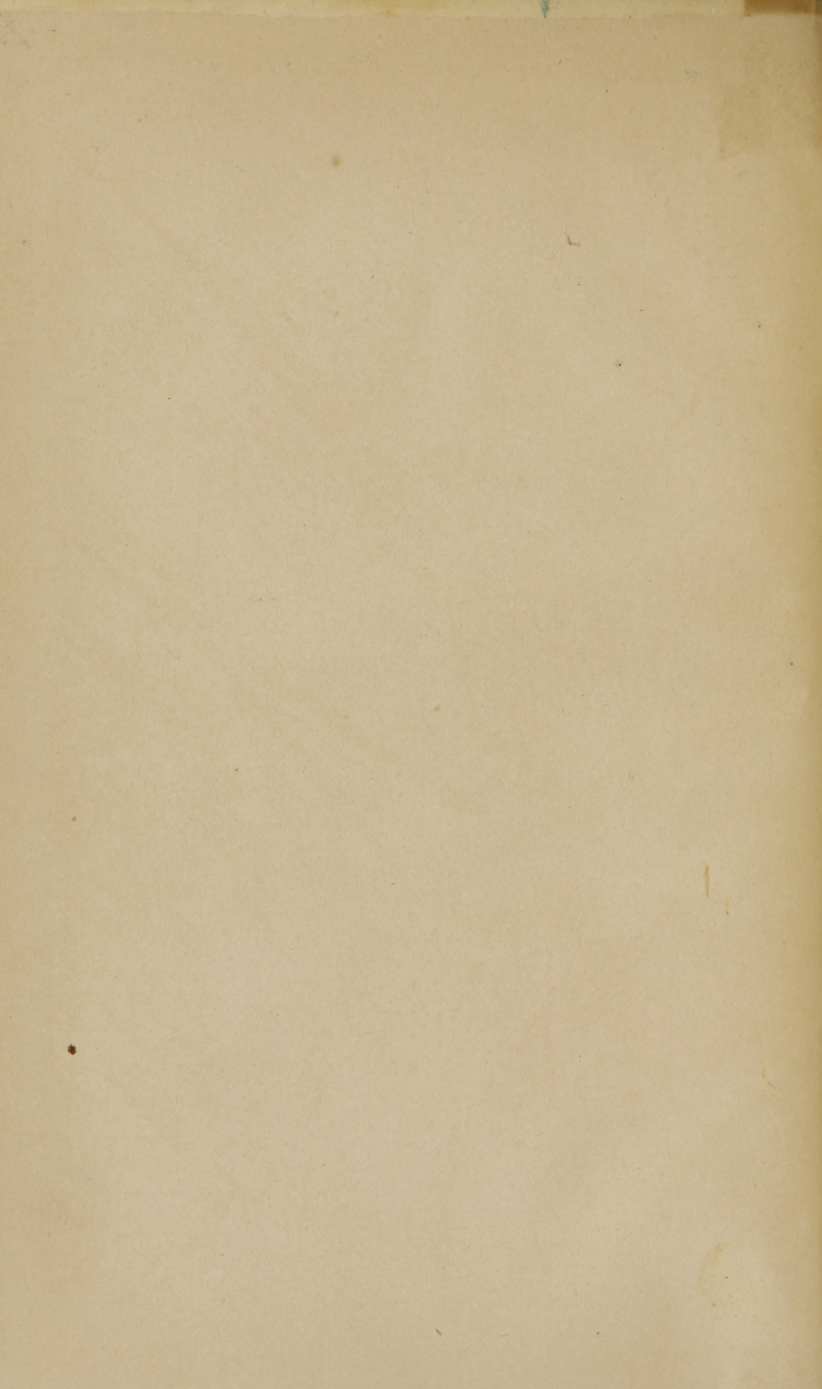
* This is of importance to attend to. Maniacal patients should be released from chains and cells as soon as the case will admit of it. Mania which would otherwise have admitted of a cure, has, I believe, become *habitual* from a continued impression of those objects which were applied during the violence of derangement.

I shall now conclude these desultory observations, which I fear will suffer in the eye of the critic from the uncouth form in which they make their appearance:—But to close without a tribute of respect to the illustrious Professors in this University, would be to suppress the warmest emotion of my heart.

To all of them I am much indebted for their personal kindness and attention. They have individually honored me with that regard for my improvement which at once evinces the patronizing hand of liberal science, and is calculated to ensure a grateful and permanent remembrance.

The enlightened Professor of *Materia Medica*, in particular, has conferred obligations which it will ever be my duty and pride to acknowledge. To his polite and friendly instruction I owe that taste for the study of nature, from which I anticipate the most rational and lasting pleasures of my life. It is his happy attribute to fascinate his pupils with the sciences he so ably teaches.

It is high time for the haughty bigots of the old world to acknowledge and revere the scientific talents of America. No longer can it be said, to the reproach of our country, that all her productions are of an inferior order. As she has produced a WASHINGTON, a FRANKLIN, and a JEFFERSON, to wrest and preserve our rights and liberties from the grasp of transatlantic tyrants,—so has she given us a RITTENHOUSE, a RUSH, and a BARTON, to maintain our dignity and independence in the various branches of Philosophy, Medicine, and Natural History.



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