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Contributors

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Rush, Benjamin, 1746-1813
Cist, Charles, 1738-1805
Steiner, Melchior, -1807?
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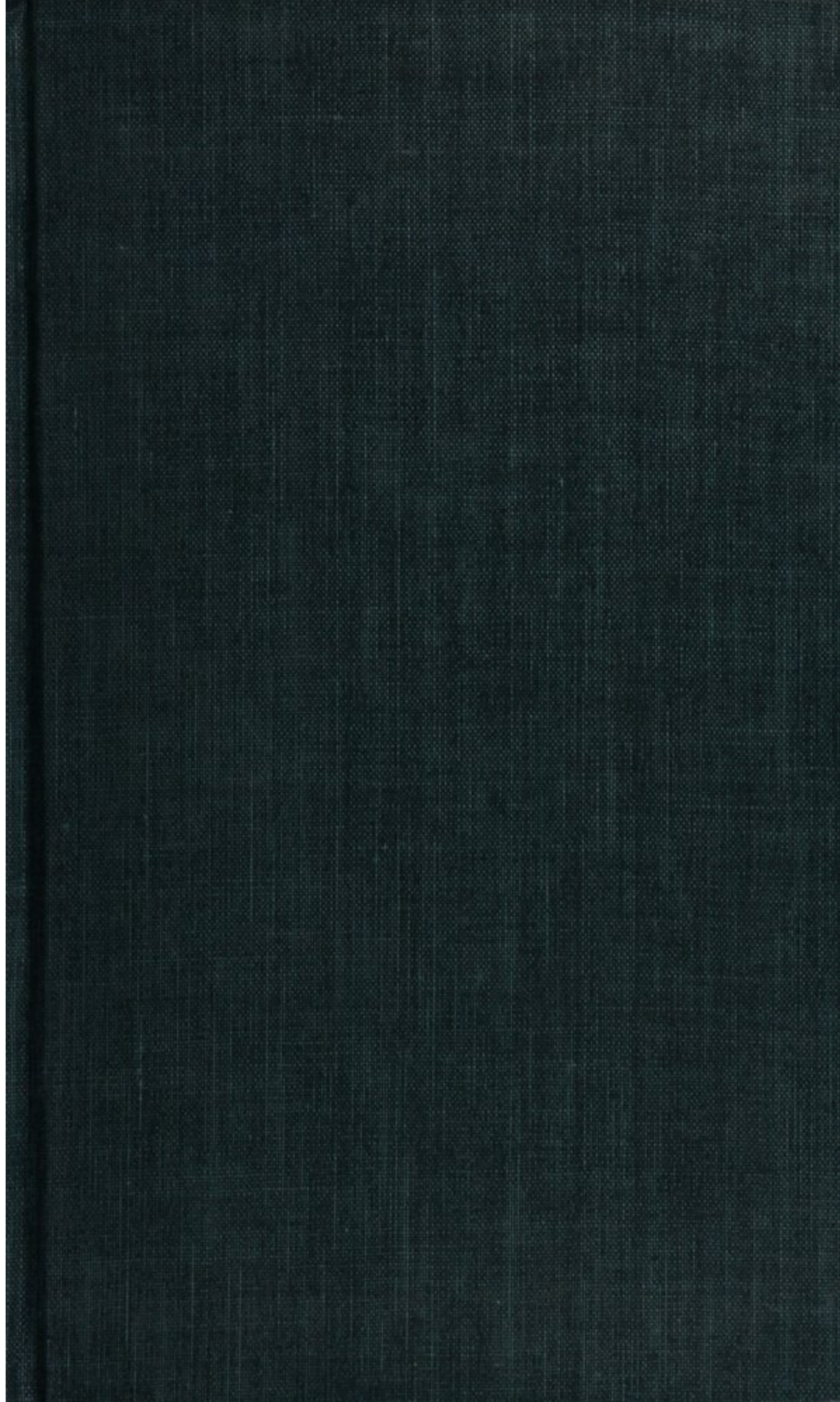
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PHYSICS

THEORY OF THE

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FIRST LINES
OF THE
PRACTICE OF PHYSIC,

For the Use of STUDENTS in the UNIVERSITY
of EDINBURGH.

By WILLIAM CULLEN, M. D.

Professor of the Practice of Physic in the University of Edinburgh;
First Physician to his Majesty for Scotland;
Fellow of the Royal College of Physicians of Edinburgh,
Of the Royal Society of London, &c. &c.

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PART II.

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UNIVERSITY OF TORONTO

PRACTICE OF PHYSICS

For the Use of Students in the University
of Toronto

BY WILLIAM CULLUM M.D.

Author of "The Elements of Physics,"
"The Elements of Chemistry,"
"The Elements of Botany,"
"The Elements of Zoology,"
"The Elements of Geology,"
"The Elements of Astronomy,"
"The Elements of Meteorology,"
"The Elements of Hygiene,"
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Of the Principles of the Human Mind
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FIRST LINES
OF THE
PRACTICE OF PHYSIC.

PART II.
OF NEUROSES, or NERVOUS
DISEASES.

BOOK

MXXXII.

IN a certain view, almost the whole of the diseases of the human body might be called Nervous; but there would be no use for such a general appellation; and, on the other hand, it seems improper to limit the term, in the loose inaccurate manner in which it has been hitherto applied, to *hysteric* and *hypochondriacal* disorders, which are themselves hardly to be defined with sufficient precision.

MXXXIII.

In this place I propose to comprehend, under the title of
NEUROSES, all those preternatural affections of sense or mo-
PART II. A tion,

tion, which are without pyrexia as a part of the primary disease ; and all those which do not depend upon a topical affection of the organs, but upon a more general affection of the nervous system, and of those powers on which sense and motion more especially depend.

MXXXIV.

In this view I establish a class of diseases, under the title of **NEUROSES OR NERVOUS DISEASES**. These I again distinguish, as they consist, either in the interruption and debility of the powers of sense and motion, or in the irregularity with which these powers are exercised ; and accordingly, I establish four orders of this class, under the titles of *Comata*, *Adynamiae*, *Spasmi*, and *Vesaniae*, to be defined, as we proceed to treat of them more particularly.

B O O K

B O O K I.

O f C O M A T A.

MXXXV.

Under this title are comprehended those affections which have been commonly called the Soporose diseases ; but they are most properly distinguished by their consisting in some interruption or suppression of the powers of sense and voluntary motion, or of what are called the animal functions. These are indeed usually suspended in the time of natural sleep ; but in all those diseases, sleep, or even the appearance of it, is not constantly a symptom. Of these diseases I can mark and properly explain two genera only, which come under the titles of *Apoplexy* and *Palsy*.

C H A P T E R I.

O f A P O P L E X Y.

MXXXVI.

APOPLEXY is that disease in which the whole of the external and internal senses, and the whole of the voluntary motions, are in some degree abolished ; while respiration and the action of the heart continue to be performed. By its being an affection of the *whole* of the powers of sense and motion, we distinguish it from *Palsy* ; and by its being with the continuance of respiration, and the action of the heart, it is distinguished from *Syncope*. I have further added to the ordinary

ordinary definition of apoplexy, that the abolition of the powers of sense and motion is in *some degree* only; meaning by this to imply, that, under the title of Apoplexy, are here comprehended those diseases which, as differing from it in degree only, cannot, with a view either to pathology or practice, be properly distinguished from it. Such are the diseases sometimes treated of under the names of *Carus*, *Cataphora*, *Coma*, and *Lethargus*.

MXXXVII.

Apoplexy, in all its different degrees, most commonly affects persons advanced in life, and especially those above sixty years of age. It most usually affects persons of large heads and short necks, persons of a corpulent habit, persons who have passed an indolent life, and used a full diet, and especially those who have indulged in frequent intoxication. Men who have long laboured under a frequent and copious discharge of blood from the hemorrhoidal vessels, upon either the suppression or spontaneous ceasing of that discharge, are particularly liable to be affected with apoplexy.

MXXXVIII.

This disease frequently comes on very suddenly; but in many cases, it is preceded by various symptoms, as, by frequent fits of giddiness, frequent headaches, a hemorrhagy from the nose, some transitory interruption of seeing and hearing, some false vision and hearing, some transitory degree of numbness, or loss of motion in the extremities, some faltering of the tongue in speaking, a loss of memory, a frequent drowsiness, and frequent fits of incubus.

MXXXIX.

An attention to these symptoms, and to the predisponent circumstances, (MXXXVII.) will often enable us to foresee the more violent attacks of this disease.

MXL.

MXL.

When the disease comes on to a considerable degree, it has been frequently observed to have been immediately induced by violent exercise; by a full and long continued inspiration; by a fit of anger; by much external heat, especially that arising from a crowded assembly of people; by warm bathing; by intoxication; by long stooping with the head down; and by a tight ligature about the neck. The disease has been remarked to make its attacks most frequently in the spring season, and especially when the vernal heat suddenly succeeds to the winter cold.

MXLI.

The symptoms denoting the presence of this disease will be sufficiently known from the definition given (MXXXVI.) Though the whole of the body is affected with the loss of sense and motion, it sometimes takes place more upon one side of the body than the other, and, in that case, the side least affected with palsy is sometimes affected with convulsions. In this disease there is often a stertorous breathing; and this has been said to be a mark of the most violent state of the disease; but it is not always present even in the most complete form, or most violent degree of the disease.

MXLII.

The proximate cause of this disease may be, in general, whatever interrupts the motion of the nervous power, from the brain to the muscles of voluntary motion, or from the sentient extremities of the nerves to the brain.

MXLIII.

Such an interruption of the motion of the nervous power may be occasioned, either *by some compression of the origin of the nerves, or by something destroying the mobility of the nervous*

vous power. Both these causes we must treat of more particularly; and, first, of that of compression, seemingly the most frequent occasion of apoplexy, and, perhaps, the occasion of all those apoplexies arising from internal causes.

MXLIV.

The loss of sense and motion, in particular parts of the body, may be occasioned by a compression, either of the origin of certain nerves only, or of the same nerves in some part of their course from the brain to the organs of sense and motion. Such cases of partial compression I am to take no further notice of here; for, as the affection I am to treat of now is general, it must depend upon a very general compression of the origin of the nerves, or medullary portion of the brain; and, therefore, this only is to be considered here.

MXLV.

This compression of the origin of the nerves, or medullary portion of the brain, may be produced in different ways, as,

1. By external violence fracturing, and pressing in, a part of the cranium.

2. By tumours, sometimes soft, sometimes bony, formed in different parts of the brain, or in its membranes, and becoming of such a bulk as to compress the medullary substance of the brain.

3. By the blood accumulated in the blood-vessels of the brain, and distending them to such a degree as to compress the medullary portion of the brain, or the origin of the nerves.

4. By fluids effused in different parts of the brain, or into the cavity of the cranium, and accumulated in such quantity as to occasion the compression we treat of.

And, as to this last, it is to be remarked here, that the fluids effused may be of two kinds, that is, they may be either a portion of the common mass of blood poured out
from

from red vessels, or a portion of serum, or colourless fluid, poured out chiefly by exhalants.

MXLVI.

Of these several causes of compression, the first is not to be considered here, because the removing it does not belong to our province; and the consideration of the second may be omitted, as, in most instances, it is neither to be discerned nor cured by any art yet known. The third and fourth causes of compression, as they are the most frequent, and are also most properly the subjects of our art, so they are those which deserve our particular attention; and we shall therefore endeavour to trace them further back in the series of causes which may produce them.

MXLVII.

Both the states of over-distension, and of effusion, may be produced by whatever increases the afflux and impetus of the blood in the arteries of the head, such as violent exercise, a violent fit of anger, external heat applied, or any strong pressure upon the descending aorta.

MXLVIII.

But both these states of over-distension and of effusion, seem to be more frequently produced by causes that operate by preventing the free return of the venous blood, from the vessels of the head to the right ventricle of the heart.

MXLIX.

The venous vessels of the brain are of a conformation and distribution so peculiar, as lead us to believe, that Nature intended to retard the motion of the blood, and accumulate it in these vessels; and, therefore, even very small additional resistences to the motion of the blood from these, towards the
right

right ventricle of the heart, may readily accumulate the blood in them still more. Such accumulation will most readily happen in advanced life, when the venous system, in general, is in a plethoric state, and when this plethora takes place, especially in the venous vessels of the brain. It will, in like manner, be most apt to occur in persons whose heads are large with respect to the rest of the body, and in persons of a short neck, which is unfavourable to the return of the venous blood from the head. The accumulation of blood in the venous vessels of the brain will also be most likely to occur in persons of a corpulent habit, either because these may be considered to be in a plethoric state, or because obesity gives a compression of the blood-vessels in many parts of the body, and therefore fills those of the brain, which are entirely free from such kind of compression.

ML.

These are the circumstances in the constitution of the body, which, producing a slower motion and return of the venous blood from the vessels of the head, favour an accumulation and distension in them; and we now proceed to mention the several occasional causes, which, in every person, may directly prevent the free return of the blood from the vessels of the head towards the heart. Such are,

1. Stooping down with the head, or other situations of the body in which the head is long kept in a depending state, and in which the gravity of the blood increases the afflux of it by the arteries, and opposes the return of it by the veins.

2. A tight ligature about the neck, which compresses the veins more strongly than the arteries.

3. Any obstruction of a considerable number of the veins carrying the blood from the head, and more especially any considerable obstruction of the ascending vena cava.

4. Any considerable impediment of the free passage of the
the

the blood from the veins into the right ventricle of the heart; and it is commonly by this, and the immediately preceding circumstance, that polypous concretions in the cava, or right ventricle, are found to occasion apoplexy.

5. The return of blood from the veins of the head towards the heart, is especially interrupted by every circumstance that produces a more difficult transmission of the blood through the vessels of the lungs. It is well known, that, at the end of every expiration, some interruption is given to the free transmission of the blood through the lungs, and that this, at the same time, gives an interruption to the motion of the blood from the veins into the right ventricle of the heart. This clearly appears from that regurgitation of the blood in the veins which occasions the alternate heaving and subsiding that is perceived in the brain of living animals, when the cranium is removed, and which is observed to be synchronous with the alternate motions of respiration. From this we readily perceive, that, whatever occasions a difficulty in the transmission of the blood through the lungs, must also interrupt the free return of the venous blood from the vessels of the head, and must therefore favour, and perhaps produce, an accumulation of blood, and an over-distension in these vessels.

It is further to be observed, that, as a very full inspiration continued for any length of time, occasions such an interruption of the free transmission of the blood through the lungs, as produces a suffusion of face, and a manifest turgescence of the blood-vessels of the head and neck; so every full and long continued inspiration may occasion an accumulation of blood in the vessels of the head, to a very considerable degree. Thus, as every strong exertion of the muscular force of the body requires, and is attended with a very full and long continued inspiration, we thence learn why the violent exertions of muscular force have been so often the immediate or exciting causes of apoplexy.

It may also be remarked, that corpulency and obesity seem to operate very much, by occasioning a more difficult transmission of the blood through the vessels of the lungs. It appears that, in fat persons, from the compression of the blood-vessels in many parts of the body, the vessels of the lungs are thereby kept very full; so that, upon the least increase of bodily motion, which sends the blood faster into the lungs, a more frequent and laborious respiration becomes, in such persons, immediately necessary. This shews that, in such persons, the blood is not freely transmitted through the lungs; a circumstance which, as in other instances, must give a constant resistance to the return of blood from the vessels of the head, and therefore favour or occasion an accumulation of blood in them.

Is the motion of the blood, in the vessels of the head, rendered slower by study, care, and anxiety?

MLI.

It is to be observed further, that these several causes (MXLVII.—ML.) of a preternatural fulness in the blood-vessels of the brain, may produce apoplexy in different ways, according as the fulness takes place in the arteries or in the veins.

MLII.

Accordingly, *first*, the increased afflux of blood into the arteries of the brain, and an increased action in these, may either occasion a rupture of their extremities, and thereby an effusion of red blood producing compression; or the same afflux and increased action may occasion an increased exhalation from their extremities, of a serous fluid, which, if not as quickly reabsorbed, may soon accumulate in such quantity as to produce compression.

MLIII.

MLIII.

Secondly, The plethoric state of the venous vessels of the brain may operate in three different ways. 1. The fulness of the veins may give such resistance to the blood flowing into them from the arteries, as to determine the impetus of the blood to be so much greater upon the extremities of the arteries, as to occasion a rupture of these, and consequently an effusion of red blood, or the *Haemorrhagia cerebri*, which HOFFMAN considers as a frequent cause of apoplexy, and which we have before explained in (DCCXXXV.)

2. Whilst the same resistance to the blood flowing from the arteries into the veins, increases the impetus of the blood in the former, this may, without occasioning rupture, increase the exhalation from their exhalant extremities, and produce an effusion of a serous fluid, in the same manner as such resistance in the veins produces hydropic effusions in other parts of the body.

3. If we may suppose, as no lymphatics have been yet discovered in the brain, that the ordinary absorbents are not present there, and that the exhaled fluids are absorbed or taken up by the extremities of the veins, this will shew still more clearly that a resistance to the motion of the blood in the veins of the brain, may readily produce an accumulation of serous fluid in its cavities, and consequently a compression producing apoplexy.

MLIV.

Beside these cases of apoplexy from afflux in the arteries, or resistance in the veins, an effusion of serum may happen from two other causes. The one is a relaxation of the exhalants, as in other cases of hydropic diathesis prevailing in the body; and it is not unusual for a general dropsy to end in apoplexy. The second is an over-proportion of watery parts

parts in the mass of blood, which is therefore ready to run off by the exhalants, as in the case of an ischuria renalis, which, when it proves incurable, very commonly terminates in apoplexy.

MLV.

We have now mentioned the several causes of apoplexy depending upon compression ; and, from the whole, it will appear, that the most frequent of all these causes is a plethoric state, or an accumulation and congestion of blood in the venous vessels of the head, operating, according to its degree, in producing over-distension or effusion. The frequent operation of such a cause will especially appear from a consideration of the predisponent circumstance (MXXXVII) and from the antecedent (MXXXVIII).

MLVI.

From the view I have now given of the causes of apoplexy, it will readily appear that there is a foundation for the common distinction of this disease into the two kinds, of Sanguine and Serous. But this distinction cannot be very usefully applied in practice, as both kinds may often depend on the same cause, that is, a venous plethora, and, therefore, requiring very nearly the same method of cure. The only distinction of the apoplexies from compression, properly to be made, is perhaps the distinction of serous apoplexy into that depending on the plethora mentioned (MXLIX and following;) and that depending upon hydropic diathesis, or an over-proportion of water in the blood, (MLIV); the former causes giving a proper idiopathic, the latter giving only a symptomatic disease.

MLVII.

Beside the causes now mentioned, occasioning apoplexy
by

by compression, I allege there are other causes producing the same disease, by directly destroying the mobility of the nervous power. Such causes seem to be the mephitic air arising from fermenting liquors, and from many other sources; the fumes arising from burning charcoal; the fumes of mercury, of lead, and of some other metallic substances; opium; alcohol; and many other narcotic poisons. To all which I would add the power of cold, of concussion, of electricity, and of certain passions of the mind.

MLVIII.

None of these poisons, or noxious powers, seem to kill by acting first upon the organs of respiration, or upon the sanguiferous system; and I believe their immediate and direct action to be upon the nervous power, destroying its mobility, because the same poisons shew their power in destroying the irritability of muscles and of the nerves connected with them, when both these are entirely separated from the rest of the body.

MLIX.

It appears to me probable, that the apoplectic state, in some degree accompanying, and almost always succeeding an epileptic paroxysm, does not depend upon compression, but upon a certain state of immobility of the nervous power, produced by certain circumstances in the nervous system itself, which seem to be communicated from one part of the body to another and at length to the brain.

MLX.

The same observation may be made with respect to many instances of hysteric paroxysm; and the circumstances, both of epileptic and hysteric paroxysms, ending in coma, or a degree of apoplexy, lead me to think, that the apoplexy proceeding

ceding from retrocedent or atonic gout, is of the same kind, that is, it depends upon an immobility of the nervous power, and not upon compression.

MLXI.

It may indeed happen, that the apoplectic and gouty pre-disposition will often concur in the same person, and it may consequently happen, that the apoplexy, coming upon gouty persons, may depend upon compression ; and, therefore, upon dissection, may discover the circumstances of such a cause preceding. But, in many cases of apoplexy following a retrocedent or atonic gout, no such antecedent or concomitant circumstances, as commonly occur in cases of compression, do distinctly or clearly appear, while others present themselves, which point out an affection of the nervous power alone.

MLXII.

With respect, however, to the circumstances which may appear upon the dissection of persons dead of apoplexy, there may be some fallacy in judging from those circumstances of the cause of the disease. Whatever takes off or diminishes the mobility of the nervous power, may very much retard the motion of the blood in the vessels of the brain, and that perhaps to the degree of increasing exhalation, or even of occasioning rupture and effusion ; so that, in such cases, the marks of compression may appear, upon dissection, though the disease had truly depended on causes destroying the mobility of the nervous power. This seems to be illustrated and confirmed from what occurs in many cases of epilepsy. In some of these, after a repetition of fits, recovered from in the usual manner, a fatuity is induced, which commonly depends upon a watery inundation of the brain ; and in other cases of epilepsy, when fits have been often repeated without any permanent consequence, there happens at length a fatal paroxysm,

paroxysm, and, upon dissection, it appears, that an effusion of blood had happened. This, I think, is to be considered as a cause of death, not a cause of the disease; for, in such cases, I suppose that the disease had diminished the action of the vessels of the brain, and thereby given occasion to a stagnation, which produced the appearances mentioned. And, I apprehend, the same reasoning will apply to the cases of retrocedent gout, which, by destroying the energy of the brain, may occasion such a stagnation as will produce rupture, effusion, and death; although, in such a case, the appearances, upon dissection, might lead us to think that the apoplexy had depended upon compression.

MLXIII.

The several causes mentioned in (MLVII.) are often of such power as to occasion immediate death, and therefore have not commonly been taken notice of, as affording instances of apoplexy; but, as the operation of the whole of these causes is similar and analogous, and as, in most instances of the operation of these causes, an apoplectic state is manifestly produced, there can be little doubt in considering most of the instances of their effects as cases of apoplexy, and, therefore, such as fall properly under our consideration here.

MLXIV.

This disease of apoplexy is sometimes entirely recovered from, but more frequently it ends in death, or in a hemiplegia. Even when an attack of the disease is recovered from, we generally find it disposed to return; and the repeated attacks of it almost always, sooner or later, bring on the events we have mentioned.

MLXV.

MLXV.

These several events of health, death, or another disease, may be expected and foreseen from a consideration of the predisponent circumstances (MXXXVII.); of the antecedent symptoms (MXXXVIII.); of the exciting causes (MXL.); of the violence and degree of the symptoms when the disease has come on (MXLI.); of the duration of the disease; and of the effects of the remedies employed.

MLXVI.

From the great danger attending this disease when it has come on (MLXIV.), it will readily appear that our care should be chiefly directed to the prevention of it. This I think may be often done by avoiding the remote and exciting causes; and how this may be accomplished, will be obvious from the enumeration of those causes given above (MXL.). But it will also appear from what is said above, that the prevention of this disease will especially depend upon obviating the predisponent cause; and this seems, in most cases, to be a plethoric state of the blood-vessels of the brain, which may be obviated by different means; and, in the first place, by a proper management of exercise and diet.

MLXVII.

The exercise ought to be such as may support the perspiration, without heating the body, or hurrying respiration, and, therefore, commonly, by some mode of gestation. In persons not liable to frequent fits of giddiness, and who are accustomed to riding on horseback, this exercise is, of all others, the best. Walking, and some other modes of bodily exercise, may be employed with the restrictions just now mentioned; but, in old men, and in men of corpulent habits, bodily exercise ought always to be very moderate.

MLXVIII.

MLXVIII.

In persons who pretty early in life shew the predisposition to apoplexy, it is probable that a low diet, with a good deal of exercise, might entirely prevent the disease; but, in persons who are advanced in life before they think of taking precautions, and are, at the same time, of a corpulent habit, which generally supposes their having been accustomed to full living, it might not be safe to put them upon a low diet; and it may be enough that their diet be rendered more moderate than usual, especially with respect to animal food; and that, at supper, such food should be abstained from altogether.

In drinking, all heating liquors are to be abstained from, as much as former habits will allow, and the smallest approach to intoxication is to be carefully shunned. The large use of tobacco, in any shape, may be hurtful; and, except in cases where it has been accustomed to occasion a copious excretion from the head, the interruption of which might not be safe, the use of tobacco should be avoided; and even in the circumstance mentioned, where it may be in some measure necessary, the use of it should at least be rendered as moderate as possible. For ordinary draught, small-beer is to be preferred to plain water, as the latter is more ready to occasion costiveness, which, in apoplectic habits, is to be carefully avoided.

MLXIX.

Evacuations by stool may certainly contribute to relieve the plethoric state of the vessels of the head; and, upon an appearance of any unusual turgescence in these, purging will be very properly employed; but, when no such turgescence appears, the frequent repetition of large purging might weaken the body too much; and, for preventing apoplexy, it may, for the most part, be enough to keep the belly regular,

and rather open, by gentle laxatives. In the summer season, it may be useful to drink, every morning, of a gentle laxative mineral water, but never in large quantity.

MLXX.

In the case of a plethoric state of the system, it might be supposed that blood-letting would be the most effectual means of diminishing the plethora, and of preventing its consequences; and, when an attack of apoplexy is immediately threatened, blood-letting is certainly the remedy to be depended on, and blood should be taken largely, if it can be done, from the jugular vein, or temporal artery. But, when no threatening turgescence appears, the obviating plethora is not judiciously attempted by blood-letting, as we have endeavoured to demonstrate above (DCCX.). In such circumstances, leeches applied to the temples, or scarifications of the hind-head, may be more safe than general bleedings.

MLXXI.

When there are manifest symptoms of a plethoric state in the vessels of the head, a seton, or pea-issue, near the head, may be very useful in obviating any turgescence of the blood.

MLXXII.

These are the means to be employed for preventing the apoplexy which might arise from a plethoric state of the vessels of the brain; and if, at the same time, great care is taken to avoid the exciting causes (MXL.), these means will be generally successful.

In the cases proceeding from other causes (MLVII.), as their application is so immediately succeeded by the disease, they hardly allow any opportunity for prevention.

MLXXIII.

For the CURE of apoplexy from internal causes, the usual
violence

violence and fatality of it require, that the proper remedies be immediately and largely employed.

The patient is to be kept as much as possible in somewhat of an erect posture, and in cool air, and, therefore, neither in a warm chamber, nor covered with bed-clothes, nor surrounded with a croud of people.

MLXXIV.

In all cases of a full habit, and where the disease has been preceded by marks of a plethoric state, blood-letting is to be immediately employed, and very largely. In my opinion, it will be most effectual when the blood is taken from the jugular vein; but, if that cannot be properly done, it may be taken from the arm. The opening of the temporal artery, when a large branch can be opened, so as suddenly to pour out a considerable quantity of blood, may also be an effectual remedy; but, in execution, it is more uncertain, and may be inconvenient. It may be, in some measure, supplied by cupping and scarifying on the temples or hind-head. This, indeed, should seldom be omitted; and these scarifications are always preferable to the application of leeches.

With respect to every mode of blood-letting, this is to be observed, that when, in any case of apoplexy, it can be perceived, that one side of the body is more affected with the loss of motion than the other, the blood-letting, if possible, should be made on the side opposite to that most affected.

MLXXV.

Another remedy to be employed is purging, to be immediately attempted by acrid clysters, and, at the same time, if any power of swallowing remain, by drastic purgatives given by the mouth. These however, lest they may excite vomiting, should be given in divided portions at proper intervals.

MLXXVI.

MLXXVI.

Vomiting has been commended by some practitioners and writers ; but, apprehending that this might impel the blood with too much violence into the vessels of the head, I have never employed it.

MLXXVII.

Another remedy to be immediately employed is blistering ; and I judge that this is more effectual when applied to the head, or near to it, than when it is applied to the lower extremities. This remedy I do not consider as a stimulant, or capable of making any considerable revulsion ; but, applied to the head, I suppose it useful in taking off the hæmorrhagic disposition so often prevailing there.

MLXXVIII.

It has been usual with practitioners, together with the remedies already mentioned, to employ stimulants of various kinds ; but I am disposed to think them generally hurtful ; and they must be so, wherever the fulness of the vessels, and the impetus of the blood in them is to be diminished. Upon this principle it is, therefore, agreed, that stimulants are absolutely improper in what is supposed to be a sanguine apoplexy, but they are commonly supposed to be proper in the serous. But, if we be right in alleging that this also commonly depends upon a plethoric state of the blood-vessels of the brain, stimulants must be equally improper in the one case as in the other.

MLXXIX.

It may be argued from the almost universal employment of stimulants, and sometimes with seeming advantage, that they are not so hurtful as our notion of the causes of apoplexy

plexy leads us to suppose. But this argument is, in several respects, fallacious and particularly in this, that, in a disease which, under every management, often proceeds so quickly to a fatal termination, the effects of remedies are not with certainty to be easily ascertained.

MLXXX.

I have now mentioned the several remedies which I think adapted to the cure of apoplexy arising from compression, and should next proceed to treat of the cure of apoplexy arising from those causes that directly destroy the mobility of the nervous power. But many of those causes are often so powerful, and thereby so suddenly fatal in their effects, as hardly to allow of time for the use of remedies; and such cases have been so seldom the subjects of practice, that the proper remedies are not so well ascertained as to enable me to say much of them here.

MLXXXI.

When, however, the application of the causes (MLVII.) is not so powerful as immediately to kill, and induces only an apoplectic state, some efforts are to be made to obviate the consequences, and to recover the patient; and even in some cases where the causes referred to, from the ceasing of the pulse, and of respiration, and from a coldness coming upon the body, have induced an appearance of death; yet, if these appearances have not continued long, there may be means of recovering the persons to life and health. I cannot, indeed, treat this subject completely; but, for the cure of apoplexy, from several of the causes mentioned (MLVII.), shall offer the following general directions.

1. When a poison capable of producing apoplexy has been recently taken into the stomach, if a vomiting spontaneously arises, it is to be encouraged, or if it does not spontaneously

taneously come on, a vomiting is to be immediately excited by art, in order that the poison may be thrown out as quickly as possible. If, however, the poison has been taken into the stomach long before its effects have appeared, we judge that, upon their appearance, the exciting of vomiting will be useless, and may, perhaps, be hurtful.

2. When the poison taken into the stomach, or otherwise applied to the body, has already induced an apoplectic state, as those causes do commonly at the same time occasion a stagnation, or slower motion of the blood in the vessels of the brain and of the lungs, so it will generally be proper to relieve this congestion by taking some blood from the jugular vein, or from the veins of the arm.

3. Upon the same supposition of a congestion in the brain or lungs, it will generally be proper to relieve it by means of acrid clysters producing some evacuation from the intestines.

4. When these evacuations by blood-letting and purging have been made, the various stimulants which have been commonly proposed in other cases of apoplexy, may be employed here with more probability and safety. One of the most effectual means of rousing apoplectics of this kind seems to be throwing cold water on several parts of the body, or washing the body all over with it.

5. When the poison producing apoplexy happens to be so powerful as very soon to occasion the appearances of death above mentioned, yet if this state has not continued long, the patient may often be recoverable, and the recovery is to be attempted by the same means that are directed to be employed for the recovery of drowned persons, and which are now commonly known.

C H A P. II.

CHAP. II.

OF PALSY.

MLXXXII.

PALSY is a disease consisting in a loss of the power of voluntary motion, but affecting certain parts of the body only, and by this it is distinguished from apoplexy (MXXXVI.) One of the most frequent forms of palsy is when it affects the whole of the muscles on one side of the body, and then the disease is named *Hemiplegia*.

MLXXXIII.

The loss of the power of voluntary motion may be owing either to a morbid affection of the muscles, or organs of motion, by which they are rendered unfit for motion, or to an interruption of the influx of the nervous power into them, which is always necessary to the motions of those that are under the power of the will. The disease, from the first of these causes, as consisting in an organic and local affection, we refer entirely to the class of local diseases. I am here to consider that disease only which depends upon the interrupted influx of the nervous power; and it is to this disease alone I would give the appellation of *Palsy*. A disease depending on an interrupted influx of the nervous power may indeed often appear as merely a local affection; but, as it depends upon an affection of the most general powers of the system, it cannot be properly separated from the systematic affections.

MLXXXIV.

In palsy, the loss of motion is often accompanied with a
loss

loss of sense ; but, as this is not constantly the case, and as, therefore, the loss of sense is not an essential symptom of palsy, I have not taken it into my definition (MLXXXII.) ; and I shall not think it necessary to take any further notice of it in this treatise, because, in so far as it is in any case a part of the paralytic affection, it must depend upon the same causes, and will be cured also by the very same remedies.

MLXXXV.

The palsy then, or loss of motion, which is to be treated of here, may be distinguished as of two kinds ; one of them depending upon an affection of the origin of the nerves in the brain, and the other depending upon an affection of the nerves in some part of their course between the brain and the organs of motion. Of the latter, as appearing in a very partial affection, I am not to speak particularly here, but shall treat of the more general paralytic affections, and especially of the hemiplegia (MLXXXII.). At the same time, expecting that what I shall say upon this subject will readily apply to both the pathology and practice of the more limited cases.

MLXXXVI.

The hemiplegia (MLXXXII.) usually begins with, or follows, a paroxysm of apoplexy ; and when the hemiplegia, after subsisting for some time, becomes fatal, it is commonly by passing again into the state of apoplexy. The relation, therefore, or affinity between the two diseases, is sufficiently evident, and is further strongly confirmed by this, that the hemiplegia comes upon persons of the same constitution, (MXXXVII.) and is preceded by the same symptoms (MXXXVIII.) that have been taken notice of with respect to apoplexy.

MLXXXVII.

MLXXXVII.

When a fit of apoplexy has gone off, and there remains a state of palsy appearing as a partial affection only, it might perhaps be supposed that the origin of the nerves is in a great measure relieved; but as, at the same time, there commonly remain the symptoms of loss of memory, and of some degree of fatuity, these I think shew that the organ of intellect, or the common origin of the nerves, is still considerably affected.

MLXXXVIII.

Thus, the hemiplegia, from its evident connection with, and near relation to apoplexy, may be properly considered as depending upon like causes; and, consequently, either upon a compression preventing the flow of the nervous power from the brain into the organs of motion, or upon the application of narcotic powers (MLVII.) rendering the nervous power unfit to flow in the usual and proper manner. We begin with considering the cases depending upon compression.

MLXXXIX.

The compression occasioning hemiplegia may be of the same kind, and of all the different kinds that produce apoplexy, and therefore, either from tumor, over-distension, or effusion. The existence of tumor giving compression, may often be better discerned in the case of palsy than in that of apoplexy, as its effects often appear, at first, in a very partial affection.

MXC.

The other modes of compression, that is, of over-distension and effusion, may, and commonly do take place, in hemiplegia, and when they do, their operation here differs

PART II.

D

from

from that producing apoplexy, by its effects being partial, and on one side of the body only.

It may seem difficult to conceive that an over-distension can take place in the vessels on one side of the brain only, but it may be understood; and in the case of a palsy which is both partial and transitory, it is perhaps the only condition of the vessels of the brain that can be supposed. In a hemiplegia, indeed, which subsists for any length of time, there is probably always an effusion, either sanguine or serous; but it is likely that even the latter must be supported by a remaining congestion in the blood-vessels.

MXCI.

That a sanguine effusion can happen without becoming very soon general, and thereby occasioning apoplexy and death, may also seem doubtful; but dissections prove that in fact it does happen occasioning palsy only; though it is true that this more commonly depends upon an effusion of serous fluid, and of this only.

MXCII.

Can a palsy occasioned by compression remain, though the compression be removed?

MXCIII.

From what has been said (MLXXXVI.), it will be obvious that the hemiplegia may be prevented by all the several means proposed (MLXVI—MLXXII.) for the prevention of apoplexy.

MXCIV.

Upon the same grounds, the CURE of palsy must be very much the same with that of apoplexy (MLXXIII.—MLXXX.), and when palsy has begun as an apoplexy, it is presumed

presumed that, before it is to be considered as palsy, all those several remedies have been employed. Indeed, even when it happens that, on the first attack of the disease, the apoplectic state is not very complete, and that the very first appearance of the disease is as a hemiplegia, the affinity between the two diseases (MLXXXVI.), is such as to lead to the same remedies in both cases. This is certainly proper in all those cases in which we can with much probability impute the disease to compression; and it is indeed seldom that a hemiplegia comes on but with a considerable affection of the internal, and even of the external senses, together with other marks of a compression of the origin of the nerves.

MXCV.

Not only, however, where the disease can be imputed to compression, but even where it can be imputed to the application of narcotic powers, if the disease come on with the appearances mentioned at the end of last paragraph, it is to be treated in the same manner as an apoplexy by (MLXXIII.—MLXXIX.).

MXCVI.

The cure of hemiplegia, therefore, on its first attack, is the same, or very nearly the same with that of apoplexy; and it seems requisite that it should be different only, 1. When the disease has subsisted for some time. 2. When the apoplectic symptoms, or those marking a considerable compression of the origin of the nerves, are removed; and particularly, 3. When there are no evident marks of compression, and it is at the same time known, that narcotic powers have been applied.

MXCVII.

In all these cases, the question arises, whether stimulants
may

may be employed, or how far the cure may be entirely trusted to these remedies? Upon this question, with respect to apoplexy, I have offered my opinion in (MLXXVIII.); and, with respect to hemiplegia, I am of opinion, that stimulants are equally dangerous as in the cases of complete apoplexy, and particularly, 1. In all the cases of hemiplegia, succeeding to a paroxysm of complete apoplexy. 2. In all the cases, coming upon persons of the temperament mentioned in (MXXXVII.) and after the same antecedents as those of apoplexy (MXXXVIII.); and, 3. In all the cases, coming on with some apoplectic symptoms.

MXCVIII.

It is, therefore, in the cases (MXCVI.) only, that stimulants are properly admissible; and even in the two first of these cases, wherein a plethoric state of the blood-vessels of the brain may have brought on the disease; wherein a disposition to that state may still continue; and wherein even some degree of congestion may still remain; the use of stimulants must be an ambiguous remedy, so that perhaps it is in the third of these cases only, that stimulants are clearly indicated and admissible.

MXCIX.

These doubts, with respect to the use of stimulants, may perhaps be overlooked or disregarded by those who allege that stimulants have been employed with advantage even in those cases (MXCVII.) in which I have said they ought to be avoided.

MC.

To compromise this contrariety of opinion, I must observe that, even in the cases of hemiplegia depending upon compression, although the origin of the nerves be so much compressed,

pressed, as to prevent so full a flow of the nervous power, as is necessary to muscular motion, yet it appears from the power of sense still remaining, that the nerves are, to a certain degree, still pervious; and, therefore, it is possible that stimulants applied may excite the energy of the brain so much, as in some measure to force open the compressed nerves, and to shew some return of motion in paralytic muscles. Nay, further, it may be allowed, that, if these stimulants be such as act more upon the nervous than upon the sanguiferous system, they may possibly be employed without any very hurtful consequence.

MCI.

But still it will be obvious, that, although certain stimulants act chiefly upon the nervous system, yet they also act always, in some measure, upon the sanguiferous; so that, when they happen to have the latter effect in any considerable degree, they may certainly do much harm; and in a disease which they do not entirely cure, the mischief arising from them may not be discerned.

MCII.

Whilst the employment of stimulants is so often an ambiguous practice, we may perhaps go some length towards ascertaining the matter, by considering the nature of the several stimulants which may be employed, and some of the circumstances of their administration. With this view, therefore, I shall now mention the several stimulants that have been commonly employed, and offer some remarks upon their nature and use.

MCIII.

They are in the first place to be distinguished as external or internal. Of the first kind we again distinguish them as they

they are applied to particular parts of the body only, or as they are more generally applied to the whole system. Of the first kind are,

A. The concentrated acids of vitriol or nitre, involved, however, in oily or unctuous substances, which may obviate their corrosive, without destroying their stimulant power.

B. The volatile alkaline spirits, especially in their caustic state, but involved also in oils, for the purposes just now mentioned.

C. The same volatile spirits are frequently employed by being held to the nose when they prove a powerful stimulus to the nervous system; but it is, at the same time, probable, that they may prove a strong stimulant to the blood-vessels of the brain.

D. A brine, or a strong solution of sea-salt.

E. The essential oils of aromatic plants, or of their parts.

F. The essential oils of turpentine, or of other such resinous substances.

G. The distilled oils of amber, or of other bituminous fossils.

H. The rectified empyreumatic oils of animal or vegetable substances.

I. Various vegetable acids, particularly mustard.

K. The acrid matter found in several insects, particularly cantharides.

Some of these stimulants may be either applied in substance or may be dissolved in ardent spirits, by which their stimulant power may be encreased, or more conveniently applied.

MCIV.

The greater part of the substances now enumerated shew their stimulant power by inflaming the skin of the part to which they are applied; and when their application is so long continued as to produce this effect, it interrupts the continuance of their use, and the inflammation of the part does

does not seem to do so much good, as the frequent repetition of a more moderate stimulus.

MCV.

Analogous to these stimulants is the stinging of nettles, which has been frequently commanded.

Among the external stimulants, the mechanical one of friction with the naked hand, the flesh-brush, or flannel, is justly to be reckoned. Can the impregnation of the flannels to be employed, with the fumes of burning mastic, olibanum, &c. be of any service?

MCVI.

With respect to the whole of these external stimulants, it is to be observed, that they affect the part to which they are applied much more than they do the whole system, and they are therefore indeed safer in ambiguous cases; but, for the same reason, they are of less efficacy in curing a general affection.

MCVII.

The external applications which may be applied to affect the whole system, are the powers of heat and cold, and of electricity.

Heat, as one of the most powerful stimulants of the animal oeconomy has been often employed in palsies, especially by warm bathing. But, as both by stimulating the solids and rarefying the fluids, this proves a strong stimulus to the sanguiferous system, it is often an ambiguous remedy, and has frequently been manifestly hurtful in palsies depending upon a congestion of blood in the vessels of the brain. The most certain, and therefore, the most proper use of warm bathing in palsies, seems to be in those that have been occasioned by the application of narcotic powers. Are the natural

tural baths more useful by the matters with which they may be naturally impregnated?

MCVIII.

Cold applied to the body for any length of time is always hurtful to paralytic persons; but, if it be not very intense, nor the application long continued, and if, at the same time, the body be capable of a brisk reaction, such an application of cold is a powerful stimulant of the whole system, and has often been useful in curing palsy. But, if the power of reaction in the body be weak, any application of cold may prove very hurtful.

MCIX.

Electricity, in a certain manner applied, is certainly one of the most powerful stimulants that can be employed to act upon the nervous system of animals; and, therefore, much has been expected from it in the cure of palsy. But, as it stimulates the sanguiferous, as well as the nervous system, it has been often hurtful in palsies depending upon a compression of the brain, and especially when it has been so applied as to act upon the vessels of the head. It is safer when its operation is confined to particular parts somewhat remote from the head; and, further, as the operation of electricity, when very strong, can destroy the mobility of the nervous power, I am of opinion, that it is always to be employed with caution, and that it is only safe when applied with moderate force, and when confined to certain parts of the body remote from the head. It is also my opinion, that its good effects are to be expected from its repetition, rather than from its force, and that it is particularly suited to the cure of those palsies which have been produced by the application of narcotic powers,

MCX.

MCX.

Amongst the remedies of palsy, the use of exercise is not to be omitted. In a hemiplegia, bodily exercise cannot be employed, and in a more limited affection, if depending upon a compression of some part of the brain, it would be an ambiguous remedy; but, in all cases where the exercises of gestation can be employed, they are proper; as, even in cases of compression, the stimulus of such exercise is moderate, and therefore safe; and, as it always determines to the surface of the body, it is a remedy in all cases of internal congestion.

MCXI.

The internal stimulants employed in palsy are various, but chiefly the following.

a. The volatile alkaline salts, or spirits, as they are called, are very powerful and diffusive stimulants, operating especially on the nervous system; and even although they operate on the sanguiferous, yet, if given in frequently repeated small, rather than in large doses, their operation being transitory, is tolerably safe.

b. The vegetables of the class named Tetradinamia are many of them powerful diffusive stimulants; and, at the same time, as quickly passing out of the body, and, therefore, of transitory operation, they are often employed with safety. As they commonly prove diuretic, they may, in this way, also be of service in some cases of serous palsy.

c. The various aromatics, whether employed in substance, in tincture, or in their essential oils, are often powerful stimulants; but being more adhesive and inflammatory than those last mentioned, they are, therefore, in all ambiguous cases, less safe.

d. Some other acrid vegetables have been employed, but we are not well acquainted with their peculiar virtues, or proper use.

e. Some resinous substances, as guaiacum, and the terebinthinate substances, or their essential oils, have been, with some probability, employed, but they are apt to become inflammatory. Decoctions of guaiacum, and some other sudorifics, have been directed to excite sweating by the application of the fumes of burning spirit of wine in the laconicum, and have, in that way, been found useful.

f. Many of the foetid antispasmodic medicines have been frequently employed in palsy; but I do not perceive in what manner they are adapted to the cure of this disease, and I have not observed their good effects in any cases of it.

g. Bitters, and the Peruvian bark, have also been employed, but with no propriety or advantage that I can perceive.

MCXII.

With respect to the whole of these internal stimulants, it is to be observed, that they seldom prove very powerful; and wherever there is any doubt concerning the nature or state of the disease, they may readily do harm, and are often, therefore, of ambiguous use.

B O O K II.

O f A D Y N A M I Æ ;

O R,

DISEASES CONSISTING IN A WEAKNESS, OR
LOSS OF MOTION, IN EITHER THE VITAL
OR NATURAL FUNCTIONS.

C H A P. I.

O f S Y N C O P E, or F A I N T I N G.

MCXIII.

THIS is a disease in which the pulse and respiration become considerably weaker than usual, or in which, for a certain time, these functions cease altogether.

MCXIV.

Physicians having observed that this affection occurs in different degrees, have endeavoured to distinguish these by different appellations ; but, as it is not possible to ascertain these different degrees with any precision, so there can be no strict propriety in employing those different names, and I shall here comprehend the whole of the affections of this kind under the title of Syncope.

MCXV.

MCXV.

This disease sometimes comes on suddenly to a considerable degree, but sometimes, also, it comes on gradually; and, in the latter case, it usually comes on with a sense of languor, and of anxiety about the heart, accompanied at the same time, or immediately after, with some giddiness, dimness of sight, and sounding in the ears. Together with these symptoms, the pulse and respiration become weak, and often so weak that the pulse is scarcely to be felt, or the respiration to be perceived, and sometimes these functions, for a certain time, cease altogether. While these things happen, the face, and whole surface of the body, become pale, and in some measure cold, more or less, according to the degree and duration of the paroxysm. Very commonly, at the beginning of this, and during its continuance, a cold sweat appears, and, perhaps, continues on the fore-head, as well as on some other parts of the body. During the paroxysm, the animal functions, both of sense and motion, are always in some degree impaired, and very often entirely abolished. A paroxysm of syncope is often, after some time, spontaneously recovered; and this recovery is generally attended with a sense of much anxiety about the heart.

MCXVI.

Fits of syncope are frequently attended with, or end in vomiting, and sometimes with convulsions, or an epileptic fit.

MCXVII.

These are the phænomena in this disease; and, from every view of the greatest part of these, there cannot be a doubt that the proximate cause of this disease is a very weak, or a total ceasing of the action of the heart. But it may be a very difficult matter to explain in what manner the several remote causes

causes operate in producing that proximate cause of it. This, however, I shall attempt, though with that diffidence which becomes me in attempting a subject that has not hitherto been treated with much success.

MCXVIII.

The remote causes of syncope may, in the first place, be referred to two general heads. The one is, of those causes existing and acting in the brain, or in parts of the body remote from the heart, but acting upon this by the intervention of the brain. The other general head of the remote causes of syncope, is of those existing in the heart itself, or in parts very immediately connected with it, and thereby acting more directly upon it in producing this disease.

MCXIX.

In entering upon the consideration of the first set of those causes (MCXVIII.), I must assume a proposition which I suppose to be fully established in Physiology. It is this: That, though the muscular fibres of the heart be endowed with a certain degree of inherent power, they are still, for such action as is necessary to the motion of the blood, very constantly dependent upon a nervous power sent into them from the brain. At least, this is evident, that there are certain powers acting primarily, and perhaps only in the brain, which influence, and variously modify the action of the heart. I suppose, therefore, a force very constantly, during life, exerted in the brain, with respect to the moving fibres of the heart, as well as of every part of the body, which force we shall call the Energy of the Brain, and which we suppose may be, on different occasions, stronger or weaker with respect to the heart.

MCXX.

Admitting these propositions, it will be obvious, that, if
we

we can explain in what manner the first set of remote causes (MCXVIII.) diminish the energy of the brain, we shall, at the same time, explain in what manner these causes occasion a syncope.

MCXXI.

To do this, we observe, that one of the most evident of the remote causes of syncope is a hæmorrhagy, or an evacuation of blood, whether spontaneous or artificial. And, as it is very manifest, that the energy of the brain depends upon a certain fulness and tension of its blood-vessels, for which nature seems to have industriously provided by such a conformation of those blood-vessels as retards the motion of the blood, both in the arteries and veins of the brain, so we can readily perceive, that evacuations of blood, by taking off the fulness and tension of the blood-vessels of the brain, and thereby diminishing its energy, with respect to the heart, may occasion a syncope. In many persons, a small evacuation of blood will have this effect; and, in such cases, there is often a clear proof of the manner in which the cause operates, from this circumstance, that the effect can be prevented by laying the body in a horizontal posture, which, by favouring the afflux of the blood by the arteries, and retarding the return of it by the veins, preserves the necessary fulness of the vessels of the brain.

It is farther to be remarked here, that not only an evacuation of blood occasions syncope, but that even a change in the distribution of the blood, whereby a larger portion of blood flows into one part of the system of blood-vessels, and, consequently, less into others, may occasion a syncope. It is thus we explain the syncope that readily occurs upon the evacuation of hydropic waters, which had before filled the cavities of the abdomen or thorax. It is thus, also, we explain the syncope that sometimes happens on blood-letting, but which does not happen till the ligature which had been employed

employed is untied, and admits a larger afflux of blood into the blood-vessels of the arm. Both these cases of syncope shew, that an evacuation of blood does not always occasion the disease by any general effect on the whole system, but often merely by taking off the requisite fulness of the blood-vessels of the brain.

MCXXII.

The operation of some others of the remote causes of syncope may be explained on the following principles. Whilst the energy of the brain is, upon different occasions, manifestly stronger or weaker, it seems to be with this condition, that a stronger exertion of it is necessarily followed by a weaker state of the same. It seems to depend upon this particular in the constitution of the nervous power, that the ordinary contraction of a muscle is always alternated with a relaxation of the same; that, unless a contraction precedes to the degree of spasm, the contracted state cannot be long continued; and it seems to depend upon the same cause that the voluntary motions, which always require an unusual increase of exertion, occasion fatigue, debility, and, at length, irresistible sleep.

From this law, therefore, of the nervous power, we may understand why a sudden and violent exertion of the energy of the brain is sometimes followed by such a diminution of it as to occasion a syncope; and it is thus we suppose that a violent fit of joy produces syncope, and even death. It is upon the same principle, also, we suppose that an exquisite pain may sometimes excite the energy more strongly than can be supported, and therefore, such a diminution follows as must occasion fainting. But the effect of the principle appears more clearly in this, that a fainting readily happens upon the sudden remission of a considerable pain; and thus we have seen a fainting occur upon the reduction of a painful dislocation.

MCXXIII.

MCXXIII.

It seems to be quite analogous when a syncope immediately happens on the finishing of any great and long continued effort, whether depending on the will, or upon a propensity; and in this way a fainting sometimes happens to a woman on the bearing of a child. This may be well illustrated by observing, that, in persons already any how much weakened, even a very moderate effort will sometimes occasion fainting.

MCXXIV.

To explain the operation of some other causes of syncope, it may be observed, that, as the exertions of the energy of the brain are especially under the influence of the will, so it is well known, that those modifications of the will which are named passions and emotions, have a powerful influence on the energy of the brain, in its actions upon the heart, either in increasing or diminishing the force of that energy. Thus, anger has the former, and fear the latter effect; and thence it may be understood how terror often occasions a syncope, sometimes of the most violent kind, named Asphyxia, and sometimes death itself.

MCXXV.

As, from what I have just mentioned, it appears that the emotions of desire increase, and those of aversion diminish the energy of the brain; so it may be understood, how a strong aversion, a horror, or the feeling which arises upon the sight of a very disagreeable object, may occasion fainting. As an example of this, I have known more than one instance of a person's fainting at the sight of a sore in another person.

MCXXVI.

To this head of horror and disgust, I refer the operation
of

of those odours which in certain persons occasion syncope. It may be supposed that those odours are endowed with a directly sedative power, and may thereby occasion syncope; but they are, many of them, with respect to other persons, evidently of a contrary quality; and it appears to me, that those odours occasion syncope only in those persons to whom they are extremely disagreeable.

MCXXVII.

It is, however, very probable, that, among the causes of syncope, there are some which, analogous to all those we have already mentioned, act by a directly sedative power; and such may either be diffused in the mass of blood, and thereby communicated to the brain, or may be only taken into the stomach, which so readily and frequently communicates its affections to the brain.

MCXXVIII.

Having now recited, and, as I hope, explained the most part of the remote causes of syncope, that either operate immediately upon the brain, or which, operating upon other parts of the body, are communicated to the brain, it is proper to observe, that the most part of these causes operate upon certain persons more readily and powerfully than upon others; and this circumstance, which may be considered as the predisponent cause of syncope, deserves to be inquired into.

It is, in the first place, obvious, that the operation of some of those causes depends entirely upon an idiosyncrasy in the persons upon whom they operate, which, however, I cannot pretend to explain. But, in the next place, with respect to the greater part of the other causes, their effects seem to depend upon a temperament which is, in one degree or other, in common to many persons. This temperament seems to consist in a great degree of sensibility and mobility, and these, again, arising from a state of debility, sometimes de-

pending upon original conformation, and sometimes produced by accidental occurrences in the course of life.

MCXXIX.

The *second* set of the remote causes of syncope (MCXVIII.), or those acting directly upon the heart itself, are, as we have said, certain organic affections of the heart itself, or of the parts immediately connected with it, particularly the great vessels which pour blood into, or immediately receive it from, the cavities of the heart. Thus a dilatation or aneurism of the heart, a polypus in its cavities, abscesses or ulcerations in its substance, a close adherence of the pericardium to the surface of the heart, aneurisms of the great vessels near to the heart, polypus in these, and ossifications in these, or in the valves of the heart, are one or other of them conditions which, upon dissection, have been discovered in those persons who had before laboured under frequent syncope.

MCXXX.

It is obvious that these conditions are all of them either such as may, upon occasion, disturb the free and regular influx into, or the free egress of the blood from, the cavities of the heart, or such as may otherwise disturb its regular action, by sometimes interrupting it, or sometimes exciting it to more violent and convulsive action. The latter is what we name the palpitation of the heart, and it commonly occurs in the same persons who are liable to syncope.

MCXXXI.

It is this, as I judge, that leads us to perceive in what manner these organic affections of the heart and great vessels may occasion syncope; for it may be supposed, that the violent exertions made in palpitations may either give occasion to an alternate great relaxation (MCXXII.), or to a spasmodic

dic contraction, and, in either way, suspend the action of the heart, and occasion syncope. It seems to me probable, that it is a spasmodic contraction of the heart that occasions the intermission of the pulse so frequently accompanying palpitation and syncope.

MCXXXII.

Though it frequently happens that palpitation and syncope arise, as we have said, from the organic affections above mentioned, it is proper to observe, that these diseases, even when in a violent degree, do not always depend on such causes acting directly on the heart, but are often dependent on some of those causes which we have mentioned above as acting primarily on the brain.

MCXXXIII.

I have thus endeavoured to give the pathology of syncope, and of the cure I can treat very shortly.

The cases of syncope depending on the *second* set of causes (MCXVIII.), and fully recited in (MCXXIX.), I suppose to be generally incurable, as our art, so far as I know, has not yet taught us to cure any one of those several causes of syncope (MCXXIX.).

The cases of syncope, depending on the first set of causes (MCXVIII.), and whose operation I have endeavoured to explain in (MCXXI. et seq.), I hold to be generally curable, either by avoiding the several occasional causes there pointed out, or by correcting the predisponent causes (MCXXVIII.). The latter, I think, may generally be done by correcting the debility or mobility of the system, by the means which I have already had occasion to point out in another place.

CHAP. II.

Of DYSPEPSIA, or INDIGESTION.

MCXXXIV.

A WANT of appetite, a squeamishness, sometimes a vomiting, sudden and transient distensions of the stomach, eructations of various kinds, heart-burn, pains in the region of the stomach, and a bound belly, are symptoms which frequently concur in the same person, and therefore, may be presumed to depend upon one and the same proximate cause. In both views, therefore, they may be considered as forming one and the same disease, to which we have given the appellation of DYSPEPSIA set at the head of this chapter.

MCXXXV.

As we shall maintain that this disease is often a secondary and sympathetic affection, so the symptoms above mentioned are often joined with many others; and this has given occasion to a very confused and undetermined description of it, under the general title of Nervous diseases, or under that of Chronic weakness. It is proper, however, to distinguish, and we apprehend we have above enumerated, the symptoms that are essential to the Idiopathic affection we are to treat of.

MCXXXVI.

It is indeed to be particularly observed, that these symptoms are often truly accompanied with a certain state of mind which may be considered as a part of the idiopathic affection; but I shall take no further notice of this symptom in
the

the present chapter, as it will be fully, and more properly, considered in the next, which is under the title of Hypochondriasis.

MCXXXVII.

That there is a distinct disease attended always with the greater part of the above symptoms, is rendered very probable by this, that all these several symptoms may arise from one and the same cause, that is, from an imbecillity, loss of tone, and weaker action in the muscular fibres of the stomach; and I conclude, therefore, that this imbecillity, may be considered as the proximate cause of the disease I am to treat of under the name of Dyspepsia.

MCXXXVIII.

The imbecillity of the stomach, and the consequent symptoms (MCXXXIV.), may, however, frequently depend upon some organic affection of the stomach itself, as tumor, ulcer, or schirrosity, or upon some affection of other parts of the body communicated to the stomach, as in gout, amenorrhœa, and some others. In both these cases, however, the dyspeptic symptoms are to be considered as secondary or sympathetic affections, to be cured only by curing the primary disease. Such secondary and sympathetic cases cannot, indeed, be treated of here; but, as we presume that the imbecillity of the stomach may often take place without either any organic affection of this part, or any more primary affection in any other part of the body, so we suppose, and expect it will appear, from the consideration of the remote causes, that the dyspepsia may be often an idiopathic affection, and that it is, therefore, properly taken into the system of methodical Nosology, and becomes the subject of our consideration here.

MCXXXIX.

MCXXXIX.

There can be little doubt, that, in most cases, the weaker action of the muscular fibres of the stomach, is the most frequent, and chief cause of the symptoms mentioned in (MCXXXIV.); but I dare not maintain it to be the only cause of idiopathic dyspepsia. There is, pretty certainly, a peculiar fluid in the stomach of animals, or, at least, a peculiar quality in the fluids, that we know to be there, upon which the solution of the aliments taken into the stomach chiefly depends; and it is, at the same time, probable, that the peculiar quality of the dissolving, or digesting fluids, may be variously changed, or that their quantity may be, upon occasion, diminished. But it is no less obvious, that a change in the quality or quantity of these fluids may produce a considerable difference in the phenomena of digestion, and, particularly, may give occasion to many of the morbid appearances mentioned in (MCXXXIV.).

MCXL.

This seems to be very well founded, and points out another proximate cause of dyspepsia beside that we have already assigned; but, notwithstanding this, as the peculiar nature of the digestive fluid, the changes which it may undergo, or the causes by which it may be changed, are all matters so little known, that I can found no practical doctrine upon any supposition with respect to them; and as, at the same time, the imbecillity of the stomach, either as causing the change in the digestive fluid, or as being caused by that change, seems always to be present, and to have a great share in occasioning the symptoms of indigestion, so I shall still consider the imbecillity of the stomach as the proximate, and almost sole cause of dyspepsia. And I more readily admit of this manner of proceeding, as, in my opinion, the doctrine applies very fully and clearly to the explaining the whole

whole of the practice which experience has established, as the most successful in this disease.

MCXLI.

Considering this, then, as the proximate cause of dyspepsia, I proceed to mention the several remote causes of this disease, as they are such, as, on different occasions, seem to produce a loss of tone in the muscular fibres of the stomach. They may, I think, be considered under two heads. The *first* is, of these, which act directly and immediately upon the stomach itself. The *second* is, of these, which act upon the whole body, or particular parts of it, but, in consequence of which, the stomach is chiefly, or almost only affected.

MCXLII.

Of the first kind are, 1. Certain sedative, or narcotic substances, taken into the stomach, such as tea, coffee, tobacco, ardent spirits, opium, bitters, aromatics, putrids, and acerbents.

2. The large and frequent drinking of warm water, or of warm watery liquids.

3. Frequent surfeit, or immoderate repletion of the stomach.

4. Frequent vomiting, whether spontaneously arising, or excited by art.

5. Very frequent spitting, or rejection of saliva.

MCXLIII.

Those causes which act upon the whole body, or upon particular parts and functions of it, are,

1. An indolent and sedentary life.

2. Vexation of mind, and disorderly passions of any kind.

3. Intense study, or close application to business too long continued.

4. Excess

4. Excess in venery.

5. Frequent intoxication, which partly belongs to this head, partly to the former.

6. The being much exposed to moist and cold air when without exercise.

Though the disease, as proceeding from the last set of causes, may be considered as a symptomatic affection only, yet, as the affection of the stomach is generally the first, always the chief, and often the only effect which these causes produce or discover, I think the affection of the stomach may be considered as the disease to be attended to in practice; and the more properly so, as, in many cases, the general debility is only to be cured by restoring the tone of the stomach, and by remedies first applied to this organ.

MCXLIV.

For the cure of this disease we form three several indications, a preservative, a palliative, and a curative.

The *first* is, to avoid or remove the remote causes just now enumerated.

The *second* is, to remove those symptoms which especially contribute to aggravate and continue the disease; and

The *third* is, to restore the tone of the stomach, that is, to correct or remove the proximate cause of the disease.

MCXLV.

The propriety and necessity of the first indication is sufficiently evident, as the continued application, or frequent repetition of those causes, must continue the disease; may defeat the use of remedies; or, in spite of these, may occasion the recurrence of the disease. It is commonly the neglect of this indication which renders this disease so frequently obstinate. How the indication is to be executed, will be sufficiently obvious from the consideration of the several causes; but

but it is proper for the practitioner to attend to this, that the execution is often exceedingly difficult, because it is not easy to engage men to break in upon established habits, or to renounce the pursuit of pleasure; and, particularly, to persuade men that these practices are truly hurtful which they have often practised with seeming impunity.

MCXLVI.

The symptoms of this disease which especially contribute to aggravate and continue it, and therefore, require to be more immediately corrected, or removed, are, *first*, the crudities of the stomach, already produced by the disease, and discovered by a loss of appetite, by a sense of weight and uneasiness in the stomach, and, particularly, by the eructation of imperfectly digested matters.

Another symptom to be immediately corrected, is an unusual quantity, or a higher degree than usual, of acidity present in the stomach, discovered by various disorders in digestion, and by other effects to be mentioned afterwards.

The *third* symptom aggravating the disease, and otherwise in itself urgent is costiveness, and therefore, constantly requiring to be relieved.

MCXLVII.

The *first* of these symptoms is to be relieved by exciting vomiting; and the use of this remedy, therefore, usually and properly begins the cure of this disease. The vomiting may be excited by various means, more gentle or more violent. The former may answer the purpose of evacuating the contents of the stomach; but emetics, and vomiting, may also excite the ordinary action of the stomach; and both, by variously agitating the system, and, particularly, by determining to the surface of the body, may contribute to remove the causes of the disease. But these latter effects can only be

obtained by the use of emetics of the more powerful kind, such as the antimonial emetics specially are.

MCXLVIII.

The *second* symptom to be palliated, is an excess of acidity, either in quantity or quality, in the contents of the stomach. In man there is a quantity of acescent aliment almost constantly taken in, and, as I think, always undergoes an acetous fermentation there; and it is, therefore, that, in the human stomach, and in the stomachs of all animals using vegetable food, there is always found an acid present. This acid, however, is generally innocent, and occasions no disorder, unless either the quantity of it is very large, or the acidity proceeds to a higher degree than usual. But, in either of these cases, the acidity occasions various disorders, as flatulency, eructation, heart-burn, gnawing pains of the stomach, irregular appetites and cravings, looseness, griping, emaciation, and debility. To obviate or remove these effects aggravating and continuing the disease, it is not only necessary to correct the acidity present in the stomach, but specially as this acid proves a ferment, determining and increasing the acescency of the aliments afterwards taken in, it is proper also, as soon as possible, to correct the disposition to excessive acidity.

MCXLIX.

The acidity present in the stomach may be corrected by the use of alkaline salts, or absorbent earths, or by such substances containing these, which can be decomposed by the acid of the stomach. Of the alkalines, the caustic is more effectual than the mild; and this accounts for the effects of lime-water. By employing absorbents, we avoid the excess of alkali, which might sometimes take place. The absorbents are different, as they form a neutral more or less laxative ;

laxative ; and hence the difference between magnesia alba and other absorbents. It is to be observed, that alkalines and absorbents may be employed to excess, as, when employed in large quantity, they may deprive the animal fluids of the acid necessary to their proper composition.

MCL.

The disposition to acidity may be obviated by avoiding acescent aliments, and using animal food little capable of acescency. This, however, cannot be long continued without corrupting the state of the fluids ; and, as vegetable food cannot be entirely avoided, the excess of acidity may, in some measure, be avoided, by choosing vegetable food the least disposed to a vinous fermentation, such as leavened bread, and well fermented liquors, and, instead of fresh native acids, employing vinegar.

MCLI.

The acid arising from acescent matters, in a sound state of the stomach, does not proceed to any high degree, or is again soon involved, and made to disappear ; but this does not always happen ; and a more copious acidity, or a higher degree of it, may be produced, either from a change in the digestive fluids, become less fit to moderate fermentation, and to cover acidity, or from their not being supplied in due quantity. How the former may be occasioned we do not well understand ; but we can readily perceive that the latter, perhaps the former also, may proceed from a weaker action of the muscular fibres of the stomach. In certain cases, sedative passions, suddenly arising, occasion the appearance of acidity in the stomach which did not appear before ; and the use of stimulants often correct or obviate an acidity that would otherwise have appeared. From these considerations, we conclude, that the production and subsistence of acidity in the stomach, is to be especially prevented by restoring and
exciting

exciting the proper action of the stomach, by the several means to be mentioned hereafter.

MCLII.

But it is also to be further observed, that, though there are certain powers in the stomach for preventing a too copious acidity, or a high degree of it, they are not, however, sufficient for destroying acescency, and covering the acidity altogether; and, therefore, as long as vegetable substances remain in the stomach, their acescency may go on and increase. From hence we perceive, that a special cause of the excess of acidity may be the too long retention of acescent matters in the stomach; whether this may be from these matters being of more difficult solution; or from the weakness of the stomach more slowly discharging its contents into the duodenum, or from some impediment to the free evacuation of the stomach by the pylorus. The latter of these causes we are well acquainted with, in the case of a schirrous pylorus, producing commonly the highest degree of acidity. In all the instances of this schirrosity I have met with, I have found it incurable; but the first of these causes is to be obviated by avoiding such aliments as are of difficult solution; and the second is to be mended by the several remedies for exciting the action of the stomach, to be mentioned afterwards.

MCLIII.

The *third* symptom commonly accompanying dyspepsia, which requires to be immediately removed, is costiveness. As there is so much connection between the several portions of the alimentary canal, with respect to the peristaltic motion, that, if accelerated or retarded in any one part, the other parts of it are commonly affected in the same manner. Thus, as the brisker action of the stomach must accelerate the action of the intestines, so the slower action of the intestines must,

in

in some measure, retard that of the stomach. It is, therefore, of consequence to the proper action of the stomach, that the peristaltic motion of the intestines, determining their contents downwards, be regularly continued, and that all costiveness or interruption of that determination be avoided. This may be done by the various means of exciting the action of the intestines; but it is to be observed here, that, as every considerable evacuation of the intestines weakens their action, and is ready, therefore, to induce costiveness when the evacuation is over; so these purgatives which produce a large evacuation, are unfit for correcting the habit of costiveness. This, therefore, should be attempted by medicines, which do no more than solicit the intestines to a more ready discharge of their present contents, without either hurrying their action, or increasing the excretions made into their cavity, either of which effects might produce a purging. There are, I think, certain medicines peculiarly proper on this occasion, as they seem to stimulate, especially the great guts, and to act little on the higher parts of the intestinal canal.

MCLIV.

We have thus mentioned the several means of executing our second indication; and I proceed to the *third*, which is, as we have said, the proper curative, and it is, to restore the tone of the stomach, the loss of which we consider as the proximate cause of the disease, or at least as the chief part of it. The means of satisfying this indication we refer to two heads. One is, of those means which operate directly and chiefly on the stomach itself; and the other is, of those means which operating upon the whole system, have their tonic effects thereby communicated to the stomach.

MCLV.

The medicines which operate directly on the stomach, are either stimulants or tonics.

The

The stimulants are saline or aromatic.

The saline are acids or neutrals.

Acids of all kinds seem to have the power of stimulating the stomach, and, therefore, often increase appetite; but the native acids, as liable to fermentation, may otherwise do harm, and are therefore of ambiguous use. The acids, therefore, chiefly and successfully employed, are the vitriolic, muriatic, and the distilled acid of vegetables, as it is found in tar-water, which are all of them antizymics.

The neutral salts answering this intention, are especially those which have the muriatic acid in their composition, though it is presumed that neutrals of all kinds have more or less of the same virtue.

MCLVI.

The aromatics, and perhaps some other acids, certainly stimulate the stomach, as they obviate the acescency and flatulency of vegetable food; but their stimulus is transitory, and, if frequently repeated, and taken in large quantities, they may hurt the tone of the stomach.

MCLVII.

The tonics employed to strengthen the stomach are bitters, bitters and astringents combined, or chalybeates.

Bitters are undoubtedly tonic medicines, both with respect to the stomach and the whole system; but their long continued use has been found to destroy the tone of the stomach, and of the whole system; and, whether this is from the mere repetition of their tonic operation, or from some narcotic power, joined with the tonic in them, I am uncertain.

MCLVIII.

Bitters and astringents combined, are, probably, more effectual tonics than either of them taken singly; and we suppose

suppose such a combination to take place in the Peruvian bark, which therefore, proves a powerful tonic, both with respect to the stomach and to the whole system. But I have some ground to suspect, that the long continued use of this bark may, like bitters, destroy both the tone of the stomach and of the whole system.

MCLIX.

Chalybeates may be employed as tonics in various forms, and in considerable quantities, with safety. They have been often employed in the form of mineral waters, and seemingly with success; but whether this is owing to the chalybeate in the composition of these waters, or to some other circumstances attending their use, I dare not positively determine; but the latter opinion seems to me the more probable.

MCLX.

The remedies which strengthen the stomach, by being applied to the whole body, are exercise, and the application of cold.

As exercise strengthens the whole body, it must also strengthen the stomach; but it does this also in a particular manner, by promoting perspiration, and exciting the action of the vessels on the surface of the body, which have a particular consent with the muscular fibres of the stomach. This particularly explains why the exercises of gestation, though not the most powerful in strengthening the whole system, are however very powerful in strengthening the stomach, of which we have a remarkable proof in the effects of sailing. In strengthening the general system, as fatigue must be avoided, so bodily exercise is of ambiguous use; and perhaps it is, thereby, that riding on horseback has been so often found to be one of the most powerful means of strengthening the stomach, and thereby of curing dyspepsia.

MCLXI.

MCLXI.

The other general remedy of dyspepsia, is the application of cold, which may be in two ways; that is, either by the application of cold air, or of cold water. It is probable, that, in the atmosphere constantly surrounding our bodies, a certain degree of cold, considerably less than the temperature of our bodies themselves, is necessary to the health of the human body. Such a degree of cold seems to strengthen the vessels on the surface of the body, and therefore the muscular fibres of the stomach. But further, it is well known, that, if the body is in exercise sufficient to support such a determination to the surface, as to prevent the cold from producing any entire constriction of the pores; a certain degree of cold in the atmosphere, with such exercise, will render the perspiration more considerable. From the sharp appetite that in such circumstances is commonly produced, we can have no doubt, that, by the application of such cold, the tone of the stomach is considerably strengthened. Cold air, therefore, applied with exercise, is a most powerful tonic, with respect to the stomach; and this explains why, for that purpose, no exercises within doors or in close carriages, are so useful as those in the open air.

MCLXII.

From the same reasoning, we can perceive that the application of cold water, or cold bathing, while it is a tonic, with respect to the system in general, and especially, as exciting the action of the extreme vessels, must in both respects be a powerful means of strengthening the tone of the stomach.

MCLXIII.

These are the remedies to be employed towards a radical cure of idiopathic dyspepsia; and it might be perhaps expected here, that I should treat also of the various cases of
the

the sympathetic disease. But it will be obvious, that this cannot be properly done, without treating of all the diseases of which the dyspepsia is a symptom, which cannot be proper in this place. It has been partly done already, and will be further treated of in the course of this work. In the mean time, it may be proper to observe, that there is not so much occasion for distinguishing between the idiopathic and sympathetic dyspepsia, as there is in many other cases of idiopathic and sympathetic diseases. For, as the sympathetic cases of dyspepsia are owing to a loss of tone in some other part of the system, which is from thence communicated to the stomach; so the tone of the stomach restored, may be communicated to the part primarily affected; and, therefore, the remedies of the idiopathic may be often usefully employed, and are often the remedies chiefly employed in sympathetic dyspepsia.

MCLXIV.

Another part of our business here might be to say, how some other of the urgent symptoms, beside those above mentioned, are to be palliated. On this subject, I think it is enough to say, that the symptoms chiefly requiring to be immediately relieved, are flatulency, heart-burn, other kinds of pain in the region of the stomach, and vomiting.

The dyspeptic are ready to suppose that the whole of their disease consists in a flatulency. In this it will be obvious that they are mistaken; but, although the flatulency is not to be entirely cured, but by mending the imbecillity of the stomach by the means above mentioned; yet the flatulent distension of the stomach may be relieved by carminatives, as they are called, or medicines that produce a discharge of wind from the stomach, such are the various antispasmodics, of which the most effectual is the vitriolic æther.

The heart-burn may be relieved by absorbents, antispasmodics, or dentulcents.

The other pains of the stomach may be sometimes relieved by carminatives, but most certainly by opiates.

Vomiting is to be cured most effectually by opiates thrown by injection into the anus.

C H A P. III.

Of HYPOCHONDRIASIS;

O R T H E

HYPOCHONDRIAC AFFECTION,

COMMONLY CALLED VAPOURS OR LOW SPIRITS.

MCLXV.

In certain persons there is a state of mind distinguished by a concurrence of the following circumstances: A languor, listlessness, or want of resolution and activity, with respect to all undertakings; a disposition to seriousness, sadness, and timidity; as to all future events, an apprehension of the worst, or most unhappy state of them, and therefore, often
upon

upon slight grounds, an apprehension of great evil. Such persons are particularly attentive to the state of their own health, to every the smallest change of feeling in their bodies; and, from any unusual feeling, perhaps of the slightest kind, they apprehend great danger, and even death itself. In respect to all these feelings and fears, there is commonly the most obstinate belief and persuasion.

MCLXVI.

This state of mind is the hypochondriacism of medical writers; see Linnæi genera Morborum, Gen. 76. Sagarî Systema Symptomaticum, Class XIII. Gen. V. The same state of mind is, what has been commonly called *vapours* and *low spirits*. Though the term *vapours* may be founded on a false theory, and therefore improper, I beg leave for a purpose, that will immediately appear, to employ it for a little here.

MCLXVII.

Vapours, then, or the state of mind described above, is like every other state of mind, connected with a certain state of the body, which must be inquired into, in order to its being treated as a disease by the art of physic.

MCLXVIII.

This state of the body, however, is not very easily ascertained; for we can perceive, that, on different occasions, it is very different; vapours being combined sometimes with dyspepsia, sometimes with hysteria, and sometimes with melancholia, which are diseases seemingly depending on very different states of the body.

MCLXIX.

The combination of vapours with dyspepsia, is very frequent,

quent, and in seemingly very different circumstances. It is, especially, these different circumstances that I would wish to ascertain ; and I remark, that the combination mentioned is manifestly in two different states. First, as it occurs in young persons of both sexes, of a sanguine temperament, and of a lax and flaccid habit. Secondly, as it occurs in elderly persons of both sexes, of a melancholic temperament, and of a firm and rigid habit.

MCLXX.

These two different cases of the combination of vapours and dyspepsia, I consider as two distinct diseases, to be distinguished chiefly by the temperament prevailing in the persons affected.

As the dyspepsia of sanguine temperaments is often without vapours, and as the vapours, when joined with dyspepsia in such temperaments, may be considered as, perhaps, always a symptom of the affection of the stomach ; so to this combination of dyspepsia and vapours, I would still apply the appellation of *DYSPEPSIA*, and consider it as purely the disease treated of in the preceding chapter.

But the combination of dyspepsia and vapours, in melancholic temperaments, as the vapours, or the turn of mind peculiar to the temperament nearly that described above in (MCLXV.), are essential circumstances of the disease. As this is often with few, or only slight symptoms of dyspepsia, and, even, though the latter be attending, as they seem to be rather the effects of the general temperament, than of any primary or topical affection of the stomach ; I consider this combination as a very different disease from the former and would apply to it strictly the appellation of *HYPOCHONDRIASIS*.

MCLXXI.

Having thus pointed out a distinction between *Dyspepsia*
and

and *Hypochondriasis*, I shall now, using these terms in the strict sense above mentioned, make some observations which may, I think, illustrate the subject, and more clearly and fully establish the distinction proposed.

MCLXXII.

The *Dyspepsia* often appears early in life, and is frequently, also, much mended as life advances; but the *Hypochondriasis* seldom appears early in life, and more usually in more advanced years only; and more certainly still, when it has once taken place, it goes on increasing, as life advances to old age.

This seems to be particularly well illustrated, by our observing the changes in the state of the mind which usually take place in the course of life. In youth, the mind is cheerful, active, rash, and moveable; but, as life advances, the mind, by degrees, becomes more serious, slow, cautious, and steady, till, at length, in old age, the gloomy, timid, distrustful, and obstinate state of melancholic temperaments, is more exquisitely formed. In producing these changes, it is true, that moral causes have a share; but it is, at the same time, obvious, that the temperament of the body determines the operation of these moral causes, sooner or later, and in a greater or lesser degree, to have their effects. The sanguine temperament retains longer the character of youth, while the melancholic temperament brings on more early the manners of old age.

MCLXXIII.

Upon the whole, it appears, that the state of mind which attends, and especially distinguishes hypochondriasis, is the effect of that same rigidity of the solids, torpor of the nervous power, and peculiar balance between the arterial and venous systems which occurs in advanced life, and which, at
all

all times, takes place, more, or less in melancholic temperaments. If, therefore, there be also somewhat of a like state of mind attending that dyspepsia, which occurs early in life, in sanguine temperaments, and lax habits, it must depend upon a different state of the body, and, probably, upon a weak and moveable state of the nervous power.

MCLXXIV.

Agreeable to all this, in dyspepsia, there is more of spasmodic affection, and the affection of the mind (MCLXV.) is often absent, and, when present, is, perhaps, always of a flighter kind; while, in *hypochondriasis*, the affection of the mind is more constant, and the symptoms of dyspepsia, or the affections of the stomach, are often absent, or, when present, are in a flighter degree.

I believe the affection of the mind is commonly different in the two diseases. In *dyspepsia* it is often languor and timidity only, easily dispelled, while, in *hypochondriasis*, it is generally the gloomy and riveted apprehension of evil.

The two diseases are also distinguished by some other circumstances. *Dyspepsia*, as we have said, is often a symptomatic affection, while *hypochondriasis* is, perhaps, always a primary and idiopathic disease.

As debility may be induced by many different causes, *dyspepsia* is a frequent disease, while *hypochondriasis*, depending upon a peculiar temperament, is more rare.

MCLXXV.

Having thus endeavoured to distinguish the two diseases, I suppose the peculiar nature and proximate cause of *hypochondriasis* will be understood; and I proceed therefore to treat of its cure.

So far as the affections of the body, and particularly of the stomach, are the same here as in the case of *dyspepsia*, the
method

method of cure might be supposed to be also the same; and accordingly the practice has been carried on with little distinction; but I am persuaded that a distinction is often necessary.

MCLXXVI.

There may be a foundation here for the same preservative indication as first laid down in the cure of *dyspepsia* (MCXLIV.); but I cannot treat this subject so clearly or fully as I could wish; because I have not yet had so much opportunity of observation as I think necessary to ascertain the remote causes; and I can hardly make use of the observations of others, who have seldom or never distinguished between the two diseases. What, indeed, has been said with respect to the remote causes of *melancholia*, will often apply to the *hypochondriasis*, which I treat of; but the subject of the former has been so much involved in a doubtful theory, that I find it difficult to select the facts that might properly and strictly apply to the latter. I delay this subject, therefore, till another occasion; but, in the mean time, trust, that what I have said regarding the nature of the disease, and some remarks I shall have occasion to offer in considering the method of cure, may, in some measure, supply my deficiency on this subject of the remote causes.

MCLXXVII.

The *second* indication laid down in the cure of *dyspepsia* (MCXLIV.), has properly a place here; but it is still to be applied with some distinction.

MCLXXVIII.

An anorexia and accumulation of crudities in the stomach, does not so commonly occur in *hypochondriasis*, as in *dyspepsia*; and, therefore, vomiting (MCXLVII.) is not so often necessary in the former as in the latter.

MCLXXIX.

MCLXXIX.

The symptom of excess of acidity, from the slow evacuation of the stomach in melancholic temperaments, often arises to a very high degree in *hypochondriasis*, and, therefore, for the same reason as in (MCXLVIII.), it is to be obviated and corrected with the utmost care. It is, upon this account, that the several antacids, and the other means of obviating acidity, are to be employed in *hypochondriasis*, and with the same attentions and considerations as in (MCXLIX. and following), with this reflection, however, that the exciting the action of the stomach there mentioned, is to be a little differently understood, as shall be hereafter explained.

MCLXXX.

As costiveness, and that commonly to a considerable degree, is a very constant attendant of *hypochondriasis*, so it is equally hurtful as in *dyspepsia*. It may be remedied by the same means in the former as in the latter, and they are to be employed with the same restrictions as in (MCLIII.).

MCLXXXI.

It is especially with respect to the *third* indication laid down in the cure of *dyspepsia* (MCXLIV. 3.), that there is a difference of practice to be observed in the cure of *hypochondriasis*, and that often a directly opposite to that in the case of *dyspepsia*, is to be followed.

MCLXXXII.

In *dyspepsia*, the chief remedies are the tonic medicines, which to me seem neither necessary nor safe in *hypochondriasis*; for in this there is not a loss of tone, but a want of activity, that is to be remedied.

Chalybeate mineral waters have commonly been employed in *hypochondriasis*, and seemingly with success. But this is probably

probably to be imputed to the amusement and exercise usually accompanying the use of these waters, rather than to the tonic power of the small quantity of iron which they contain.

MCLXXXIII.

Cold bathing is often highly useful to the dyspeptic, and, as a general stimulant, may sometimes seem useful to the hypochondriac, but it is not commonly so to the latter; while, on the other hand, warm bathing, hurtful to the dyspeptic, is often extremely useful to the hypochondriac.

MCLXXXIV.

Another instance of a contrary practice necessary in the two diseases, and illustrating their respective natures, is, that the drinking tea and coffee is always hurtful to the dyspeptic, but is commonly extremely useful to the hypochondriac.

MCLXXXV.

Exercise, as it strengthens the system, and thereby the stomach, and more especially as, by increasing the perspiration, it excites the action of the stomach, so it proves one of the most useful remedies in *dyspepsia*; and, further, as, by the operation last mentioned, it excites the activity of the stomach, so, likewise, it proves an useful remedy in the *hypochondriasis*. However, in the latter case, as I shall explain presently, it is still a more useful remedy by its operation upon the mind than by that upon the body.

MCLXXXVI.

It is now proper that we proceed to consider the most important article of our practice in this disease, and which is, to consider the treatment of the mind, an affection of which sometimes attends *dyspepsia*, but is always the chief circumstance in *hypochondriasis*. What I am to suggest here will

PART II.

I

apply

apply to both diseases; but it is the *hypochondriasis* that I am to keep most constantly in view.

MCLXXXVII.

The management of the mind, in hypochondriacs, is often nice and difficult. The firm persuasion that generally prevails in such patients, does not allow their feelings to be treated as imaginary, nor their apprehension of danger to be considered as groundless, though the physician may be persuaded that it is the case in both respects. Such patients, therefore, are not to be treated either by raillery or by reasoning.

It is said to be the manner of hypochondriacs to change often their physician, and, indeed, they often do it consistently; for a physician who does not admit the reality of the disease, cannot be supposed to take much pains to cure it, or to avert the danger of which he entertains no apprehension.

If, in any case, the pious fraud of a placebo be allowable, it seems to be in treating hypochondriacs, who, anxious for relief, are fond of medicines, and, though often disappointed, will still take every new drug that can be proposed to them.

MCLXXXVIII.

As it is the nature of man to indulge every present emotion, so the hypochondriac cherishes his fears, and, attentive to every feeling, finds in trifles, light as air, a strong confirmation of his apprehensions. His cure, therefore, depends especially upon the interruption of his attention, or upon its being diverted to other objects than his own feelings.

MCLXXXIX.

Whatever aversion, to application of any kind, may appear in hypochondriacs, there is nothing more pernicious to them than absolute idleness, or a vacancy from all earnest pursuit.

pursuit. It is owing to wealth admitting of indolence, and leading to the pursuit of transitory and unsatisfying amusements, or exhausting pleasures only, that the present times exhibit to us so many instances of hypochondriacism.

The occupations of business suitable to their circumstances and situation in life, if neither attended with emotion, anxiety, nor fatigue, are always to be admitted, and adhered to by hypochondriacs. But occupations upon which a man's fortune depends, and which are always, therefore, objects of anxiety to melancholic men, and, more particularly, where such occupations are exposed to accidental interruptions, disappointments, and failures, it is from these that the hypochondriac is certainly to be withdrawn.

MCXC.

The hypochondriac who is not necessarily, by circumstances or habits, engaged in business, is to be drawn from his attention to himself by some amusement.

The various kinds of sport and hunting, as pursued with some ardor, and attended with exercise, if not too violent, are amongst the most useful.

All those amusements which are in the open air, joined with moderate exercise, and requiring some dexterity, are generally of use.

Within doors, company which engages attention, which is willingly yielded to, and is, at the same time, of a cheerful kind, will be always found of great service.

Play, in which some skill is required, and where the stake is not an object of much anxiety, if not too long protracted, may often be admitted.

In dyspeptics, however, gaming, liable to sudden and considerable emotions, is dangerous, and the long continuance of it, with night-watching, is violently debilitating. But in melancholics, who commonly excel in skill, and are less susceptible

susceptible of violent emotions, it is more admissible, and is often the only amusement that can engage them.

Musical, to a nice ear, is a hazardous amusement, as long attention to it is very fatiguing.

MCXCI.

It frequently happens, that amusements of every kind are rejected by hypochondriacs, and, in that case, mechanical means of interrupting thought are the remedies to be sought for.

Such is to be found in brisk exercise, which requires some attention in the conduct of it.

Walking is seldom of this kind ; though, as gratifying to the restlessness of hypochondriacs, it has sometimes been found useful.

The required interruption of thought is best obtained by riding on horseback, or in driving a carriage of any kind.

The exercise of sailing, except it be in an open boat, engaging some attention, does very little service.

Exercise in an easy carriage, in the direction of which the traveller takes no part, unless it be upon rough roads, or driven pretty quickly, and with long continuance, is of little advantage.

MCXCII.

Whatever exercise be employed, it will be most effectual when employed in the pursuit of a journey ; *first*, because it withdraws a person from many objects of uneasiness and care which might present themselves at home ; *secondly*, as it engages in more constant exercise, and in a greater degree of it than is commonly taken in airings about home ; and, *lastly*, as it is constantly presenting new objects which call forth a person's attention.

MCXCIII.

MCXCIII.

In our system of Nosology, we have, next to *Hypochondriasis*, placed the *Chlorosis*, because I once thought it might be considered as a Genus, comprehending, besides the Chlorosis or Amenorrhœa, some species of Cachexy; but, as I cannot find this to be well founded, and cannot distinctly point out any such disease, I now omit considering Chlorosis as a Genus here; and, as a symptom of Amenorrhœa, I have endeavoured before to explain it under that title.

B O O K

B O O K III.

OF SPASMODIC AFFECTIONS.

MCXCIV.

UNDER this title, I am to comprehend all the diseases which consist in *motu abnormi*, that is, in a preternatural state of the contraction and motion of the muscular or moving fibres in any part of the body.

MCXCV.

It will hence appear, why, under this title, I have comprehended many more diseases than Sauvages and Sagar have comprehended under the title of Spasmi, or than Linnæus has done under the title of Motorii. But I expect it will be obvious, that, upon this occasion, it would not be proper to confine our view to the affections of voluntary motion only; and if those Nosologists have introduced into the class of Spasmi, Palpitatio and Hysteria, it will be, with equal propriety, that Asthma, Colica, and many other diseases, are admitted.

MCXCVI.

It has been hitherto the method of our Nosologists, to divide the Spasmi into the two orders of Tonici and Clonici, Spastici and Agitatorii, or, as many at present use the terms, into Spasms, strictly so called, and Convulsions. I find, however, that many, and, indeed, most of the diseases to be considered under our title of Spasmodic Affections, in respect
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of Tonic or Clonic contractions, are of a mixed kind ; and, therefore, I cannot follow the usual general division, but have attempted another, by arranging the several Spasmodic diseases according as they affect the several functions, Animal, Vital, or Natural.

S E C T. I.

O F T H E

S P A S M O D I C A F F E C T I O N S

O F T H E

A N I M A L F U N C T I O N S.

M C X C V I I.

Agreeable to the language of the antients, the whole of the diseases to be treated of in this section, might be termed *Spasmi* ; and many of the moderns continue to apply the term in the same manner ; but I think it convenient to distinguish the terms of *Spasm* and *Convulsion*, by applying the former, strictly, to what has been called the *Tonic*, and the latter, to what has been called the *Clonic Spasm*. There is certainly a foundation for the use of those different terms, as there is a remarkable difference in the state of the contraction of moving fibres upon different occasions. This I have,

have, indeed, pointed out before, in my treatise of Physiology, but must also repete it here.

MCXCVIII.

In a state of health, the contractions of the moving fibres are excited by the will, or by certain other causes appointed by Nature for exciting the exercise of the several functions of the animal œconomy, and by the will, and by these causes only. The contractions produced are, in force and velocity, directed by the will, or by those other causes which may be called *natural*; and these contractions are always soon succeeded by a state of relaxation, and are not repeted, but when the causes we have mentioned are again applied.

MCXCIX.

But, in a morbid state, the contractions are involuntary, and are excited by unusual and unnatural causes; and the contractions produced may be in two different states. The one is, when the contractions are to a violent degree, and are neither succeeded by a spontaneous relaxation, nor readily yield to an extenſion, either from the action of antagonist muscles, or from other extending powers applied. This state of contractions is what has been called a *Tonic Spasm*, and what we name simply and strictly a *Spasm*. The other morbid state of contractions is, when they are succeeded by a relaxation, but, at the same time, are repeted without the concurrence of the will, or the repetition of natural causes, and are, at the same time, repeted more frequently, and commonly more violently, than in a healthy state. This state of morbid contraction is what has been named a *Clonic Spasm*, and what we name, strictly, a *Convulsion*.

In this section, we shall follow nearly the usual division of the Spasmodic diseases, into those consisting in Spasm, and those consisting in Convulsion; but even here I cannot follow such division exactly.

C H A P.

C H A P. I.

O f T E T A N U S.

MCC.

Both Nosologists, and Practical Writers, have distinguished Tetanic complaints into the several species of Tetanus, Opisthotonos, and Emprosthotonos; and I have, in my Nosology, put the Trismus, or Locked Jaw, as a Genus distinct from the Tetanus. All this, however, I now judge to be improper, and am of opinion, that all the several terms mentioned denote, and are applicable only to different degrees of one and the same disease; the history and cure of which I shall endeavour to deliver in this chapter.

MCCI.

Tetanic complaints may, from certain causes, occur in every climate that we are acquainted with; but they occur most frequently in the warmest climates, and most commonly in the warmest seasons of such climates. These complaints affect all ages, sexes, temperaments, and complexions. The causes from whence they commonly proceed, are cold and moisture applied to the body while it is very warm, and especially the sudden vicissitudes of heat and cold. Or, the disease is produced by punctures, lacerations, or other lesions of nerves, in any part of the body. There are, probably, some other causes of this disease; but they are neither distinctly known, nor well ascertained. Though the causes mentioned do, upon occasion, affect all sorts of persons, they seem, however, to attack persons of middle age more frequently

quently than the older or younger, the male sex more frequently than the female, and the robust and vigorous, more frequently than the weaker.

MCCII.

If the disease procede from cold, it commonly comes on in a few days after the application of such cold; but, if it arise from a puncture, or other lesion of a nerve, the disease does not commonly come on for many days after the lesion has happened, very often when there is neither pain nor uneasiness remaining in the wounded or hurt part, and very frequently when the wound has been entirely healed up.

MCCIII.

The disease sometimes comes on suddenly to a violent degree, but more generally, it approaches, by slow degrees, to its violent state. In this case it comes on with a sense of stiffness in the back part of the neck, which, gradually increasing, renders the motion of the head difficult and painful. As the rigidity of the neck comes on and increases, there is commonly, at the same time, a sense of uneasiness felt about the root of the tongue, which, by degrees, becomes a difficulty of swallowing, and, at length, an entire interruption of it. While the rigidity of the neck goes on increasing, there arises a pain, often violent, at the lower end of the sternum, and from thence shooting into the back. When this pain arises, all the muscles of the neck, and particularly those of the back part of it, are immediately affected with spasm, pulling the head strongly backwards. At the same time, the muscles that pull up the lower jaw, which, upon the first approaches of the disease, were affected with some spastic rigidity, are now generally affected with more violent spasm, and set the teeth so closely together, that they do not admit of the smallest opening.

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This is what has been named the *Locked Jaw*, and is often the principal part of the disease. When the disease has advanced thus far, the pain at the bottom of the sternum returns very frequently, and with it the spasms of the hind neck, and lower jaw, are renewed with violence, and much pain. As the disease thus proceeds, a greater number of muscles come to be affected with spasms. After those of the neck, these along the whole of the spine become affected, bending the trunk of the body strongly backwards; and this is what has been named the *Opiſthotonos*.

In the lower extremities, both the flexor and extensor muscles are commonly at the same time affected, and keep the limbs rigidly extended. Though the extensors of the head and back are usually the most strongly affected, yet the flexors, or these muscles of the neck that pull the head forward, and the muscles that should pull down the lower jaw, are often at the same time strongly affected with spasm. During the whole of the disease, the abdominal muscles are violently affected with spasm, so that the belly is strongly retracted, and feels hard as a piece of board.

At length the flexors of the head and trunk become so strongly affected as to balance the extensors, and to keep the head and trunk straight, and rigidly extended, incapable of being moved in any way; and it is to this state the term of *Tetanus* has been strictly applied. At the same time, the arms, little affected before, are now rigidly extended, the whole of the muscles belonging to them being affected with spasms, except those that move the fingers, which often, to the last, retain some mobility. The tongue also long retains its mobility; but, at length, it also becomes affected with spasms, which, attacking certain of its muscles only, often thrust it violently out between the teeth.

At the height of the disease, every organ of voluntary motion seems to be affected, and, amongst the rest, the muscles of the face. The fore-head is drawn up into furrows;
the

the eyes, sometimes distorted, are commonly rigid, and immoveable in their sockets; the nose is drawn up, and the cheeks are drawn backwards towards the ears, so that the whole of the countenance expresses the most violent grinning. Under these universal spasms, a violent convulsion commonly comes on, and puts an end to life.

MCCIV.

These spasms are every where attended with most violent pains. The utmost violence of spasm is, however, not constant; but, after subsisting for a minute or two, the muscles admit of some remission of their contraction, although of no such relaxation as can allow the action of their antagonists. This remission of contraction gives also some remission of pain; but neither are of long duration. From time to time, the violent contractions and pains are renewed, sometimes every ten or fifteen minutes, and that often without any evident exciting cause. But such exciting causes frequently occur; for almost every attempt to motion, as attempting a change of posture, endeavouring to swallow, and even to speak, sometimes gives occasion to a renewal of the spasms over the whole body.

MCCV.

The attacks of this disease are seldom attended with any fever. When the spasms are general and violent, the pulse is contracted, hurried, and irregular, and the respiration is affected in like manner; but, during the remission, both the pulse and respiration usually return to their natural state. The heat of the body is, commonly, not increased; frequently, the face is pale, with a cold sweat upon it; and, very often, the extremities are cold, with a cold sweat over the whole body. When, however, the spasms are frequent and violent, the pulse is sometimes more full and frequent than
natural,

natural, the face is flushed, and a warm sweat is forced out over the whole body.

MCCVI.

Although fever be not a constant attendant of this disease, especially when arising from a lesion of nerves ; yet, in those cases proceeding from cold, a fever sometimes has supervened, and is said to have been attended with inflammatory symptoms. Blood has been often drawn in this disease ; but it never exhibits any inflammatory crust ; and all accounts seem to agree, that the blood drawn seems to be of a looser texture than ordinary, and that it does not coagulate in the usual manner.

MCCVII.

In this disease, the head is seldom affected with delirium, or even confusion of thought, till the last stage of it, when, by the repeated shocks of a violent distemper, every function of the system is greatly disordered.

MCCVIII.

It is no less extraordinary, that, in this violent disease, the natural functions are not either immediately or considerably affected. Vomitings, sometimes, appear early in the disease, but, commonly, they are not continued ; and it is usual enough for the appetite of hunger to remain through the whole course of the disease ; and what food happens to be taken down, seems to be regularly enough digested. The excretions are sometimes affected, but not always. The urine is sometimes suppressed, or is voided with difficulty and pain. The belly is costive ; but, as we have hardly any accounts excepting of those cases in which opiates have been largely employed, it is uncertain whether the costiveness has been the effect of the opiates or of the disease. In several instances
of

of this disease, a miliary eruption has appeared upon the skin; but whether this be a symptom of the disease, or the effect of a certain treatment of it, is undetermined. In the mean while, it has not been observed to denote either safety or danger, or to have any effect in changing the course of the distemper.

MCCIX.

This disease has generally proved fatal; and this, indeed, may be justly supposed to be the consequence of its nature; but, as we know that, till very lately, physicians were not well acquainted with a proper method of cure; and that since a more proper method has been known and practised, many have recovered from this disease: It may be concluded, therefore, that the fatal tendency of it is not so unavoidable as has been imagined.

In judging of the tendency of this disease, in particular cases, we may remark, that, when arising from lesions of the nerves, it is commonly more violent, and of more difficult cure than when proceeding from cold; that the disease which comes on suddenly, and advances quickly to a violent degree, is always more dangerous than that which is slower in its progress. Accordingly, the disease often proves fatal before the fourth day; and, when a patient has passed this period, he may be supposed to be in greater safety, and, in general, the disease is the safer, the longer it has continued. It is, however, to be particularly observed, that, even for many days after the fourth, the disease continues to be dangerous; and, even after some considerable abatement of its force, it is ready to recur again with its former violence and danger. It never admits of any sudden, or what may be called a critical solution, but always recedes, by degrees only; and it is often very long before the whole of the symptoms disappear.

MCCX.

MCCX.

From the history of the disease now described, it will be evident, that there is no room for distinguishing the *tetanus opisthotonos*, and *trismus*, or *locked jaw*, as different species of disease, since they all arise from the same causes, and are almost constantly conjoined in the same person. I have no doubt that the *emprosthotonos* belongs also to the same species, and, as the antients have frequently mentioned it, we can have no doubt of its having occurred ; but, at the same time, it is certainly in these days a rare occurrence ; and, as I have never seen it, nor find any histories in which this particular state of the spasms is said to have prevailed, I cannot mention the other circumstances which particularly attend it, and may distinguish it from the other varieties of tetanic complaints.

MCCXI.

This disease has put on still a different form from any of those above mentioned. The spasms have been sometimes confined to one side of the body only, and which bend it strongly to that side. This is what has been named by Sauvages the *Tetanus Lateralis*, and by some late writers, the *Pleurosthotonos*. This form of the disease has certainly appeared very seldom ; and in any of the accounts given of it, I cannot find any circumstances that would lead me to consider it as any other than a variety of the species already mentioned, or to take further notice of it here.

MCCXII.

The pathology of this disease, I cannot, in any measure, attempt, as the structure of moving fibres, the state of them under different degrees of contraction, and particularly the state of the sensorium, as variously determining the motion of the nervous power, are all matters very imperfectly, or not

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at all known to me. In such a situation, therefore, the endeavouring to give any rules of practice, upon a scientific plan, appears to me vain and fruitless; and, towards directing the cure of this disease, we must be satisfied with having learned something useful from analogy, confirmed by experience.

MCCXIII.

When the disease is known to arise from the lesion of a nerve in any part of the body, the first, and, as I judge, the most important step to be taken towards the cure, is, by every possible means to cut off that part from all communication with the sensorium, either by cutting through the nerves in their course, or perhaps by destroying, to a certain length, their affected part or extremity.

MCCXIV.

When the cure of the disease is to be attempted by medicine, experience has taught us that opium has often proved an effectual remedy; but that, to render it such, it must be given in much larger quantities than have been employed in any other case; and, in these larger quantities, it may, in this disease, be given more safely than the body has been known to bear in any other condition. The practice has been, to give the opium either in a solid or a liquid form, not in any very large dose at once, but in moderate doses, frequently repeated, at the interval of one, two, three or more hours, as the violence of the symptoms seem to require. Even when large quantities have been given in this way, it appears that the opium does not operate here in the same manner as in most other cases; for, though it procure some remission of the spasms and pains, it hardly induces any sleep, or occasions that stupor, intoxication, or delirium, which it often does in other circumstances, when much smaller quantities only have been given. It is, therefore, very properly observed,

served, that, in tetanic affections, as the opium shews none of those effects by which it may endanger life, there is little or no reason for being sparing in the exhibition of it, and it may be given, probably should be given, as largely, and as fast as the symptoms of the disease may seem to demand.

It is particularly to be observed, that, though the first exhibitions of the opium may have produced some remission of the symptoms; yet the effects of opium do not long continue in the system; and this disease being, for some time, ready to recur, it is commonly very necessary, by the time that the effects of the opium given may be supposed to be wearing off; and especially upon the least appearance of a return of the spasms, to repeat the exhibition of the opium in the same quantities as before. This practice is to be continued while the disease continues to shew any disposition to return; and it is only after the disease has already subsisted for some time, and when considerable and long continued remissions have taken place, that the doses of the opium may be diminished, and the intervals of exhibiting them be more considerable.

MCCXV.

The administering of opium in this manner has, in many cases, been successful, and, probably, would have been equally so in many others, if the opium had not been too sparingly employed, either from the timidity of practitioners, or from its exhibition being prevented, by that interruption of deglutition which so often attends this disease. This latter circumstance directs, that the medicine should be immediately and largely employed, upon the first approach of the disease, before the deglutition becomes difficult; or that, if this opportunity be lost, the medicine, in sufficient quantity, and with due frequency, should be thrown into the body by clyster; which, however, does not seem to have been hitherto often practised.

MCCXVI.

It is highly probable, that, in this disease, the intestines are affected with the spasm that prevails so much in other parts of the system, and, therefore, that costiveness occurs here as a symptom of the disease. It is probably, also, increased by the opium, which is here so largely employed; and, from whichever of these causes it arises, it certainly must be held to aggravate the disease, and that a relaxation of the intestinal canal will contribute to a relaxation of the spasms elsewhere. This consideration directs the frequent exhibition of laxatives while the power of deglutition remains, or the frequent exhibition of clysters, when it does not; and the good effects of both have been frequently observed.

MCCXVII.

It has been with some probability supposed, that the operation of opium, in this disease, may be much assisted, by joining with it some other of the most powerful antispasmodics. The most promising are musk and camphire; and some practitioners have been of opinion, that the former has proved very useful in tetanic complaints. But, whether it be from its not having been employed of a genuine kind, or in sufficient quantity, the great advantage and propriety of its use, are not yet clearly ascertained. It appears to me probable, that, analogous to what happens with respect to opium, both musk and camphire, might be employed in this disease, in much larger quantities, than they commonly have been in other cases.

MCCXVIII.

Warm bathing has been commonly employed as a remedy in this disease, and often with advantage; but, so far as I know, it has not alone proved a cure; and, in some cases, whether it be from the motion of the body here required, ex-
citing

citing the spasms, or from the fear of the bath, which some persons were seized with, I cannot determine; but it is allowed, that the warm bath hath, in some cases, done harm, and even occasioned death. Partial fomentations have been much commended, and, I believe, upon good grounds: And I have no doubt but that fomentations of the feet and legs, as we now usually apply them in fevers, might, without much stirring of the patient, be very assiduously employed with advantage.

MCCXIX.

Unctuous applications were very frequently employed in this disease by the antients; and some modern practitioners have considered them as very useful. Their effects, however, have not appeared to be considerable; and, as a weak auxiliary only, attended with some inconveniency, they have been very much neglected by the British practitioners.

MCCXX.

Bleeding, has been formerly employed in this disease; but, of late, it has been found prejudicial, excepting in a few cases, where, in plethoric habits, a fever has supervened. In general, the state of mens bodies, in warm climates, is unfavourable to blood-letting; and, if we may form indications from the state of the blood drawn out of the veins, the state of this, in tetanic diseases, would forbid bleeding in them.

MCCXXI.

Blistering, also, has been formerly employed in this disease; but several practitioners assert that blisters are constantly hurtful, and they are now generally omitted.

MCCXXII.

These are the practices that hitherto have been generally employed;

employed; but, of late, we are informed by several West-India practitioners, that, in many instances, they have employed mercury with great advantage. We are told that it must be employed early in the disease; that it is most conveniently administered by unction, and should be applied in that way in large quantities, so that the body may be soon filled with it, and a salivation raised, which is to be continued till the symptoms yield. Whether this method alone be generally sufficient for the cure of the disease, or if it may be assisted by the use of opium, and require this, in a certain measure, to be joined with it, I have not yet certainly learned.

MCCXXIII.

I have been further informed, that the *Tetanus*, in all its different degrees, has been cured by giving internally the *Pissilaeum Barbadesse*, or, as it is vulgarly called, the Barbadoes Tar. I think it proper to take notice of this here, although I am not exactly informed, what quantities of this medicine are to be given, or in what circumstances of the disease it is most properly to be employed.

MCCXXIV.

Before concluding this chapter, it is proper for me to take some notice of that peculiar case of the *Tetanus*, or *Trismus*, which attacks certain infants soon after their birth, and has been properly enough named the *Trismus Nascentium*. From the subjects it affects, it seems to be a peculiar disease; for these are infants not above two weeks, and commonly before they are nine days old; insomuch that, in countries where the disease is frequent, if children pass the period now mentioned, they are considered as secure against its attacks. The symptom of it chiefly taken notice of, is the *Trismus*, or *Locked Jaw*, which is by the vulgar improperly named the *Falling of the Jaw*. But this is not the only symptom, as,
for

for the most part, it has all the same symptoms as the *Opi-
sthotonos* and *Tetanus*, strictly so called, and which occur in the
other varieties of Tetanic complaints above described. Like
the other varieties of *Tetanus*, this is most frequent in warm
climates, but is not, like those arising from cold, nearly con-
fined to such warm climates; as instances of it have occurred
in most of the northern countries of Europe. In these
latter, it seems to be more frequent in certain districts than
in others, but in what manner limited, I cannot determine.
It seems to be more frequent in Switzerland than in France.
I am informed of its frequently occurring in the Highlands
of Scotland; but I have never met with any instance of it in
the low country. The particular causes of it are not well
known; and various conjectures have been offered; but none
of them are satisfying. It is a disease that has been almost
constantly fatal, and this, also, commonly in the course of a
few days. The women are so much persuaded of its inevit-
able fatality, that they seldom or ever call for the assistance
of our art. This has occasioned our being little acquainted
with the history of the disease, or with the effects of reme-
dies in it. Analogy, however, would lead us to employ the
same remedies that have proved useful in the other cases of
Tetanus; and the few experiments that are yet recorded seem
to approve of such a practice.

C H A P.

C H A P. II.

O F E P I L E P S Y.

MCCXXV.

IN what sense I use the term *Convulsion*, I have explained above in (MCXCIX.).

The convulsions that affect the human body are, in several respects, various; but I am to consider here, only, the chief and most frequent form in which they appear, and which is in the disease named *Epilepsy*. This may be defined, as consisting in convulsions of the greater part of the muscles of voluntary motion, attended with a loss of sense, and ending in a state of insensibility, and seeming sleep.

MCCXXVI.

The general form, or principal circumstances of this disease, are much the same in all the different persons whom it affects. It comes by fits, which attack persons seemingly in perfect health, and, after lasting for some time, pass off, and leave the persons again in their usual state. These fits are sometimes preceded by certain symptoms, which to persons who have before experienced such attacks, give notice of the approach of a fit, as we shall hereafter explain; but even these preludes do not commonly occur long before the formal attack, which in most cases, comes on suddenly, without any such warning.

The person attacked, loses, suddenly, all sense, and power of motion, so that, if standing, he falls immediately, or, perhaps, with convulsions, is thrown to the ground. In that situation,

situation, he is agitated with violent convulsions, variously moving his limbs, and the trunk of his body. Sometimes the limbs on one side of the body are more violently, or more considerably agitated than those upon the other. In all cases, the muscles of the face and eyes are much affected, exhibiting various and violent distortions of the countenance. The tongue is often affected, and thrust out of the mouth, while the muscles of the lower jaw, are also affected, and shutting the mouth with violence while the tongue is thrust out between the teeth, it is often grievously wounded.

While these convulsions continue, there is commonly, at the same time, a frothy moisture issuing from the mouth. These convulsions have at times some remissions, but are suddenly again renewed with great violence. Generally, after no long space, the convulsions cease altogether, and the person, for some time, remains without motion, but in a state of absolute insensibility, and under the appearance of a profound sleep. After some continuance of this seeming sleep, he gradually, though sometimes suddenly, recovers his senses, and power of motion, but without any memory of what had passed from his being first seized with the fit. During the convulsions, the pulse and respiration are hurried and irregular; but, when the convulsions cease, they return to their usual regularity, and healthy state.

This is the general form of the disease; and it varies only in different persons, or, on different occasions, in the same person, by the phænomena mentioned being more or less violent, or by their being of longer or shorter duration.

MCCXXVII.

With respect to the proximate cause of this disease, I might say, that it is an affection of the energy of the brain, which ordinarily under the direction of the will, is here, without any concurrence of it, impelled by preternatural causes. But I could go no further: For, as to what is the mechanical condition

condition of the brain, in the ordinary exertions of the will, I have no distinct knowledge, and, therefore, must be also ignorant of the preternatural state of the same energy of the brain under the irregular motions here produced. To form, therefore, the indications of cure, from a knowledge of the proximate cause of this disease, I must not attempt; but, from a diligent attention to the remote causes which first induced, and occasionally excite the disease, I think we may often obtain some useful directions for its cure. It shall therefore be my business now, to point out and enumerate these remote causes as well as I can.

MCCXXVIII.

The remote causes of epilepsy may be considered as occasional or predisponent. There are, indeed, certain remote causes which act independently of any predisposition; but, as we cannot always distinguish these from others, I shall consider the whole under the usual titles of *Occasional* or *Predisponent*.

MCCXXIX.

The occasional causes may, I think, be properly referred to two general heads; the *first* being of those which seem to act by directly stimulating, and exciting the energy of the brain; and, the *second*, of those which seem to act by weakening the same. With respect to both, for the brevity of expressing a fact, without meaning to explain the manner in which it is brought about, I shall use the terms of *Excitement* and *Collapse*. And, though it be true, that, with respect to some of the causes I am to mention, it may be a little uncertain whether they act in the one way or the other, that does not render it improper for us to mark the mode of their operating, wherever we can do it clearly, as the doing so may often be of use in directing our practice.

MCCXXX.

MCCXXX.

First, then, of the occasional causes acting by excitement, they are either such as act immediately and directly upon the brain itself, or those which are first applied to the other parts of the body, and are from thence communicated to the brain.

MCCXXXI.

The causes of excitement immediately and directly applied to the brain, may be referred to the four heads of, 1. Mechanical Stimulants; 2. Chemical Stimulants; 3. Mental Stimulants; and, 4. the Peculiar Stimulus of Over-Distension.

MCCXXXII.

The Mechanical Stimulants may be wounding instruments penetrating the cranium, and entering the substance of the brain; or splinters of a fractured cranium, operating in the same manner; or sharp pointed ossifications, either arising from the internal surface of the cranium, or formed in the membranes of the brain.

MCCXXXIII.

The Chemical Stimulants (MCCXXXI.) may be certain ferous fluids from effusion; or purulent, in consequence of inflammation, lodged in certain parts of the brain, and become acrid by stagnation, or otherwise.

MCCXXXIV.

The Mental Irritations, acting by excitement, are, all violent emotions of the active kind, such as joy and anger. The *first* of these is manifestly an exciting power, acting strongly, and immediately, on the energy of the brain. The *second* is manifestly, also, a power acting in the same manner; but it must be remarked, that it is not in this manner alone anger

produces its effects; for it acts, also, strongly on the sanguiferous system, and may be a means of giving the stimulus of over-distension, as, under a fit of anger, the blood is impelled into the vessels of the head with violence, and in a larger quantity.

MCCXXXV.

Under the head of Mental Irritations, is to be mentioned, the sight of persons in a fit of epilepsy, which has often produced a fit of the like kind in the spectator. It may, indeed, be a question, Whether this effect be imputable to the horror produced by a sight of the seemingly painful agitations of the limbs, and of the distortions in the countenance of the epileptic person; or if it may be ascribed to the force of imitation merely? It is possible that horror may sometimes produce the effect; but, certainly, much may be imputed to that propensity to imitation, at all times so powerful and prevalent in human nature; and so often operating in other cases of convulsive disorders, which do not present any spectacle of horror.

MCCXXXVI.

Under the same head of Mental Irritation, I think proper to mention as an instance of it, the *Epilepsia Simulata*, or the *Feigned Epilepsy*, so often taken notice of. Although this, at first, may be entirely feigned, I have no doubt but that the repetition renders it at length real. The history of Quietism and of Exorcisms leads me to this opinion; and which receives a confirmation from what we know of the power of imagination, in renewing epileptic and hysteric fits.

MCCXXXVII.

I come now to the *fourth* head of the irritations applied immediately to the brain, and which I apprehend to be that
of

of the over-distension of the blood-vessels in that organ. That such a cause operates in producing epilepsy, is probable from this, that the dissection of persons dead of epilepsy, has commonly discovered the marks of a previous congestion in the blood-vessels of the brain. This, perhaps, may be supposed the effect of the last fatal fit ; but that the congestion was previous thereto, is probable from the epilepsy being so often joined with head-ach, mania, palsy, and apoplexy, all of them diseases depending upon a congestion in the vessels of the brain. The general opinion receives also confirmation from this circumstance, that, in the brain of persons dead of epilepsy, there have been often found tumours and effusions which, though seemingly not sufficient to produce those diseases which depend on the compression of a considerable portion of the brain, may, however, have been sufficient to compress so many vessels as to render the others upon any occasion, of a more than usual turgescence, or impulse of the blood into the vessels of the brain, more liable to an over-distension.

MCCXXXVIII.

These considerations alone might afford foundation for a probable conjecture with respect to the effects of over-distension ; but the opinion does not rest upon conjecture alone. That it is also founded in fact, appears from hence, that a plethoric state is favourable to epilepsy, and that every occasional turgescence, or unusual impulse of the blood into the vessels of the brain, such as a fit of anger, the heat of the sun, or of a warm chamber, violent exercise, a surfeit, or a fit of intoxication, are frequently the immediately exciting causes of epileptic fits.

MCCXXXIX.

I venture to remark, further, that a piece of theory may
be

be admitted as a confirmation of this doctrine. As I have formerly maintained, that a certain fulness and tension of the vessels of the brain, is necessary to the support of its ordinary and constant energy, in the distribution of the nervous power, so it must be sufficiently probable, that an over-distension of these blood vessels may be a cause of violent excitement.

MCCXL.

We have now enumerated the several remote, or occasional causes of epilepsy, acting by excitement, and acting immediately upon the brain itself. Of the causes acting by excitement, but acting upon other parts of the body, and from thence communicated to the brain, they are all of them impressions producing an exquisite, or high degree, either of pleasure or pain.

Impressions which produce neither the one nor the other, have hardly any such effects, unless when such impressions are in a violent degree, and then their operation may be considered as a mode of pain. It is, however, to be remarked, that all strong impressions, which are sudden and surprising, or, in other words, unforeseen and unexpected, have frequently the effect of bringing on epileptic fits.

MCCXLI.

There are certain impressions made upon different parts of the body, which, as they often operate without producing any sensation, so it is uncertain to what head they belong; but it is probable that the greater part of them act by excitement, and therefore fall to be mentioned here. The chief instances are, the teething of infants, worms, acidity, or other acrimony, in the alimentary canal, calculi in the kidneys, acrid matter in abscesses or ulcers, or acrimony diffused in the mass of blood, as in the case of some contagions.

MCCXLII.

MCCXLII.

Physicians have found no difficulty in comprehending how direct stimulants, of a certain force, may excite the action of the brain, and occasion epilepsy; but they have hitherto taken little notice of certain causes, which manifestly weaken the energy of the brain, and act, as we speak, by collapse. These, however, have the effect of exciting the action of the brain in such a manner as to occasion epilepsy. We might, upon this subject, speak of the *vis medicatrix naturæ*; and there is a foundation for the term; but, as we do not admit the Stahlian doctrine of an administering soul, I acknowledge the term only as expressing a fact, and would not employ it with the view of conveying any explanation of the manner in which the powers of collapse mechanically produce their effects. In the mean time, however, I maintain that there are certain powers of collapse, which, in effect, prove stimulants, and produce epilepsy.

MCCXLIII.

That there are such powers, which may be termed indirect stimulants, I conclude from hence, that several of the causes of epilepsy are such as frequently produce syncope, which we suppose always to depend upon causes weakening the energy of the brain (MCXIX.). It may give some difficulty to explain why the same causes sometimes occasion syncope, and sometimes occasion the reaction that appears in epilepsy; and I shall not attempt to explain it; but this, I think, does not prevent our supposing that the operation of these causes is by collapse. That there are such causes producing epilepsy, will, I think, appear very clearly from the particular examples of them I am now to mention.

MCCXLIV.

The first to be mentioned, which I suppose to be of this kind,

kind, is hæmorrhagy, whether spontaneous or artificial. That the same hæmorrhagy which produces syncope, often, at the same time, produces epilepsy, is well known; and, from many experiments and observations, it appears, that hæmorrhagies, occurring to such a degree as to prove mortal, seldom go this length, without producing epilepsy.

MCCXLV.

Another cause acting, as I suppose, by collapse, and therefore sometimes producing syncope, and sometimes epilepsy, is terror, that is, the fear of some great evil suddenly presented. As this produces, at the same time, a sudden and considerable emotion, (MCCXL.), so it more frequently produces epilepsy than syncope.

MCCXLVI.

A third cause acting by collapse, and producing epilepsy, is horror, or a strong aversion suddenly raised by a very disagreeable sensation, and frequently arising from a sympathy with the pain or danger of another person. As horror is often a cause of syncope, there can be no doubt of its manner of operating in producing epilepsy; and it may perhaps be explained upon this general principle, that, as desire excites action, and gives activity, so aversion restrains from action, that is, weakens the energy of the brain; and, therefore, the higher degrees of aversion may have the effects I have mentioned.

MCCXLVII.

A fourth set of the causes of epilepsy, which I suppose also to act by collapse, are certain odours, which occasion either syncope or epilepsy; and, with respect to the former, I have given my reasons (MCXXVI.), for supposing odours, in that case, to act rather as disagreeable than as sedative. These reasons

reasons will, I think, also apply here; and perhaps the whole affair of odours might be considered as instances of the effect of horror, and therefore belonging to the last head.

MCCXLVIII.

A fifth head of the causes producing epilepsy, is the operation of many substances considered, and, for the most part, properly considered, as poisons. Many of these, before they prove mortal, occasion epilepsy. This effect, indeed, may, in some cases, be referred to the inflammatory operation which they sometimes discover in the stomach, and other parts of the alimentary canal; but, as the greater part of the vegetable poisons show chiefly a narcotic, or strongly sedative power, it is probably by this power that they produce epilepsy, and therefore belong to this head of the causes acting by collapse.

MCCXLIX.

Under the head of the remote causes producing epilepsy, we must now mention that peculiar one, whose operation is accompanied with what is called the *Aura Epileptica*. This is a sensation of something moving in some part of the limbs, or trunk of the body, and from thence creeping upwards to the head; and, when it arrives there, the person is immediately deprived of sense, and falls into an epileptic fit. This motion is described by the persons feeling it sometimes as a cold vapour, sometimes as a fluid gliding, and sometimes as the sense of a small insect creeping along their body; and very often they can give no distinct idea of their sensation, otherwise than as, in general, of something moving along. This sensation might be supposed to arise from some affection of the extremity, or other part of a nerve acted upon by some irritating matter, and that the sensation, therefore, followed the course of such a nerve; but I have never found it follow-
ing

ing distinctly the course of any nerve ; and it generally seems to pass along the teguments. It has been found, in some instances, to arise from something pressing upon, or irritating a particular nerve, and that sometimes in consequence of contusion or wound ; but instances of these are more rare ; and the more common consequence of contusions and wounds is a tetanus. This latter effect wounds produce, without giving any sensation of an aura, or other kind of motion proceeding from the part to the head ; while, on the other hand, the aura producing epilepsy often arises from a part which had never before been affected with wound or contusion, and in which part the nature of the irritation can seldom be discovered.

It is natural to imagine that this *aura epileptica* is an evidence of some irritation, or direct stimulus, acting in the part, and from thence communicated to the brain, and should, therefore, have been mentioned among the causes acting by excitement ; but the remarkable difference that occurs in seemingly like causes producing tetanus, gives some doubt on this subject.

MCCL.

Having now enumerated the occasional causes, we proceed to consider the predisponent. As so many of the above mentioned causes act upon certain persons, and not at all upon others, there must be supposed in those persons a predisposition to this disease : But in what this predisposition consists is not to be easily ascertained.

MCCLI.

As many of the occasional causes are weak impressions, and are applied to most persons with little or no effect, we conclude that the persons affected by those causes are more easily moved than others, and, therefore, that, in this case,

a certain mobility gives the predisposition. It will, perhaps, make this matter clearer, to show, in the first place, that there is a mobility of constitution in some persons more than in others.

MCCLII.

This mobility appears most clearly in the state of the mind. If a person is readily elated by hope, and as readily depressed by fear, and passes easily and quickly from the one state to the other ; if he is easily pleased, and prone to gaiety, and as easily provoked to anger, and rendered peevish ; if liable, from slight impressions, to strong emotions, but tenacious of none, this is the boyish temperament, *qui colligit ac ponit iram temere et mutatur in horas* ; this is the *varium et mutabile fœmina* ; and, both in the boy and woman, every one perceives and acknowledges a mobility of mind. But this is necessarily connected with an analogous state of the brain, that is, with a mobility, in respect of every impression, and, therefore, liable to a ready alternation of excitement and collapse, and of both to a considerable degree.

MCCLIII.

There is, therefore, in certain persons, a mobility of constitution, generally derived from the state of original stamina, and more exquisite at a certain period of life than at others, but sometimes arising from, and particularly modified by occurrences in the course of life.

MCCLIV.

This mobility consists in a greater degree either of sensibility or irritability. These conditions, indeed, physicians consider as so necessarily connected, that the constitution, with respect to them, may be considered as one and the same ; but I am of opinion that they are different, and that mobility

may sometimes depend upon an increase of the one, and sometimes on that of the other. If an action excited, is, by repetition, rendered more easily excited, and more vigorously performed, I consider this as an increase of irritability only. I go no farther on this subject here, as it was only necessary to take notice of the case just now mentioned, for the purpose of explaining why epilepsy, and convulsions of all kinds, by being repeated, are more easily excited, readily become habitual, and are therefore of more difficult cure.

MCCLV.

However we may apply the distinction of sensibility and irritability, it appears that the mobility, which is the predisponent cause of epilepsy, depends more particularly upon debility, or upon a plethoric state of the body.

MCCLVI.

What share debility, perhaps, by inducing sensibility, has in this matter appears clearly from hence, that children, women and other persons of manifest debility, are the most frequent subjects of this disease.

MCCLVII.

The effects of a plethoric state in disposing to this disease appears from hence, that plethoric persons are frequently the subjects of it; that it is commonly excited, as we have said above, by the causes of any unusual turgescence of the blood; and that it has been frequently cured by diminishing the plethoric state of the body.

That a plethoric state of the body should dispose to this disease, we may understand from several considerations. *1st*, Because a plethoric state implies, for the most part, a laxity of the solids, and, therefore, some debility in the moving fibres. *2^{dly}*, Because, in a plethoric state, the tone of the moving

moving fibres depends more upon their tension than upon their inherent power; and as their tension depends upon the quantity and impetus of the fluids in the blood-vessels, which are very changeable, and, by many causes, frequently changed, so these frequent changes must give a mobility to the system. 3dly, Because a plethoric state is favourable to a congestion of blood in the vessels of the brain, it must render these more readily affected by every general turgescence of the blood in the system, and, therefore, more especially dispose to this disease.

MCCLVIII.

There is another circumstance of the body disposing to epilepsy, which we cannot so well account for, and that is the state of sleep; but whether we can account for it or not, it appears, in fact, that this state gives the disposition we speak of; for, in many persons liable to this disease, the fits happen only in the time of sleep, or immediately upon their coming out of it. In a case related by De Haen, it appeared clearly that the disposition to epilepsy depended entirely upon the state of the body in sleep.

MCCLIX.

Having thus considered the whole of the remote causes of epilepsy, I proceed to treat of its cure, as I have said it is from the consideration of those remote causes only, that we can obtain any directions for our practice in this disease.

I begin with observing, that, as the disease may be considered as sympathetic or idiopathic, I must treat of these separately, and judge it proper to begin with the former,

MCCLX.

When this disease is truly sympathetic, and depending upon a primary affection in some other part of the body, such as acidity,

acidity, or worms in the alimentary canal, teething, or other similar causes, it is obvious that such primary affections must be removed for the cure of the epilepsy; but it is not our business here to say how these primary diseases are to be treated.

MCCLXI.

There is, however, a peculiar case of sympathetic epilepsy, that is, the case accompanied with the *aura epileptica*, as described in (MCCXLIX.), in which, though we can perceive by the *aura epileptica* arising from a particular part, that there is some affection in that part, yet, in many such cases, as we cannot perceive of what nature the affection is, with respect to them, we can only offer the following general directions.

1st. When the part can with safety be entirely destroyed, we should endeavour to do so by cutting it out, or by destroying it by the application of an actual or potential cautery.

2^{dly}, When the part cannot be properly destroyed, that we should endeavour to correct the morbid affection in it by blistering, or by establishing an issue upon the part.

3^{dly}, When these measures cannot be executed, or do not succeed, if the disease seems to proceed from the extremity of a particular nerve which we can easily come at in its course, it will be proper to cut through that nerve, as before proposed on the subject of tetanus.

4^{thly}, When it cannot be perceived that the *aura* arises from any precise place, or point, so as to direct to the above mentioned operations, but, at the same time, we can perceive its progress along the limb, it frequently happens that the epilepsy can be prevented by a ligature applied upon the limb, above the part from which the *aura* arises; and this is always proper to be done, both because the preventing a fit breaks the habit of the disease, and because the frequent compression renders the nerves less fit to propagate the *aura*.

MCCLXII.

MCCLXII.

The cure of idiopathic epilepsy, as I have said above, is to be directed by our knowledge of the remote causes: There are, therefore, two general indications to be formed. The *first* is to avoid the occasional causes; and the *second* is to remove or correct the predisponent.

This method, however, is not always purely palliative; as, in many cases, the predisponent may be considered as the only proximate cause, so our *second* indication may be often considered as properly curative.

MCCLXIII.

From the enumeration given above, it will be manifest, that, for the most part, the occasional causes, so far as they are in our power, need only to be known, in order to be avoided, and the means of doing this will be sufficiently obvious. I shall therefore here offer only a few remarks.

MCCLXIV.

One of the most frequent of the occasional causes is that of over-distension (MCCXXXVII.) which, so far as it depends upon a plethoric state of the system, I shall say hereafter how it is to be avoided. But as not only in the plethoric, but in every moveable constitution, occasional turgescence is a frequent means of exciting epilepsy, the avoiding, therefore, of such turgescence is what ought to be most constantly the object of attention to persons liable to epilepsy.

MCCLXV.

Another of the most frequently exciting causes of this disease are, all strong impressions suddenly made upon the senses, for as such impressions, in moveable constitutions,
break

break in upon the usual force, velocity, and order of the motions of the nervous system, they thereby readily produce epilepsy. Such impressions, therefore, and especially those which are suited to excite any emotion or passion of the mind, are to be most carefully guarded against by persons liable to epilepsy.

MCCLXVI.

In many cases of epilepsy, where the predisponent cause cannot be corrected or removed, the recurrences of the disease can only be prevented by the strictest attention to avoid the occasional; and, as the disease is often confirmed by repetition and habit, so the avoiding the frequent recurrence of it is of the utmost importance towards its cure.

These are the few remarks we have to offer with respect to the occasional causes, and must now observe, that, for the most part, the complete, or, as it is called, the radical cure, is only to be obtained by removing or correcting the predisponent cause.

MCCLXVII.

We have said above, that the predisponent cause of epilepsy is a certain mobility of the sensorium, and that this depends upon a plethoric state of the system, or upon a certain state of debility in it.

MCCLXVIII

How the plethoric state of the system is to be corrected, I have treated of fully above in (DCCXLVI. et seq.), and I need not repeat it here. It will be enough to say, that it is chiefly to be done by a proper management of exercise and diet; and, with respect to the latter, it is particularly to be observed here, that an abstemious course has been frequently found to be the most certain means of curing epilepsy.

MCCLXIX.

MCCLXIX.

Considering the nature of the matter poured out by issues, these may be supposed to be a constant means of obviating the plethoric state of the system, and it is, perhaps, therefore, that they have been so often found useful in epilepsy. Possibly, also, as an open issue may be a means of determining occasional turgescences to such places, and, therefore, of diverting them in some measure from their action upon the brain, so also, in this manner, issues may be useful in epilepsy.

MCCLXX.

It might be supposed that blood-letting would be the most effectual means of correcting the plethoric state of the system; and such it certainly proves when the plethoric state has become considerable, and immediately threatens morbid effects. It is, therefore, in such circumstances, proper and necessary; but, as we have said above, that blood-letting is not the proper means of obviating a recurrence of the plethoric state, and, upon the contrary, is often the means of favouring it, so it is not a remedy adviseable in every circumstance of epilepsy. There is, however, a case of epilepsy, in which there is a periodical or occasional recurrence of the fulness and turgescence of the sanguiferous system, giving occasion to a recurrence of the disease. In such cases, when the means of preventing plethora have been neglected, or may have proved ineffectual, it is absolutely necessary for the practitioner to watch the returns of these turgescences, and to obviate their effects by the only certain means of doing it, that is, by a large blood-letting.

MCCLXXI.

The second cause of mobility which we have assigned, is a state of debility. If this is owing as it frequently is, to original conformation, it is perhaps not possible to cure it; but

but when it has been brought on in the course of life, it possibly may admit of being mended ; and, in either case, much may be done to obviate and prevent its effects.

MCCLXXII.

The means of correcting debility, so far as it can be done, are the person's being much in cool air, the frequent use of cold bathing, the use of exercise adapted to the strength and habits of the person, and, perhaps, the use of astringent and tonic medicines.

These remedies are suited to strengthen the inherent power of the solids, or moving fibres ; but, as the strength of these depends also upon their tension, so, when debility has proceeded from inanition, the strength may be restored, by restoring the fulness and tension of the vessels by a nourishing diet ; and we have had instances of the propriety and success of such a practice.

MCCLXXIII.

The means of obviating the effects of debility, and of the mobility depending upon it, are the use of tonic and anti-spasmodic remedies.

The tonics are fear, or some degree of terror, astringents, certain vegetable and metallic tonics, and cold bathing.

MCCLXXIV.

That fear, or some degree of terror, may be of use in preventing epilepsy, we have a remarkable proof in Boerhaave's cure of the epilepsy, which happened in the Orphan-house at Harrem. See Kauw Boerhaave's treatise, entitled *Impetum Faciens*, § 406. And we have met with several other instances of the same.

As the operation of horror is in many respects analogous to that of terror, several seemingly superstitious remedies have

have been employed for the cure of epilepsy ; and, if they have ever been successful, I think it must be imputed to the horror they had inspired.

MCCLXXV.

Of the astringent medicines used for the cure of epilepsy, the most celebrated is the *viscus quercinus*, which, when given in large quantities, may possibly be useful ; but I believe it was more especially so in antient times, when it was an object of superstition. In the few instances in which I have seen it employed, it did not prove of any effect.

MCCLXXVI.

Among the vegetable tonics, the bitters are to be reckoned ; and it is by this quality that I suppose the orange tree leaves to have been useful ; but they are not always so.

MCCLXXVII.

The vegetable tonic, which, from its use in analogous cases, is the most promising, is the Peruvian bark ; this, upon occasion, has been useful, but has also often failed. It is especially adapted to those epilepsies which recur at certain periods, and which are, at the same time, without the recurrence of any plethoric state, or turgescence of the blood, and, in such periodical case, if the bark is employed, some time before the expected recurrence, it may be useful ; but it must be given in large quantity, and as near to the time of the expected return as possible.

MCCLXXVIII.

The metallic tonics seem to be more powerful than the vegetable, and a great variety of the former have been employed.

Even arsenic has been employed in the cure of epilepsy ; and its use in intermittent fevers gives an analogy in its favour.

Preparations of tin have been formerly recommended in the cure of epilepsy, and in the cure of the analogous disease of hysteria ; and several considerations render the virtues of tin, with respect to these diseases, probable ; but I have had no experience of its use in such cases.

A much safer metallic tonic is to be found in the preparations of iron ; and we have seen some of them employed in the cure of epilepsy, but have never found them to be effectual. This, however, I think may be imputed to their not having been always employed in the circumstances of the disease, and in the quantities of the medicine, that were proper and necessary.

MCCLXXIX.

Of the metallic tonics, the most celebrated, and the most frequently employed, is copper, under various preparation. What preparation of it may be the most effectual we dare not determine ; but, of late, the *cuprum ammoniacum* has been frequently found successful.

MCCLXXX.

Lately, the flowers of zinc have been recommended, by a great authority, as useful in all convulsive disorders ; but, in cases of epilepsy, we have not hitherto found it useful.

MCCLXXXI.

There have been of late some instances of the cure of epilepsy by the accidental use of mercury ; and if the late accounts of the cure of tetanus by this remedy are confirmed, it will allow us to think that the same may be adapted also to the cure of certain cases of epilepsy.

MCCLXXXII.

MCCLXXXII.

With respect to the employment of any of the above mentioned tonics in this disease, it must be observed, that in all cases where the disease depends upon a constant, or occasional plethoric state of the system, these remedies are likely to be ineffectual; and if sufficient evacuations are not made at the same time, these medicines are likely to be very hurtful.

MCCLXXXIII.

The other set of medicines which we have mentioned as suited to obviate the effects of the too great mobility of the system, are the medicines named antispasmodics. Of these there is a long list in the writers on the *Materia Medica*, and by these authors recommended for the cure of epilepsy. The greater part, however, of these taken from the vegetable kingdom, are manifestly inert and insignificant. Even the root of the wild valerian hardly supports its credit.

MCCLXXXIV.

Certain substances taken from the animal kingdom seem to be much more powerful; and of these the chief, and seemingly the most powerful, is musk, which employed in its genuine state, and in due quantity, has often been an effectual remedy.

It is probable, also, that the *oleum animale*, as it has been called, when in its purest state, and exhibited at a proper time, may be an effectual remedy.

MCCLXXXV.

In many diseases, the most powerful antispasmodic is certainly opium; but the propriety of its use in epilepsy has been disputed among physicians. When the disease depends upon a plethoric state, in which bleeding may be necessary,
the

the employment of opium is likely to be very hurtful ; but, when there is no plethoric or inflammatory state present, and the disease seems to depend upon irritation, or upon increased irritability, opium is likely to prove the most certain remedy. Whatever effects in this, and other convulsive disorders, have been attributed to the hyoscyamus, must probably be attributed to its possessing a narcotic power similar to that of opium.

MCCLXXXVI.

With respect to the use of antispasmodics, it is to be observed, that they are always most useful, and, perhaps, only useful, when employed in the time of epileptic fits, or near to the times of their accession.

MCCLXXXVII.

On the subject of the cure of epilepsy, we have only to add, that, as the disease, in many cases, is continued by the power of habit only, and that, in all cases, habit has a great share in increasing mobility, and, therefore, continuing this disease ; so the breaking in upon such habit, and changing the whole habit of the system, is likely to be a powerful remedy in epilepsy. Accordingly, a considerable change of climate, diet, and other circumstances in the manner of life, has often proved a cure to this disease.

MCCLXXXVIII.

After treating of epilepsy, we might here treat of particular convulsions, which are to be distinguished from epilepsy by their being more partial, that is, affecting certain parts of the body only, and are not attended with a loss of sense, nor end in such a comatose state as epilepsy always does.

MCCLXXXIX.

MCCLXXXIX.

Of such convulsive affections, many different instances have been observed and recorded by physicians, but many of these have been manifestly sympathetic affections, to be cured only by curing the primary disease, and, therefore, not to be treated of here : Or, if they could not always be referred to another disease, as many of them, however, have not any specific character with which they occur in different persons, I must therefore, leave them to be treated upon the general principles I have laid down with respect to epilepsy, or shall lay down with respect to the following convulsive disorder, which, as having very constantly, in different persons, a peculiar character, I think necessary to treat of more particularly.

C H A P. III.

O F T H E C H O R E A,

O R

D A N C E O F S T. V I T U S.

MCCXC.

This disease affects both sexes, and almost only young persons. It generally happens from the age of ten, to that of fourteen years. It comes on always before the age of puberty, and rarely continues beyond that period.

MCCXCI.

MCCXCI.

It is chiefly marked by convulsive motions, somewhat varied in different persons, but nearly of one kind in all, affecting the leg and arm on the same side, and generally on one side only.

MCCXCII.

These convulsive motions commonly first affect the leg and foot. Though the limb be at rest, the foot is often agitated by convulsive motions, turning it alternately outwards and inwards. When walking is attempted, the affected leg is seldom lifted as usual in walking, but is dragged along, as if the whole limb were paralytic; and, when it is attempted to be lifted, this motion is unsteadily performed, the limb becoming agitated by irregular convulsive motions.

MCCXCIII.

The arm of the same side is generally affected at the same time; and, even when no voluntary motion is attempted, the arm is frequently agitated with various convulsive motions. But especially when voluntary motions are attempted, these are not properly executed, but are variously hurried or interrupted by convulsive motions, in a direction contrary to that intended. The most common instance of this is in the person's attempting to carry a cup of liquor to his mouth, when it is only after repeated efforts, interrupted by frequent convulsive retractions and deviations, that the cup can be carried to the mouth.

MCCXCIV.

It appears to me that the will often yields to these convulsive motions, as to a propensity, and thereby they are often increased, while the person affected seems pleased with increasing

creasing the surprise and amusement which his motions occasion in the bystanders.

MCCXCV.

In this disease the mind is often affected with some degree of fatuity, and often shows the same varied, desultory, and causeless emotions, which occur in hysteria.

MCCXCVI.

These are the most common circumstances of this disease; but at times, and in different persons, it is varied by some difference in the convulsive motions, particularly by these affecting the head and trunk of the body. As, in this disease, there seem to be propensities to motion, so various fits of leaping and running occur in the persons affected; and there have been instances of this disease, consisting of such convulsive motions, appearing as an epidemic in a certain corner of the country. In such instances, persons of different ages are affected, and may seem to make an exception to the general rule above laid down; but still the persons affected are, for the most part, the young of both sexes, and of the more manifestly moveable constitutions.

MCCXCVII.

The method of curing this disease has been variously proposed. Dr. Sydenham proposed to cure it by alternate bleeding and purging. In some plethoric habits I have found some bleeding useful; but, in many cases, I have found repeated evacuations, especially by bleeding, very hurtful.

In many cases I have found the disease, in spite of remedies of all kinds, continue for many months, but I have also found it often readily yield to tonic remedies, such as the Peruvian bark and chalybeates.

The late Dr. De Haen found several persons labouring under this disease cured by the application of electricity.

S E C T. II.
 O F T H E
 S P A S M O D I C A F F E C T I O N S
 O F T H E
 V I T A L F U N C T I O N S.

C H A P. IV. §

Of the PALPITATION of the HEART.

MCCXCVIII.

The motion thus named is a contraction, or systole of the heart, that is performed with more rapidity, and generally, also, with more force, than usual, and when, at the same time, the heart strikes with more than usual violence against the inside of the ribs, producing often a considerable sound.

MCCXCIX.

This motion, or palpitation, is occasioned by a great variety of causes, which have been recited with great pains by Mr. Senac, and others, whom, however, I cannot follow in all

§ Though I have thought it proper to divide this book into editions, I think it necessary, for the conveniency of references, to number the chapters from the beginning.

all the particulars with sufficient discernment, and, therefore, shall here only attempt to refer all the several cases of this disease to a few general heads.

MCCC.

The first is of these arising from the application of the usual stimulus to the heart's contraction; that is, the influx of the venous blood into its cavities, being made with more velocity, and, therefore, in the same time, in greater quantity than usual. It seems to be in this manner that violent exercise occasions palpitation.

MCCCI.

A second head of the cases of palpitation is of these arising from any resistance given to the free and entire evacuation of the ventricles of the heart. Thus a ligature made upon the aorta occasions palpitations of the most violent kind. Similar resistances, either in the aorta, or pulmonary artery, may be readily imagined; and such have been often found in the dead bodies of persons, who, during life, had been much affected with palpitations.

To this head are to be referred all those cases of palpitation arising from causes producing an accumulation of blood in the great vessels near to the heart.

MCCCII.

A third head of the cases of palpitation, is of these arising from a more violent and rapid influx of the nervous power into the muscular fibres of the heart. It is in this manner that I suppose various causes acting in the brain, and, particularly, certain emotions of the mind, to occasion palpitation.

MCCCIII.

A fourth head of the cases of palpitation, is of these arising from causes producing a weakness in the action of the heart, by diminishing the energy of the brain with respect to it. That such causes operate in producing palpitation, I presume from hence, that all the several causes mentioned above (MCXXI.—MCXXVIII.) as in this manner producing syncope, do often produce palpitation. It is on this ground that these two diseases are affections frequently occurring in the same person, as the same causes may occasion the one or the other, according to the force of the cause, and mobility of the person acted upon. It seems to be a law of the human œconomy, that a degree of debility occurring in any function, often produces a more vigorous exertion of the same, or, at least, an effort towards it, and that commonly in a convulsive manner.

MCCCIV.

A fifth head of the cases of palpitation, may perhaps be of these arising from a peculiar irritability or mobility of the heart. This, indeed, may be considered as a predisponent cause only, giving occasion to the action of the greater part of the causes recited above. But it is proper to observe, that this predisposition is often the chief part of the remote cause, insomuch that many of the causes producing palpitation would not have this effect but in persons peculiarly predisposed. This head, therefore, of the cases of palpitation, often requires to be distinguished from all the rest.

MCCCV.

After thus marking the several cases of palpitation, I think it necessary, with a view to the cure of this disease, to observe, that the several causes of it may be again reduced

duced to two heads. The first is, of these consisting in, or depending upon, certain organic affections of the heart itself, or of the great vessels immediately connected with it. The second is of those consisting in, or depending upon certain affections subsisting, and acting in other parts of the body, and acting either by the force of the cause, or in consequence of the mobility of the heart.

MCCCVI.

With respect to the cases depending upon the first set of causes, I must repeat here what I said with respect to the like cases of syncope, that I do not know any means of curing them. They, indeed, admit of some palliation, *first*, by avoiding every circumstance that may hurry the circulation of the blood, and, *secondly*, by every means of avoiding a plethoric state of the system, or any occasional turgescence of the blood. In many of these cases, blood-letting may give a temporary relief, but, in so far as debility and mobility are concerned, in such cases this remedy is likely to do harm.

MCCCVII.

With respect to the cases depending upon the other set of causes, they may be various, and require very different measures; but we can say here, in general, that these cases may be considered as of two kinds, one depending upon primary affections in other parts of the body, and acting by the force of the cause, and another depending upon a state of mobility in the heart itself. In the first of these, it is obvious, that the cure of the palpitation must be obtained by curing the primary affection, which is not to be treated of here. In the second, the cure must be obtained partly by diligently avoiding the occasional causes, partly and chiefly by correcting the mobility of the system, and of the heart in particular, for doing which we have treated of the proper means elsewhere.

CHAP. V.

OF DISPNOEA,

OR

DIFFICULT BREATHING.

MCCCVIII.

The exercise and organs of respiration have so constant and considerable a connection with almost the whole of the other functions and parts of the human body, that, upon almost every occasion of disease, respiration must be affected. Accordingly, some difficulty and disorder in this function, are, in fact, symptoms very generally accompanying disease.

MCCCIX.

Upon this account, the symptom of difficult breathing deserves a chief place, and an ample consideration in the general system of Pathology; but what share of consideration it ought to have in a treatise of Practice, I find it difficult to determine.

MCCCX.

On this subject, it is, in the first place, necessary to distinguish between the symptomatic and idiopathic affections, that is, between those difficulties of breathing which are symptoms only of a more general affection, or of a disease subsisting primarily in other parts than the organs of respiration, and that difficulty of breathing which depends upon a primary

mary affection of the lungs themselves. The various cases of symptomatic dyspnœa we have taken pains to enumerate in our Methodical Nosology, and, it will be obvious, they are such as cannot be taken notice of here.

MCCCXI.

In our Nosology, we have also taken pains to point out, and enumerate the proper, or at least the greater part of the proper idiopathic cases of dyspnœa; but from that enumeration it will, I think, readily appear, that few, and, indeed, hardly any of these cases, will admit or require much of our notice in this place.

MCCCXII.

The Dyspnœa *Sicca*, *Species 2d*, the Dyspnœa *Aërea*, *Sp. 3d*, the Dyspnœa *Terrea*, *Sp. 4th*, and Dyspnœa *Thoracica*, *Sp. 7th*, are some of them with difficulty known, and are all of them diseases, which, in my opinion, do not admit of cure. All, therefore, that can be said concerning them here is, that they may admit of some palliation; and this, I think, is to be obtained chiefly by avoiding a plethoric state of the lungs, and every circumstance that may hurry respiration.

MCCCXIII.

Of the Dyspnœa *Extrinsica*, *Sp. 8th*, I can say no more, but that these external causes marked in the Nosology, and perhaps some others that might have like effects are to be carefully avoided, or, when they have been applied, and their effects have taken place, the disease is to be palliated by the means mentioned in the last paragraph.

MCCCXIV.

The other species, though enumerated as idiopathic, can hardly be considered as such, or as requiring to be treated of here.

The

The *Dyspnœa Catarrhalis*, *Sp. 1st*, may be considered as a species of catarrh, and is pretty certainly to be cured by the same remedies, as that species of catarrh which depends upon the increased afflux of mucus to the bronchiæ, more than upon any inflammatory state in them.

The *Dyspnœa Aquosa*, *Sp. 5th*, is certainly to be considered as a species of dropsy, and is to be treated by the same remedies as the other species of this disease.

The *Dyspnœa Pinguinososa*, *Sp. 6th*, is, in like manner, to be considered as a symptom, or local effect of the Polyfarcia, and is only to be cured by correcting the general fault of the system.

MCCCXV.

From this view of those idiopathic cases of *Dyspnœa*, which are, perhaps, all I could properly arrange under this title, it will readily appear that there is little room for treating of them here; but there is still one case of difficult breathing which has been properly distinguished from every other, under the title of *Asthma*, and, as it deserves our particular attention, I shall here separately consider it.

C H A P. VI.

O F A S T H M A.

MCCCXVI.

The term of *Asthma* has been commonly applied by the vulgar, and even by many writers on the Practice of Physic, to every case of difficult breathing, that is, to every species

cies of Dyspnœa. The methodical Nosologists, also, have distinguished Asthma from Dyspnœa chiefly, and almost solely, by the former being the same affection with the latter, but in a higher degree. Neither of these applications of the term seems to have been correct or proper. I am of opinion, that the term Asthma may be most properly applied, and should be confined to a case of difficult breathing, that has peculiar symptoms, and depends upon a peculiar proximate cause, which we hope to assign with sufficient certainty. It is this disease we are now to treat of, and it is nearly what Practical Writers have generally distinguished from the other cases of difficult breathing, by the title of Spasmodic Asthma, or of *Asthma Convulsivum*; although, by not distinguishing it with sufficient accuracy from the other cases of Dyspnœa, they have introduced a great deal of confusion into their treatises on this subject.

MCCCXVII.

The disease I am to treat of, or the Asthma, to be strictly so called, is often a hereditary disease. It seldom appears very early in life, and hardly till the time of puberty, or after it. It affects both sexes, but most frequently the male. I have not observed it to be more frequent in one kind of temperament than in another, and it does not seem to depend upon any general temperament of the whole body, but upon a particular constitution of the lungs alone. It frequently attacks persons of a full habit; but it hardly ever continues to be repeated, for some length of time, without occasioning an emaciation of the whole body.

MCCCXVIII.

The attacks of this disease are generally in the night time, or towards the approach of night, but there are also some instances of their coming on in the course of the day. At
whatever

whatever time they come on, it is commonly suddenly, with a sense of tightness and stricture across the breast, and a sense of straitness in the lungs impeding inspiration. The person thus attacked, if in a horizontal situation, is immediately obliged to get into somewhat of an erect posture, and requires a free and cool air. The difficulty of breathing goes on for some time increasing, and both inspiration and expiration are performed slowly, and with a wheezing noise. In violent fits, speaking is difficult and uneasy. There is often some propensity to coughing, but it can hardly be executed.

MCCCXIX.

The symptoms often continue for many hours together, and particularly from midnight till the morning is far advanced. Then, commonly, a remission takes place by degrees; the breathing becomes less laborious, and more full, so that the person can speak and cough with more ease; and, if the cough brings up some mucus, the remission becomes immediately more considerable, and the person falls into a much wished for sleep.

MCCCXX.

During these fits, the pulse often continues in its natural state; but in some persons, the fits are attended with a frequency of pulse, and with some heat and thirst, as marks of some degree of fever. If urine be voided at the beginning of a fit, it is commonly in considerable quantity, and with little colour or odour; but, after the fit is over, the urine voided is in the ordinary quantity, of a high colour, and sometimes deposits a sediment. In some persons, during the fit, the face is a little flushed and turgid, but, more commonly, it is somewhat pale and shrunk.

MCCCXXI.

MCCCXXI.

After some sleep in the morning, the patient, for the rest of the day, continues to have more free and easy breathing, but it is seldom entirely such. He still feels some tightness across his breast, cannot breathe easily in a horizontal posture, and can hardly bear any motion of his body, without having his breathing rendered more difficult and uneasy. In the afternoon, he has an unusual flatulency of his stomach, and an unusual drowsiness; and, very frequently, these symptoms precede the first attacks of the disease. But, whether these symptoms appear or not, the difficulty of breathing returns towards evening, and then sometimes gradually increases, till it becomes as violent as in the night before; or if, during the day, the difficulty of breathing has been moderate, and the person gets some sleep in the first part of the night, he is, however, waked about midnight, or some time between midnight and two o'clock in the morning, and is then suddenly seized with a fit of difficult breathing, which runs the same course as the night before.

MCCCXXII.

In this manner fits return for several nights successively; but, generally, after some nights passed in this way, the fits suffer more considerable remissions. This especially happens when the remissions are attended with a more copious expectoration in the mornings, and that this continues from time to time throughout the day. In these circumstances, asthmatics, for a long time after, have not only more easy days, but enjoy, also, nights of entire sleep, without the recurrence of the disease.

MCCCXXIII.

When this disease, however, has once taken place in the manner above described, it is ready to return, at times, for

the whole of life after; but these returns happen with different circumstances in different persons.

MCCCXXIV.

In some persons the fits are readily excited by external heat, whether of the weather, or of a warm chamber, and particularly by warm bathing. In such persons, fits are more frequent in summer, and particularly during the dog-days, than at other colder seasons. The same persons are also readily affected by changes of the weather, especially by sudden changes made from a colder to a warmer, or what is commonly the same thing, from a heavier to a lighter atmosphere. The same persons are also affected by every circumstance straitening the capacity of the thorax, as by any ligature made, or even a plaster laid, upon it, and a like effect happens from any increased bulk of the stomach, either by a full meal, or by wind collected in it. They are likewise much affected by exercise, or whatever else can hurry the circulation of the blood.

MCCCXXV.

As asthmatic fits seem thus to depend upon some fulness of the vessels of the lungs, it is probable that an obstruction of perspiration, and the blood being less determined to the surface of the body, may favour an accumulation in the lungs, and thereby be a means of exciting asthma. This seems to be the case of those asthmatics, who have fits most frequently in the winter season, and who have commonly more of a catarrhal affection accompanying the asthma, which, therefore, occurs more frequently in winter, and more manifestly from the application of cold.

MCCCXXVI.

Beside these cases of asthma excited by heat or cold, there
are

are others, in which the fits are especially excited by powers applied to the nervous system, as by passions of the mind, by particular odours, and by irritations of smoke and dust. That this disease is an affection of the nervous system, and depending upon a mobility of the moving fibres of the lungs, appears pretty clearly from its being frequently connected with other spasmodic affections depending upon mobility, such as hysteria, hypochondriasis, dyspepsia, and atonic gout.

MCCCXXVII.

From the whole of the history of asthma now delivered, I think it will readily appear that the proximate cause of this disease is a preternatural, and, in some measure, a spasmodic, constriction of the muscular fibres of the bronchiæ, which not only prevents the dilatation of the bronchiæ necessary to a free and full inspiration, but gives also a rigidity which prevents a full and free expiration. This preternatural constriction, like many other convulsive and spasmodic affections, is readily excited by a turgescence of the blood, or other cause of any unusual fullness and distension of the vessels of the lungs.

MCCCXXVIII.

This disease, as coming by fits, may be generally distinguished from most other species of dyspnœa, whose causes being more constantly applied, produce therefore, a more constant difficulty of breathing. There may, however, be some fallacy in this matter, as some of these causes may be liable to have abatements and intensities, whereby the dyspnœa produced by them may seem to come by fits; but, I believe it is seldom that such fits put on the appearance of the genuine asthmatic fits described above. Perhaps, however, there is still another case that may give more difficulty, and that is, when several of the causes, which we have assigned, as causes of several of the species of difficult breathing,

ing, referred to the genus of dyspnœa, may have the effect of exciting a genuine asthmatic fit. Whether this can happen to any but the peculiarly predisposed to asthma I am uncertain, and, therefore, whether in any such cases, the asthma may be considered as symptomatic, or if, in all such cases, the asthma may not still be considered and treated as an idiopathic disease.

MCCCXXIX.

The asthma, though often threatening immediate death, seldom occasions it; and many persons have lived long under this disease. In many cases, however, it does prove fatal, sometimes very quickly, and, perhaps, always at length. In some young persons it has ended soon, by occasioning a *phthisis pulmonalis*. After a long continuance it often ends in a hydrothorax, and, commonly, by occasioning some aneurism of the heart, or great vessels, it thereby proves fatal.

MCCCXXX.

As it is seldom that an asthma has been entirely cured, I therefore, cannot propose any method of cure which experience has approved as generally successful. But the disease admits of alleviation, in several respects, from the use of remedies; and my business now shall be chiefly to offer some remarks upon the choice and use of the remedies which have been commonly employed in cases of asthma.

MCCCXXXI.

As the danger of an asthmatic fit arises chiefly from the difficult transmission of the blood through the vessels of the lungs, threatening suffocation, so the most probable means of obviating this seems to be bloodletting; and, therefore, in all violent fits, practitioners have had recourse to this
remedy.

remedy. In first attacks, and especially in young and plethoric persons, blood-letting may be very necessary, and is commonly allowable. But it is also evident, that, under the frequent recurrence of fits, blood-letting cannot be frequently repeated without exhausting and weakening the patient too much. It is further to be observed, that blood-letting is not so necessary as might be imagined, as the passage of the blood through the lungs is not so much interrupted as has been commonly supposed. This, I particularly conclude from hence, that, instead of the suffusion of face which is the usual effect of such interruption, the face, in asthmatic fits, is often shrunk and pale. I conclude the same also from this, that, in asthmatic fits, blood-letting does not commonly give so much relief, as, upon the contrary supposition, might be expected.

MCCCXXXII.

As I have alleged above that a turgescence of the blood is frequently the exciting cause of asthmatic fits, so it might be supposed that a plethoric state of the system might have a great share in producing a turgescence of the blood in the lungs, and especially, therefore, that blood-letting might be a proper remedy in asthma. I allow it to be so in the first attacks of the disease; but, as the disease, by continuing, generally takes off the plethoric state of the system, so, after the disease has continued for some time, I allege that blood-letting becomes less and less necessary.

MCCCXXXIII.

Upon the supposition of asthmatics being in a plethoric state, purging might be supposed to prove a remedy in this disease; but, both because the supposition is not commonly well founded, and because purging is seldom found to relieve the vessels of the thorax, this remedy has not appeared to
be

be well suited to asthmatics; and large purging has always been found to do much harm. But as asthmatics are always hurt by the stagnation and accumulation of matters in the alimentary canal, so costiveness must be avoided, and an open belly proves useful. In the time of fits, the employment of emollient, and moderately laxative clysters, has been found to give considerable relief.

MCCCXXXIV.

As a flatulency of the stomach, and other symptoms of indigestion, are frequent attendants of asthma, and very troublesome to asthmatics, so, both for removing these symptoms, and for taking off all determination to the lungs, the frequent use of gentle vomits is proper in this disease. In certain cases, where a fit was expected to come on in the course of the night, a vomit given in the evening has frequently seemed to prevent it.

MCCCXXXV.

Blistering between the shoulders, or upon the breast, has been frequently employed to relieve asthmatics; but, in the pure spasmodic asthma we treat of here, I have rarely found blisters useful, either in preventing or relieving fits

MCCCXXXVI.

Issues are certainly useful in obviating plethora; but, as such indications seldom arise in cases of asthma, so issues have been seldom found useful in this disease.

MCCCXXXVII.

As asthmatic fits are so frequently excited by a turgescence of the blood, so the obviating and allaying of this by acids and neutral salts, seems to have been at all times the object of practitioners. See Floyer on the asthma.

MCCCXXXVIII.

MCCCXXXVIII.

Though a plethoric state of the system may seem to dispose to asthma, and the occasional turgescence of the blood may seem to be frequently the exciting cause of the fits, yet it is evident that the disease must have arisen chiefly from a peculiar constitution in the moving fibres of the bronchiae, disposing them, upon various occasions, to fall into a spasmodic constriction; and, therefore, that the entire cure of the disease can only be expected from the correcting of that predisposition, or from correcting the preternatural mobility or irritability of the lungs in that respect.

MCCCXXXIX.

In cases wherein this predisposition depends upon original conformation, the cure must be difficult, and perhaps impossible; but it may, perhaps, be moderated by the use of antispasmodics. Upon this footing, various remedies of that kind have been commonly employed, and particularly the foetid gums, but we have not found them of any considerable efficacy, and have observed them to be sometimes hurtful by their heating too much. Some other antispasmodics which might be supposed powerful, such as musk, have not been properly tried. The vitriolic aether has been found to give relief, but its effects are not lasting.

MCCCXL.

As in other spasmodic affections, so, in this, the most certain and powerful antispasmodic is opium. I have often found it effectual, and generally safe; and, if there have arisen doubts with respect to its safety, I believe they have arisen from not distinguishing between certain plethoric and inflammatory cases of dyspnoea, improperly named asthma, and the genuine spasmodic asthma we treat of here.

MCCCXLI.

MCCCXLI.

As, in many cases, this disease depends upon a predisposition which cannot be corrected by our art, so, in such cases, the patient can only escape the disease by avoiding the occasional, or exciting causes, which we have endeavoured to point out above. It is, however, difficult to give any general rules here, as different asthmatics have their different idiosyncrasies with respect to externals. Thus, one asthmatic finds himself easiest living in the midst of a great city, while another cannot breathe but in the free air of the country. In the latter case, however, most asthmatics bear the air of a low ground, if tolerably free and dry, better than that of the mountain.

MCCCXLII.

In diet, also, there is some difference to be made with respect to different asthmatics. None of them bear a large or full meal, or any food that is of slow and difficult solution in the stomach; but many of them bear animal food of the lighter kinds, and in moderate quantity. The use of vegetables which readily prove flatulent are always very hurtful. In recent asthma, and especially in the young and plethoric, a spare, light, and cool diet, is proper, and commonly necessary; but, after the disease has continued for years, asthmatics commonly bear, and even require, a tolerably full diet, though, in all cases, a very full diet is very hurtful.

MCCCXLIII.

In drinking, water, or cool watery liquors, is the only safe and fit drink for asthmatics; and all liquors ready to ferment, and become flatulent, are hurtful to them. Few asthmatics can bear any kind of strong drink; and any excess

cess in such is always very hurtful to them. As asthmatics are commonly hurt by taking warm or tepid drink, so, both upon that account, and upon account of the liquors weakening the nerves of the stomach, neither tea nor coffee is proper in this disease.

MCCCXLIV.

Asthmatics commonly bear no bodily motion easily but that of the most gentle kind. Riding, however, on horseback, or going in a carriage, and especially sailing, are very often useful to asthmatics.

C H A P. VII.

Of The CHIN COUGH,

O R

H O O P I N G C O U G H,

MCCCXLV.

This disease is commonly epidemic, and manifestly contagious. It seems to proceed from a contagion of a specific nature, and of singular quality. It does not, like most other contagions, necessarily produce a fever; nor does it like most others, occasion any eruption, or produce, other-

PART II,

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wise,

wife, any evident change in the state of the human fluids. It has, in common with the catarrhal contagion, and with that of the measles, a peculiar determination to the lungs, but with particular effects there, very different from those of the other two, as will appear from the history of this disease now to be delivered.

MCCCXLVI.

This contagion, like several others, affects persons but once in the course of their lives, and therefore, necessarily, children are most commonly the subjects of this disease; but there are many instances of it occurring in persons considerably advanced in life, though it is probable, that the further that persons are advanced in life, they are the less liable to be affected with this contagion.

MCCCXLVII.

The disease commonly comes on with the ordinary symptoms of a catarrh arising from cold, and often, for many days, keeps entirely to that appearance; and I have had instances of a disease, which, though evidently arising from the chincough contagion, never put on any other form than that of a common catarrh.

This, however, seldom happens; for, generally, in the second, and, at farthest, in the third week after the attack, the disease puts on its peculiar, and characteristic symptom, a convulsive cough. This is a cough in which the expiratory motions peculiar to coughing are made with more frequency, rapidity, and violence, than usual. As these circumstances, however, in different instances of coughing, are in very different degrees, so no exact limits can be put to determine when the cough can be strictly said to be convulsive; and it is therefore especially by another circumstance that the chincough is distinguished from every other form of cough.

This

This circumstance is, when many expiratory motions have been convulsively made, and thereby the air is in great quantity thrown out of the lungs, a full inspiration is necessarily and suddenly made, which, by the air rushing in through the glottis with unusual velocity, gives a peculiar sound. This sound is somewhat different in different cases, but is, in general, called a Hoop, and from it the whole of the disease is called the Hooping Cough. When this sonorous inspiration has happened, the convulsive coughing is again renewed, and continues in the same manner as before till a quantity of mucus is thrown up from the lungs, or the contents of the stomach are thrown up by vomiting. Either of these evacuations commonly put an end to the coughing, and the patient remains free from it for some time after. Sometimes it is only after several alternate fits of coughing and hooping that expectoration or vomiting takes place, but it is commonly after the second coughing that these happen, and put an end to the fit.

MCCCXLVIII.

When the disease, in this manner, has taken its proper form, it generally continues for a long time after, and generally from one month to three, but sometimes much longer, and that with very various circumstances.

MCCCXLIX.

The fits of coughing return at various intervals, rarely observing any exact period. They happen frequently in the course of the day, and more frequently, still, in the course of the night. The patient has commonly some warning of their coming on; and, to avoid that violent and painful concussion which the coughing gives to the whole body, he clings fast to any thing that is near to him, or demands to be held fast by any person that he can come at.

When

When the fit is over, the patient sometimes breathes fast, and seems fatigued for a little after, but, in many, this appears very little; and children are commonly so entirely relieved, that they immediately return to their play, or what else they were occupied in before.

MCCCL.

If it happens that the fit of coughing ends in vomiting up the contents of the stomach, the patient is commonly immediately after seized with a strong craving, and demand for food, and takes it in very greedily.

MCCCLI.

At the first coming on of this disease, the expectoration is sometimes none at all, or of a thin mucus only, and while this continues to be the case, the fits of coughing are more violent, and continue longer; but, commonly, the expectoration soon becomes considerable, and a very thick mucus, often in great quantity, is thrown up, and as this is more readily brought up, the fits of coughing are of shorter duration.

MCCCLII.

The violent fits of coughing frequently interrupt the free transmission of the blood through the lungs, and, thereby, the free return of blood from the vessels of the head. This occasions that turgescence and suffusion of face which commonly attends the fits of coughing, and seems to occasion also those eruptions of blood from the nose, and even from the eyes and ears, which sometimes happen in this disease.

MCCCLIII.

This disease often takes place in the manner we have now described, without any pyrexia attending it; but, though Sydenham had seldom observed it, we have found the disease
very

very frequently accompanied with pyrexia, sometimes from the very beginning, but more frequently only after the disease had continued for some time. When it does accompany the disease, we have not found it appearing under any regular intermittent form. It is constantly in some degree present, but, with evident exacerbations towards evening, continuing till next morning.

MCCCLIV.

Another symptom, very frequently attending the chincough, is a difficulty of breathing, and that not only immediately before and after fits of coughing, but as constantly present, though in different degrees, in different persons. I have hardly ever seen an instance of a fatal chincough, in which a considerable degree of pyrexia and dyspnoea had not been for some time constantly present.

MCCCLV.

When, by the power of the contagion, this disease has once taken place, the fits of coughing are often repeated, without any evident exciting cause; but, in many cases, the contagion may be considered as giving a predisposition only, and the frequency of fits depend, in some measure, upon various exciting causes, such as, violent exercise; a full meal; the having taken in food of difficult solution; irritations of the lungs by dust, smoke, or disagreeable odours of a strong kind, and especially any considerable emotion of the mind.

MCCCLVI.

Such are the chief circumstances of this disease, and it is of various event, which, however, may be commonly foreseen by attending to the following considerations:

The younger children are, they are in the greater danger from this disease; and of those to whom it proves fatal, there are many more under two years old than above it.

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The older that children are they are the more secure against an unhappy event; and this I hold to be a very general rule, though I own there are many exceptions to it.

Children born of phthical and asthmatic parents are in the greatest danger from this disease.

When the disease, beginning in the form of a catarrh, is attended with fever and difficult breathing, and with little expectoration, it often proves fatal, without taking on the form of the hooping cough; but, in most of such cases, the coming on of the convulsive cough and hooping, bringing on, at the same time, a more free expectoration, generally removes the danger.

When the disease is fully formed, if the fits are neither frequent nor violent, with moderate expectoration, and the patient, during the intervals of the fits, is easy, keeps his appetite, gets sleep, and is without fever or difficult breathing, the disease is attended with no danger, and these circumstances becoming daily more favourable, the disease very soon spontaneously terminates.

An expectoration either very scanty, or very copious, is attended with danger, especially if the latter circumstance is attended with great difficulty of breathing.

Those cases in which the fits terminate by a vomiting, and are immediately followed by a craving of food, are generally without danger.

A moderate hæmorrhagy from the nose often proves salutary, but very large hæmorrhagies are generally very hurtful.

This disease, coming upon persons under a state of much debility, has very generally an unhappy event.

The danger of this disease sometimes arises from the violence of the fits of coughing, occasioning apoplexy, epilepsy, or immediate suffocation; but these accidents are very rare, and the danger of the disease seems generally to be in proportion to the fever and dyspnœa attending it.

MCCCLVII.

The cure of this disease has been always considered as difficult, whether the purpose be to obviate its fatal tendency, when it is violent, or merely to shorten the course of it when it is mild. When the contagion is recent, and continues to act, we neither know how to correct, nor how to expel it; and, therefore, the disease necessarily continues for some time; but it is probable that the contagion, in this as in other instances, ceases at length to act, and that then the disease continues, as in other convulsive affections, by the power of habit alone.

MCCCLVIII.

From this view of the matter I maintain, that the practice must be different, and adapted to two different indications, according to the period of the disease. At the beginning of the disease, and for some time after, the remedies to be employed must be such as may obviate the violent effects of the disease, and the fatal tendency of it; but, after the disease has continued for some time, and is without any violent symptoms, the only remedies which can be required are those which may interrupt its course, and put an entire stop to it sooner than it would have spontaneously ceased.

MCCCLIX.

For answering the first indication. In plethoric subjects, or in others, when, from the circumstances of the cough and fits, it appears that the blood is difficultly transmitted through the lungs, blood-letting is a necessary remedy; and it may be even necessary to repete it especially in the beginning of the disease; but, as spasmodic affections do not commonly admit of much bleeding, so it is seldom proper in the chin-cough to repete this remedy often.

MCCCLX.

MCCCLX.

As costiveness frequently attends this disease, so it is necessary to obviate or remove it by laxatives employed; and keeping an open belly is generally useful; but large evacuations in this way are commonly hurtful.

MCCCLXI.

To obviate or remove the inflammatory determination to the lungs, that sometimes occurs in this disease, blistering is often useful, and even repeated blistering has been of service; but issues have not so much effect, and should by no means supersede the repeated blistering that may be indicated. When blisters are proper, they are more effectual when applied to the thorax than when applied to any distant parts.

MCCCLXII.

Of all other remedies, emetics are the most useful in this disease, both, in general, by interrupting the return of spasmodic affections, and, in particular, by determining very powerfully to the surface of the body, and thereby taking off determinations to the lungs. For these purposes, I think full vomiting is frequently to be employed; and, in the intervals necessary to be left between the times of full vomiting, nauseating doses of the antimonial emetics may be useful. I have never found the *sulphur auratum*, so much praised by Cloßius, to be a convenient medicine, on account of the uncertainty of its dose; and the tartar emetic, employed in the manner directed by the late Dr. Fothergill, has appeared to be more useful.

MCCCLXIII.

These are the remedies to be employed in the first stage of the disease for obviating its fatal tendency, and putting it
it

it into a safe train. But in the second stage, when, I suppose the contagion has ceased to act, and that the disease continues merely by the power of habit, a different indication arises, and different remedies are to be employed.

MCCCLXIV.

This disease, which often continues for a long time, does not, in my opinion, continue during the whole of that time in consequence of the contagion's remaining in the body, and continuing to act in it. That the disease does often continue long after the contagion has ceased to act, and that, too, by the power of habit alone, appears to me probable from hence, that terror has frequently cured the disease; that any considerable change in the state of the system, such as the coming on of the small-pox, has also cured it; and, lastly, that it has been cured by antispasmodic and tonic medicines, whilst none of all these means of cure can be supposed either to correct or to expel a morbid matter, tho' they are evidently suited to change the state and habits of the nervous system.

MCCCLXV.

From this view we are directed to the indication that may be formed, and, in a great measure, to the remedies which may be employed in what we suppose to be the second stage of the disease. It may, perhaps, be alleged, that this indication of shortening the course of the disease, is not very important or necessary, as it supposes that the violence and danger is over, and, in consequence, that the disease will soon spontaneously cease. The last supposition, however, is not well founded, as the disease, like many other convulsive and spasmodic affections, may continue for a long time by the power of habit alone, and by the repetition of paroxysms may have hurtful effects, more especially as the violence of paroxysms, and, therefore, their hurtful effects, may be

much aggravated by various external causes that may be accidentally applied. Our indication, therefore, is proper, and we proceed to consider the several remedies which may be employed to answer it.

MCCCLXVI.

Terror may possibly be a powerful remedy, but it is difficult to measure the degree of it that shall be produced; and, as a slight degree of it may be ineffectual, and a high degree of it dangerous, I cannot propose to employ it.

MCCCLXVII.

The other remedies which we suppose suited to our second indication, and which, indeed, have been frequently employed in this disease, are antispasmodics or tonics.

Of the antispasmodics, castor has been particularly recommended by Dr. Morris, but in many trials, we have not found it effectual.

With more probability musk has been employed; but whether it be from our not having it of a genuine kind, or not employing it in sufficiently large doses, I cannot determine, but we have not found it commonly successful. Of antispasmodics, the most certainly powerful is opium; and, when there is no considerable fever, or difficulty of breathing present, opium has often proved useful in moderating the violence of the chincough; but I have not known it employed so as entirely to cure the disease.

If hemlock has proved a remedy in this disease, as we must believe from Dr. Butter's accounts, I agree with that author, that it is to be considered as an antispasmodic. Upon this supposition it is a probable remedy; and from the accounts of Dr. Butter, and some others, it seems to have been often useful; but, in our trials, it has often disappointed us, perhaps from the preparation of it not having been always proper.

MCCCLXVIII.

MCCCLXVIII.

Of the tonics, I consider the cupmoss, formerly celebrated, as of this kind, as also the bark of the mistletoe, but I have had no experience of either, as I have always trusted to the Peruvian bark. I consider the use of this medicine as the most certain means of curing the disease in its second stage; and, when there has been little fever present, and a sufficient quantity of the bark has been given, it has seldom failed of soon putting an end to the disease.

MCCCLXIX.

When convulsive disorders may be supposed to continue by the force of habit alone, it has been found that a considerable change in the whole of the circumstances and manner of life has proved a cure of such diseases; and analogy has applied this in the case of the chincough so far, that a change of air has been employed, and supposed to be useful. In several instances I have observed it to be so; but I have never found the effects of it durable, or sufficient to put an entire stop to the disease.

S E C T.

S E C T. III.

O F T H E

S P A S M O D I C A F F E C T I O N S

I N T H E

N A T U R A L F U N C T I O N S.

C H A P. VIII.

O f T h e P Y R O S I S,

O R W H A T I S N A M E D I N S C O T L A N D

T h e W A T E R B R A S H.

MCCCLXX.

The painful sensations referred to the stomach, and which are probably occasioned by real affections of this organ, are of different kinds. Probably, however, they procede from affections of different natures, and should therefore be distinguished by different appellations; but I must own that the utmost precision in this matter will be difficult. In my essay towards

towards a methodical Nosology, I have, however, attempted it. For these pains that are either acute and pungent, or accompanied with a sense of distension, or with a sense of constriction, if they are, at the same time, without any sense of acrimony or heat, I employ the appellation of *Gastrodynia*. To express those painful or uneasy sensations which are from a sense of acrimony irritating the part, or from such a sense of heat, as the application of acrids, whether externally or internally applied, often gives, I employ the term of *Cardialgia*, and by this I particularly mean to denote these feelings which are expressed by the term *Heartburn* in the English language. I think the term *Soda* has been commonly employed by Practical Writers to express an affection attended with feelings of the same kind.

MCCCLXXI.

Beside the pains denoted by the terms *Gastrodynia*, *Periodyn*, *Cardialgia*, and *Soda*, there is, I think, another painful sensation, different from all of these, which is named by Mr. Sauvages *Pyrosis Suecica*, and his account of it is taken from Linnæus, who names it *Cardialgia Sputatoria*. Under the title of *Pyrosis*, Mr. Sauvages has formed a Genus, of which the whole of the species, except the eight under the title we have just now mentioned, are all of them species of the *Gastrodynia* or of the *Cardialgia*; and, if there is a Genus to be formed under the title of *Pyrosis*, it can only comprehend the species I have mentioned. In this case, indeed, I own that the term is not very proper; but my aversion to introduce new names has made me continue to employ the term of Mr. Sauvage.

MCCCLXXII.

The *Gastrodynia* and *Cardialgia* I judge to be, for the most part, symptomatic affections, and, therefore, have given them

them no place in this work; but the Pyrosis, as an idiopathic disease, and never before treated of in any system, I propose to treat of here.

MCCCLXXIII.

It is a disease frequent among people in lower life, but occurs also, though more rarely, in people of better condition. Tho' frequent in Scotland, it is by no means so frequent as Linnæus reports it to be in Lapland. It appears most commonly in persons under middle age, but seldom in any persons before the age of puberty. When it has once taken place, it is ready to recur occasionally for a long time after; but it seldom appears in persons considerably advanced in life. It affects both sexes, but more frequently the female. It sometimes attacks pregnant women, and some women, only when they are in that condition. Of other women, it more frequently affects the unmarried; and, of the married, most frequently the barren. I have had many instances of it in women labouring under a *fluor albus*.

MCCCLXXIV.

The fits of this disease usually come on in the morning and forenoon, when the stomach is empty. The first symptom of it, is a pain at the pit of the stomach, with a sense of constriction, and as if the stomach was drawn towards the back; the pain is increased by raising the body into an erect posture, and, therefore, the body is bended forward. This pain is often very severe; and, after continuing for some time, it brings on an eructation of a thin watery fluid in considerable quantity. This fluid has sometimes an acid taste, but, very often, is without this, and absolutely insipid. The eructation is for some time frequently repeated; and does not immediately give relief to the pain which preceded it, but does so at length, and puts an end to the fit.

MCCCLXXV.

MCCCLXXV.

The fits of this disease commonly come on without any evident exciting cause; and I have not found it steadily connected with any particular diet. It attacks persons using animal food, but, I think, more frequently those living on milk and farinacea. It seems often to be excited by cold applied to the lower extremities; and is readily excited by any considerable emotion of mind. It is often without any symptoms of dyspepsia.

MCCCLXXVI.

The nature of this affection is not very obvious, but I think it may be explained in this manner. It seems to begin by a spasm of the muscular fibres of the stomach, which is afterwards, in a certain manner, communicated to the blood-vessels and exhalants, so as to increase the impetus of the fluids in the vessels, while a constriction takes place on their extremities. The increased impetus pours out a larger quantity of fluid than usual, while the constriction upon their extremities allows only the pure watery parts to be poured out, analogous, as I judge, in every respect, to what happens in the *diabetes hystericus*.

MCCCLXXVII.

The practice in this disease is as difficult as the theory. The paroxysm is only to be certainly relieved by opium. Other antispasmodics, as vitriolic æther, and volatile alkali, are sometimes of service, but not constantly so. Although opium, and other antispasmodics, relieve the fits, they have no effect in preventing their recurrence. For this purpose, the whole of the remedies of dyspepsia have been employed without success. Of the use of the *nux vomica* mentioned as a remedy by Linnæus I have had no experience.

C H A P. IX.

Of The C O L I C.

MCCCLXXVIII.

The principal symptom of this disease is a pain felt in the lower belly. It is seldom fixed and pungent in one part, but, in some measure, spreads over the whole of the belly, and, particularly, with a sense of twisting or wringing round the navel. With this pain the navel and teguments of the belly are frequently drawn inwards, and often the muscles of the belly are spasmodically contracted, and this as in separate portions, giving the appearance of a bag full of round balls.

MCCCLXXIX.

Such pains, in a certain degree, sometimes occur in cases of diarrhœa and cholera, but these are less violent and more transitory, and are named Gripings. It is only when more violent and permanent, and attended with costiveness, that they constitute colic. This is also commonly attended with vomiting, which, in many cases, is frequently repeated, especially when any thing is taken down into the stomach; and in such vomitings, not only the contents of the stomach are thrown up, but, also, the contents of the duodenum, and, therefore, a quantity of bile.

MCCCLXXX.

In some cases of colic, the peristaltic motion of the intestines is inverted through the whole length of the alimentary

tary canal, in such a manner that the contents of the great guts, and, therefore, stercoraceous matter is thrown up by vomiting; and the same inversion appears still more clearly from this, that what is thrown into the rectum by clyster is again thrown out by the mouth. In these circumstances of inversion the disease has been named Ileus, or the Iliac Passion, and this has been supposed to be a peculiar disease distinct from colic, but to me it appears that the two diseases are owing to the same proximate cause, and have the same symptoms, only in different degree.

MCCCLXXXI.

The colic is often without any pyrexia attending it; sometimes, however, an inflammation comes upon the part of the intestine especially affected, and this inflammation aggravates all the symptoms of the disease, being probably what brings on the most considerable inversion of the peristaltic motion; and, as the stercoraceous vomiting is what especially distinguishes the Ileus, this has been considered as always depending on an inflammation of the intestines. However, I can affirm, that, as there are inflammations of the intestines without stercoraceous vomiting, so I have seen instances of stercoraceous vomiting without inflammation; and there is, therefore, no ground for distinguishing ileus from colic but as a higher degree of the same affection.

MCCCLXXXII.

The symptoms of the colic, and the dissections of bodies dead of this disease, shew very clearly, that it depends upon a spasmodic constriction of a part of the intestines, and that this, therefore, is to be considered as the proximate cause of the disease. In some of the dissections of persons dead of this disease, an intus-susception has been remarked to have

PART II

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happened;

happened ; but whether this be constantly the case in all the appearances of ileus is not certainly determined.

MCCCLXXXIII.

The colic has commonly been considered as being of different species, but I cannot follow the writers on this subject in the distinctions they have established. So far, however, as a difference of the remote cause constitutes a difference of species, a distinction may, perhaps, be admitted ; and, accordingly, in our Nosology, I have marked seven different species ; but, I am well persuaded, that, in all these different species, the proximate cause is the same, that is, a spasmodic constriction of a part of the intestines, and, consequently, that in all these cases the indication of cure is the same, that is, to remove the constriction mentioned. Even in the species named *Stercoræa Callosa*, and *Calculosa*, in which the disease depends upon an obstruction of the intestine, I am persuaded that these obstructions do not produce the symptoms of colic, excepting in so far as they produce spasmodic constrictions of the intestines ; and, therefore, that the means of cure in these cases, so far as they admit of cure, must be obtained by the same means which the general indication above mentioned suggests.

MCCCLXXXIV.

The cure, then, of the colic, universally, is to be obtained by removing the spasmodic constrictions of the intestines ; and the remedies suited to this purpose may be referred to three general heads :

1. The taking off the spasm by various antispasmodic powers.
2. The exciting the action of the intestines by purgatives.
3. The employing mechanical dilatation.

MCCCLXXXV.

MCCCLXXXV.

Before entering upon a more particular account of these remedies, it will be proper to observe, that, in all cases of violent colic, it is adviseable to practise blood-letting, both as it may be useful in obviating the inflammation often to be apprehended, and even as it may be a means of relaxing the spasm of the intestine. This remedy may, perhaps be improper in persons of a weak and lax habit, but in all persons of tolerable vigour it will be a safe remedy; and in all cases where there is the least suspicion of an inflammation actually coming on, it will be absolutely necessary. Nay, it will even be proper to repeat it, perhaps several times, if, with a full and hard pulse, the appearance of the blood drawn, and the relief obtained by the first bleeding, shall authorise such repetition.

MCCCLXXXVI.

The antispasmodic powers that may be employed, are the application of heat in a dry or humid form, the application of blisters, the use of opium, and the use of mild oils.

The application of heat, in a dry form, has been employed by applying to the belly of the patient a living animal, or bladders filled with warm water, or bags of substances which long retain their heat; and all these have sometimes been applied with success; but none of them seem to me so powerful as the application of heat in a humid form.

This may be employed either by the immersion of a great part of the body in warm water, or by fomenting the belly with cloths wrung out of hot water. The immersion has advantages from the application of it to a greater part of the body, and, particularly, to the lower extremities; but immersion cannot always be conveniently practised, and fomentation may have the advantage of being longer continued, and it
may

may have nearly all the benefit of immersion, if it be, at the same time applied both to the belly and to the lower extremities.

MCCCLXXXVII.

From considering that the teguments of the lower belly have such a connection with the intestines, as, at the same time, to be affected with spasmodic contractions, we perceive that blisters applied to the belly may have the effect of taking off the spasms both from the muscles of the belly and from the intestines, and, accordingly, blistering has often been employed in the colic with advantage. Analogous to this, rubefacients applied to the belly have been frequently found useful.

MCCCLXXXVIII.

The use of opium, in colic, may seem to be an ambiguous remedy. Very certainly it may, for some time, relieve the pain, which is often so violent and urgent, that it is difficult to abstain from the use of such a remedy. At the same time, the use of opium retards or suspends the peristaltic motion so much, as to allow the intestines to fall into constrictions, and may, therefore, while it relieves the pain, render the cause of the disease more obstinate. On this account, and, further, as opium prevents the operation of purgatives, so often necessary in this disease, many practitioners are averse to the use of it, and some entirely reject the use of it as hurtful. There are, however, others who think they can employ opium in this disease with much advantage.

In all cases where the colic comes on without any previous costiveness, and arises from cold, from passions of the mind, or other causes which operate especially on the nervous system, opium proves a safe and certain remedy; but in
cases

cases which have been preceded by long costiveness, or where the colic, though not preceded by costiveness, has, however, continued for some days without a stool, so that a stagnation of faeces in the colon is to be suspected, the use of opium is of doubtful effect. In such cases, unless a stool has been first procured by medicine, opium cannot be employed but with some hazard of aggravating the disease. However, even in these circumstances of costiveness, when, without inflammation, the violence of the spasm is to be suspected, when vomiting prevents the exhibition of purgatives, and when, with all this, the pain is extremely urgent, opium is to be employed, not only as an anodyne, but also as an antispasmodic, necessary to favour the operation of purgatives, and may be so employed, when, either at the same time with the opiate, or not long after it, a purgative can be exhibited.

Is the *hyoscyamus*, as often showing, along with its narcotic, a purgative quality, better suited to this disease than opium?

MCCCLXXXIX.

It is seemingly on good grounds that several practitioners have recommended the large use of mild oils in this disease, both as antispasmodics and as laxatives; and, where the palate and stomach could admit them, I have found them very useful; but, as there are few Scottish stomachs that can admit a large use of them, I have had few opportunities of employing them.

MCCCXC.

The *second* set of remedies adapted to the cure of colic are purgatives, which, by exciting the action of the intestines, either above or below the obstructed place, may remove the constriction; and, therefore, these purgatives may be given either by the mouth, or thrown by clyster into the anus. As the disease is often seated in the great guts; as clysters,
by

by having a more sudden operation, may give more immediate relief; and as purgatives given by the mouth are ready to be rejected by vomiting; so it is common, and, indeed, proper, to attempt curing the colic in the first place by clysters. These may at first be of the mildest kind, consisting of a large bulk of water, with some quantity of a mild oil; and such are sometimes sufficiently efficacious; however, they are not always so; and it is commonly necessary to render them more powerfully stimulant by the addition of neutral salts, of which the most powerful is the common, or marine salt. If these saline clysters, as sometimes happens, are rendered again too quickly, and on this account, or otherwise, are found ineffectual, it may be proper, instead of these salts, to add to the clysters an infusion of fenna, or of some other purgative that can be extracted by water. The antimonial wine may be sometimes employed in clysters with advantage. Hardly any clysters are more effectual than those made of turpentine properly prepared. When all other injections are found ineffectual, recourse is to be had to the injection of tobacco smoke; and, when even this fails, recourse is to be had to the mechanical dilatation to be mentioned hereafter.

MCCCXCI.

As clysters often fail altogether in relieving this disease, and, even when they give some relief, they are often still imperfect in producing a complete cure, it is generally proper, and often necessary, to attempt a more entire and certain cure, by purgatives given by the mouth. The more powerful of these, or, as they are called, the Drastring Purgatives, may be sometimes necessary, but their use is to be avoided, both because they are apt to be rejected by vomiting, and because, when they do not succeed in removing the obstruction, they are ready to induce an inflammation. Upon this account it is usual, and, indeed, proper, at least in the first place,

place, to employ the milder, and less inflammatory purgatives. None have succeeded with me better than the crystals of tartar, because this medicine may be conveniently given in small, but repeated, doses, to a considerable quantity; and, under this management, it is the purgative least ready to be rejected by vomiting, and much less so than the other neutral salts. If a stronger purgative be required, jalap, properly prepared, is less offensive to the palate, and sits better upon the stomach, than most other powerful purgatives. On many occasions of colic, nothing is more effectually purgative than a large dose of calomel. Some practitioners have attempted to remove the obstruction of the intestines by antimonial emetics exhibited in small doses, repeated at proper intervals; and when these doses are not entirely rejected by vomiting, they often prove effectual purgatives.

When every purgative has failed, the action of the intestines has been effectually excited by throwing cold water on the lower extremities.

MCCCXCII.

The *third* means of overcoming the spasm of the intestines in this disease, is by employing a mechanical dilatation; and it has been frequently supposed that quicksilver, given in large quantity, might operate in this manner. I have not, however, found it successful; and the theory of it is, with me, very doubtful. Some authors have mentioned the use of gold and silver pills, or balls, swallowed down; but I have no experience of such practices, and I cannot suppose them a probable means of relief.

MCCCXCIII.

Another means of mechanical dilatation, and a more probable measure, is by injecting a large quantity of warm water by a proper syringe, which may throw it with some force,
and

and in a continued stream, into the rectum. Both from the experiments reported by the late Mr. De Haen, and from those I myself have had occasion to make, I judge this remedy to be one of the most powerful and effectual.

MCCCXCIV.

I have now mentioned all the several means that may be employed for the cure of the colic, considered as a genus; but, before I quit this subject, it may be expected that I should take notice of some of the species which may seem to require a particular consideration. In this view, it may be expected that I should especially take notice of that species named the Colic of Poitou, and particularly known in England by the name of the Devonshire Colic.

MCCCXCV.

This species of the disease is certainly a peculiar one, both in respect of its cause and its effects; but, as to the first, it has been lately so much the subject of investigation, and is so well ascertained by the learned physicians, Sir George Baker and Dr. Hardy, that it is unnecessary for me to say any thing of it here.

With respect to the cure of it, so far as it appears in the form of a colic, my want of experience regarding it does not allow me to speak with any confidence on the subject; but, so far as I can learn from others, it appears to me, that it is to be treated by all the several means that I have proposed above for the cure of colic in general.

How far the peculiar effects of this disease are to be certainly foreseen and obviated, I have not properly learned; and I must leave the matter to be determined by those who have had sufficient experience in it.

C H A P. X.

Of The C H O L E R A.

MCCCXCVI.

In this disease, a vomiting and purging concurring together, or frequently alternating with one another, are the chief symptoms. The matter rejected both upwards and downwards appears manifestly to consist chiefly of bile.

MCCCXCVII.

From this last circumstance, we conclude that the disease depends upon an increased secretion of bile, and its copious effusion into the alimentary canal; in which, as it irritates and excites the motions above mentioned, we infer, that the bile thus effused in larger quantity is, at the same time, also of a more acrid quality. This appears likewise from the violent, and very painful gripings that attend the disease, and which we can impute only to the violent spasmodic contractions of the intestines that take place here. These spasms are commonly communicated to the abdominal muscles, and very frequently to those of the extremities

MCCCXCVIII.

In the manner now described, the disease frequently proceeds with great violence till the strength of the patient is greatly, and often suddenly, weakened, till a coldness of the extremities, cold sweats, and faintings, shew this, and put an end to the patient's life, sometimes in the course of one day. In other cases the disease is less violent, continues for

a day or two, and then ceases by degrees ; though such recoveries seldom happen without the assistance of remedies.

MCCCXCIX.

This disease seldom comes on with any symptoms of pyrexia ; and though, during the course of it, both the pulse and respiration are hurried and irregular, these symptoms are generally so entirely removed by the remedies that quiet the spasmodic affections peculiar to the disease, as to leave no ground for supposing that it had been accompanied by any proper pyrexia.

MCCCC.

This is a disease attending a very warm state of the air ; and, in very warm climates, it may, perhaps, appear at any time of the year ; but, even in these climates, it is most frequent during their warmest seasons ; and, in temperate climates, appears only in the warm seasons. Dr. Sydenham considered the appearances of this disease in England to be confined to the month of August, but he himself observed it to appear sometimes towards the end of summer, when the season was unusually warm, and that, in proportion to the heat, the violence of the disease was greater. Others have observed that it appeared more early in summer, and always sooner or later, according as the great heats sooner or later set in.

MCCCCL.

From all these circumstances, it is, I think, very evident, that this disease is the effect of a warm atmosphere, producing some change in the state of the bile in the human body, and this change consisting either in its rendering the matter of the bile more acrid, so as thereby to stimulate a more copious secretion, or merely by disposing the matter of the
bile

bile to pass off in larger quantity, and, under that circumstance, perhaps, necessarily more acrid.

MCCCCII.

It has been remarked, that, in warm climates, and seasons, after extremely hot and dry weather, a fall of rain cooling the atmosphere seems especially to bring on this disease; and it is very probable that an obstructed perspiration may have also a share in this, though it certainly happens that the disease does appear when no change in the temperature of the air, nor any application of cold, have been observed.

MCCCCIII.

It is possible, that in some cases, the heat of the season may give only a predisposition, and that the disease may be excited by certain ingesta, or other causes; but it is equally certain that the disease has occurred without any previous change, or error, either in diet, or in manner of life, that could be observed.

MCCCCIV.

The Nosologists have constituted a Genus under the title of Cholera, and under this have arranged as species, every affection in which a vomiting and purging of any kind happened to concur. In many of these species, however, the matter evacuated is not bilious, and though it were, the evacuation does not proceed from any cause in the state of the atmosphere. In many cases, too, the vomiting which occurs is not an essential, but merely an accidental symptom, from the particular violence of the disease. The appellation of Cholera, therefore, should, in my opinion, be confined to the disease I have described above, which by its peculiar cause, and, perhaps, also by its symptoms, is very different from all the other species that have been associated with it.

I believe that all the other species arranged under the title of Cholera by *Sauvages*, or *Sagar*, may be properly enough referred to the genus of Diarrhœa, which we are to treat of presently.

The distinction I have endeavoured to establish between the proper Cholera, and the other diseases that have sometimes got the same appellation, will, as I judge, supersede the question, Whether the Cholera, in temperate climates, happens at any other season than that above assigned.

MCCCCV.

In the case of a genuine cholera, the cure of it has been long ago established by experience.

In the beginning of the disease, the evacuation of the redundant bile is to be favoured by the plentiful exhibition of mild diluents, both given by the mouth, and injected by the anus; and all evacuant medicines, employed in either way, are not only superfluous, but commonly hurtful.

MCCCCVI.

When the redundant bile appears to be sufficiently washed out, and even before that, if the spasmodic affections of the alimentary canal become very violent, and are communicated in a considerable degree to other parts of the body, or when a dangerous debility seems to be induced, the irritation is to be immediately obviated by opiates, in sufficiently large doses, but in small bulk, and given either by the mouth or by clyster.

MCCCCVII.

Though the patient be in this manner relieved, it frequently happens, that, when the operation of the opium is over, the disease shows a tendency to return; and, for at least some days after the first attack, the irritability of the
intestines,

intestines, and their disposition to fall into painful spasmodic contractions, seem to continue. In this situation, the repetition of the opiates, for perhaps several days, may come to be necessary ; and, as the debility commonly induced by the disease favours the disposition to spasmodic affections, it is often useful and necessary, together with the opiates, to employ the tonic powers of the Peruvian bark.

C H A P. XI.

O f D I A R R H O E A,

O R

L O O S E N E S S.

MCCCCVIII.

This disease consists in evacuations by stool, more frequent, and of more liquid matter, than usual. This leading and characteristic symptom is so diversified in its degree, in its causes, and in the variety of matter evacuated, that it is almost impossible to give any general history of the disease.

MCCCCIX.

It is to be distinguished from dysentery by not being contagious, by being generally without fever, and by being
with

with the evacuation of the natural excrements, which are, at least for some time, retained in dysentery. The two diseases have been commonly distinguished by the gripings being more violent in the dysentery; and they are commonly less violent and less frequent in diarrhœa; but as they frequently do occur in this also, and sometimes to a considerable degree, so they do not afford any proper distinction.

MCCCCX.

A diarrhœa is to be distinguished from Cholera, chiefly by the difference of their causes, which, in cholera, is of one peculiar kind, but, in diarrhœa, is prodigiously diversified, as we shall see presently. It has been common to distinguish cholera, by the purging of bilious matter, in this, being always accompanied with a vomiting of the same kind; but it does not universally apply, as a diarrhœa is sometimes attended with vomiting, and even of bilious matter.

MCCCCXI.

The disease of diarrhœa, thus distinguished, is very greatly diversified; but, in all cases, the frequency of stools is to be imputed to a preternatural increase of the peristaltic motion, in the whole, or at least, a considerable portion of the intestinal canal. This increased action is in different degrees, is often convulsive and spasmodic, and, at any rate, is a *motus abnormis*; for which reason, in the Methodical Nosology, I have referred it to the order of *Spasmi*, and, accordingly, treat of it in this place.

MCCCCXII.

Upon the same ground, as I consider, the disease named Lientery to be the highest degree of an increased peristaltic motion,

motion, I have considered it as merely a species of diarrhœa. The idea of a laxity of the intestinal canal being the cause either of lientery, or other species of diarrhœa, appears to me to be without foundation, except in the single case of frequent liquid stools from a palsy of the *sphincter ani*.

MCCCCXIII.

The increased action of the peristaltic motion, I consider, as always the chief part of the proximate cause of diarrhœa; but the disease is further, and, indeed, chiefly diversified by the different causes of this increased action, which we are now to inquire into.

MCCCCXIV.

The several causes of the increased action of the intestines may be referred, I think, in the first place, to two general heads.

The *first* is, of the diseases of certain parts of the body, which, either from a consent of the intestines with these parts, or from the relation which the intestines have to the whole system, occasion an increased action in the intestines, without the transference of any stimulant matter from the primary diseased part to them.

The *second* head of the causes of the increased action of the intestines is, of the stimuli of various kinds, which are applied directly to the intestines themselves.

MCCCCXV.

That affections of other parts of the system may affect the intestines without the transference of any stimulant matter, we learn from hence, that the passions of the mind do in some persons excite diarrhœa.

MCCCCXVI.

MCCCCXVI.

That diseases in other parts may, in like manner affect the intestines, appears from the dentition of infants, frequently exciting diarrhœa. I believe that the gout often affords another instance of the same kind; and, probably, there are others, though not well ascertained.

MCCCCXVII.

The stimuli (MCCCCXIV.) which may be applied to the intestines are of very various kinds, and are either, 1. Matters immediately introduced by the mouth; or, 2. Matters poured into the intestines by the several excretories opening into them; or, 3. Matters poured from certain preternatural openings made into them in certain diseases.

MCCCCXVIII.

Of those (MCCCCXVII.) introduced by the mouth, the first to be mentioned are the aliments commonly taken in. These being taken in in too great quantity, often prevent their due digestion in the stomach, and being thus sent in their crude, and, probably, acrid state, to the intestines, they frequently excite diarrhœa.

The same aliments, though, in proper quantity, yet having too great a proportion, as is often the case, of saline or saccharine matter along with them, prove stimulant to the intestines, and excite diarrhœa.

But our aliments prove especially the causes of diarrhœa, according as they, from their own nature, or from the weakness of the stomach, are disposed to undergo an undue degree of fermentation there, and thereby become stimulant to the intestines. Thus, acedent aliments are ready to produce diarrhœa; but whether from their having any directly purgative quality, or only as mixed in an over-proportion with the bile, is not well determined.

MCCCCXIX.

MCCCCXIX.

Not only the acedcent, but the putrescent disposition of the aliments, is a cause of diarrhœa; and it appears, that even the effluvia of putrid bodies, taken in, any how in large quantity, have the same effect.

Are oils or fats, taken in as a part of our aliments, ever the cause of diarrhœa; and, if they be, in what manner do they operate?

MCCCCXX.

The other matters introduced by the mouth, which may be causes of diarrhœa, are those thrown in either as medicines, or poisons that have the faculty of stimulating the alimentary canal. Thus, in the list of the *Materia Medica*, we have a long catalogue of those named purgatives; and in the list of poisons, we have many possessed of the same quality. The former, given in a certain quantity, occasion a temporary diarrhœa, and, given in very large doses, may occasion it in excess, and continue it longer than usual, producing that species of diarrhœa named a *Hypercatharsis*.

MCCCCXXI.

The matters (MCCCCXVII.) 2. poured into the cavity of the intestines, from the excretories opening into them, and which may occasion diarrhœa, are either those from the pancreatic or biliary duct, or those from the excretories in the coats of the intestines themselves.

MCCCCXXII.

What changes may happen in the pancreatic juice I do not exactly know, but I conceive them possible, and that an acrid fluid may issue from the pancreas, even while still entire in its structure; but more especially when it is in a sup-

purated, schirrous, or cancerous state, a very acrid matter may be poured out, and occasion diarrhœa.

MCCCCXXIII.

We know well, that, from the biliary ducts, the bile may be poured out in greater quantity than usual; and there is little doubt of its being also sometimes poured out of a more than ordinary acrid quality. It is very probable, that, in both ways, the bile is frequently a cause of diarrhœa.

Though I have said above that diarrhœa may be commonly distinguished from cholera, I must admit here, that, as the causes producing that state of the bile which occasions cholera, may occur in all the different possible degrees of force, so as, on one occasion, to produce the most violent, and distinctly marked cholera, but, upon another, to produce only the gentlest diarrhœa, which, however, will be the same disease, only varying in degree; so I think it probable, that in warm climates, and in warm seasons, a diarrhœa *biliosa* of this kind may frequently occur, not to be always certainly distinguished from cholera.

However this may be, it is sufficiently probable, that, in some cases, the bile, without having been acted upon by the heat of the climate or season, may be redundant and acrid, and be thereby a particular cause of diarrhoea.

MCCCCXXIV.

Beside bile from the several causes, and in the conditions mentioned, the biliary duct may pour out pus, or other matter, from abscesses in the liver, which may be the cause of diarrhoea.

Practical writers take notice of a diarrhoea wherein a thin and bloody liquid is discharged, which they suppose to have proceeded from the liver, and have therefore given the disease the name of *Hepatirrhœa*; but we have not met with any

any instance of this kind, and, therefore, cannot properly say any thing concerning it.

MCCCCXXV.

A second set of excretories, from which matter is poured into the cavity of the intestines, are those from the coats of the intestines themselves, and are either the exhalants proceeding directly from the extremities of arteries, or the excretories from the mucous follicles; and both these sources occur in prodigious number over the internal surface of the whole intestinal canal. It is probable that it is chiefly the effusion from these sources, which, in most instances, gives the matter of the liquid stools occurring in diarrhoea.

MCCCCXXVI.

The matter from both sources may be poured out in larger quantity than usual, merely by the increased action of the intestines, whether that be excited by the passions of the mind (MCCCCXV.), by diseases in other parts of the system (MCCCCXVI.), or by the various stimulants mentioned (MCCCCXVII. and following), or the quantity of matter poured out may be increased, not so much by the increased action of the intestines, as by an increased afflux of fluids from other parts of the system.

Thus, cold applied to the surface of the body, and suppressing perspiration, may determine a greater quantity of fluids to the intestines.

Thus, the urine in the *ischuria renalis* is sometimes determined to pass off again by the intestines.

In like manner, pus or serum may be absorbed from the cavities in which they have been stagnant, and be again poured out into the intestines, as often happens, in particular with respect to the water of dropsies.

MCCCCXXVII.

MCCCCXXXIII.

Another preternatural source of matter poured into the cavity of the intestines, is the opening of abscesses, seated either in the coats of the intestines themselves, or in any of the contiguous viscera, which, during an inflamed state, had formed an adhesion with some part of the intestines. The matter thus poured into their cavity may be various, purulent or sanious, or both together, mixed at the same time with more or less of blood, and in each of these states may be a cause of diarrhoea.

MCCCCXXXIV.

Amongst the stimuli that may be directly applied to the intestines, and which, by increasing their peristaltic motion, may occasion diarrhoea, we must not omit to mention worms, as having frequently that effect.

MCCCCXXXV.

We must also mention here a state of the intestines, wherein their peristaltic motion is preternaturally increased, and a diarrhoea produced; and that is, when they are affected with an erysipelatous inflammation. With respect to the existence of such a state, and its occasioning diarrhoea, see what is said above in (CCCLXXVIII. and following.) Whether it is to be considered as a particular and distinct case of diarrhoea, or is always the same with some of these produced by one or other of the causes above mentioned, I have not been able to determine.

MCCCCXXXVI.

Lastly, by an accumulation of alimentary, or other matter, poured into the cavity of the intestines from several of the sources above mentioned, a diarrhoea may be especially occasioned when the absorption of the lacteals, or of other absorbents,

forbents, is prevented, either by an obstruction of their orifices, or by an obstruction of the mesenteric glands, through which alone the absorbed fluids can be transmitted.

In one instance of this kind, when the chyle prepared in the stomach and duodenum is not absorbed in the course of the intestines, but passes off in considerable quantity by the anus, the disease has been named the *Morbus Cæliacus*, or simply, and more properly, *Cæliaca*, which, accordingly, I have considered as a species of diarrhoea.

MCCCCXXXVII.

I have thus endeavoured to point out the various species of disease that may come under the general appellation of diarrhoea; and from that enumeration it will appear, that many, and, indeed, the greater part of the cases of diarrhoea, are to be considered as sympathetic affections, and to be cured only by curing the primary disease upon which they depend; of which, however, I cannot properly treat here. From our enumeration, it will also appear, that many of the cases of diarrhoea, which may be considered as idiopathic, will not require my saying much of them here: In many instances, the disease is ascertained, and also the cause assigned, by the condition of the matter evacuated, so that what is necessary to correct or remove it will be sufficiently obvious to practitioners of any knowledge. In short, I do not find that I can offer any general plan for the cure of diarrhoea; so that all I can propose on this subject, is to give some general remarks on the practice that has been commonly followed in the cure of this disease.

MCCCCXXXVIII.

The practice in this disease has chiefly proceeded upon the supposition of an acrimony in the fluids, or of a laxity in the simple and moving fibres of the intestines; and the remedies employed

employed have accordingly been correctors of particular acrimony, general demulcents, evacuants by vomiting or purging, astringents, or opiates. Upon each of these kinds of remedy I shall now offer some remarks.

MCCCCXXXIX.

An acid acrimony is, upon several occasions, the cause of diarrhoea, particularly in children, and, in such cases, the absorbent earths have been very properly employed. Their common, however, and promiscuous use has been very injudicious; and where there is any putrescency they must be hurtful.

MCCCCXL.

The cases in which there is a putrid or putrescent acrimony have, I think, been too seldom taken notice of, and, therefore, the use of acids too seldom admitted. The acrimony to be suspected in bilious cases, is probably of the putrescent kind.

MCCCCXLI.

The general correctors of acrimony are the mild diluents and demulcents. The former have not been so much employed in diarrhoea as they ought; for, joined with demulcents, they very much increase the effects of the latter; and although the demulcents, both mucilaginous and oily, may by themselves be useful, yet, without the assistance of diluents, they can hardly be introduced in such quantity as to answer the purpose.

MCCCCXLII.

As indigestion, and crudities present in the stomach, are so often the cause of diarrhoea, vomiting must therefore be frequently very useful in this disease.

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In like manner, when the disease proceeds, as it often does, from obstructed perspiration, and an increased afflux of fluids to the intestines, vomiting is perhaps the most effectual means of restoring the determination of the fluids to the surface of the body.

It is possible that vomiting may give some inversion of the peristaltic motion, which is determined too much downwards in diarrhoea; so that, upon the whole, it is a remedy which may be very generally useful in this disease.

MCCCCXLIII.

Purging has been supposed to be more universally necessary, and has been more generally practised. This, however, in my opinion, proceeds, upon very mistaken notions of the disease; and such a practice seems to me, for the most part, superfluous and in many cases very hurtful.

It goes upon the supposition of an acrimony present in the intestines, to be carried out by purging; but, if that acrimony has either been introduced by the mouth, or brought into the intestines from other parts of the body, purging can neither be a means of correcting nor of exhausting it, and must rather have the effect of increasing its afflux, and of aggravating its effects. From whatever source the acrimony which can excite a diarrhoea proceeds, it may be supposed sufficient to evacuate itself, so far as that can be done, by purging; and as in cholera, so, in the same kind of diarrhoea, it will be more proper to assist the evacuation by diluents and demulcents, than to increase the irritation by purgatives.

MCCCCXLIV.

If then, the use of purgatives, in diarrhoea, may be considered, even in the case of an acrimony present, as superfluous, there are many other cases in which they may be

extremely hurtful. If the irritability of the intestines shall, from affections in other parts of the system, or other causes, have been already very much increased, purgatives must necessarily aggravate the disease. In the case of lientery, no body thinks of giving a purgative ; and in many cases of diarrhœa approaching to that, they must be equally improper. I have already observed, that, when diarrhœa proceeds from an afflux of fluids to the intestines, whether in too great quantity, or of an acrid quality, purgatives may be hurtful ; and whoever, therefore, considers the numerous and various sources from which acrid matter may be poured into the cavity of the intestines, will readily perceive, that, in many cases of diarrhœa, purgatives may be extremely pernicious.

There is one case in particular to be taken notice of. When, from a general and acrid dissolution of the blood, the serous fluids run off too copiously into the cavity of the intestines, and excite that diarrhœa which attends the advanced state of hectic fever, and is properly called a Colliquative Diarrhœa. I have, in such cases, often seen purgatives given with the most baneful effects.

There is still another case of diarrhœa in which purgatives are pernicious, and that is when the disease depends, as we have alleged it sometimes may, upon an erysipelatous inflammation of the intestines.

I need hardly add, that, if there be a case of diarrhœa depending upon a laxity of the solids, purgatives cannot there be of any service, and may do very much harm. Upon the whole, it will, I think, appear, that the proper use of purgatives in diarrhœa is very much limited, and that the promiscuous use of them, which has been so common, is injudicious, and often pernicious. I believe the practice has been chiefly owing to the use of purgatives in dysenteric cases, in which they are truly useful, because, contrary to the
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the case of diarrhœa, there is in dysentery a considerable constriction of the intestines.

MCCCCXLV.

Another set of remedies employed in diarrhœa, are astringents. There has been some hesitation about the employment of these in recent cases, upon the supposition that they might occasion the retention of an acrid matter that should be thrown out. I cannot, however, well understand, or assign the cases in which such caution is necessary; and I think that the power of astringents is seldom so great as to render their use very dangerous. The only difficulty which has occurred to me, with respect to their use, has been to judge of the circumstances to which they are especially adapted. It appears to me to be only in these where the irritability of the intestines depends upon a loss of tone; and this, I think, may occur either from the debility of the whole system, or from causes acting on the intestines alone, all violent, or long continued spasmodic and convulsive affections of the intestinal canal, necessarily inducing a debility there. Such causes often take place, from violent irritation, in colic, dysentery, cholera, and diarrhœa.

MCCCCXLVI.

The last of the remedies of diarrhoea that remain to be mentioned are opiates. The same objections have been made to the use of these, in recent cases of diarrhoea, as to that of astringents, but on no good grounds; for the effects of opiates, as astringent, are never very permanent, and an evacuation depending upon irritation, though it may be for some time suspended by opiates, yet always returns very soon. It is only by taking off irritability that opiates are useful, in diarrhoea; and, therefore, when the disease depends upon an increase of irritability alone, or when, though proceeding
from

from irritation, that irritation is corrected or exhausted, opiates are the most useful and certain remedy. And, though opiates are not suited to correct or remove an irritation applied, they are often of great benefit in suspending the effects of that irritation whenever these are violent; so, upon the whole, it will appear, that opiates may be very frequently, and with great propriety, employed in the cure of diarrhoea.

C H A P. XII.

Of The D I A B E T E S.

MCCCCXLVII.

This disease consists in the voiding of an unusually large quantity of urine.

As hardly any secretion can be increased without an increased action of the vessels concerned in it, and as some instances of this disease are attended with affections manifestly spasmodic, I have had no doubt of arranging the diabetes under the order of *Spasmi*.

MCCCCXLVIII.

This disease is always accompanied with a great degree of thirst, and, therefore, with the taking in of a great quantity of drink. This, in some measure, accounts for the very extraordinary quantities of urine voided; but still, independent of this, a peculiar disease certainly takes place, as the quantity of urine voided does almost always exceed the whole of the liquids taken in.

MCCCCXLIX.

MCCCCXLIX.

The urine voided in this disease is always very clear, and, at first sight, appears entirely without any colour, but, viewed in a certain light, it generally appears to be slightly tinged with a yellowish green, and, in this respect, has been very properly compared to a solution of honey in a large proportion of water.

Examined by the taste, it is very generally found to be more or less sweet; and many experiments that have now been made in different instances of the disease, show clearly that such urine contains, in considerable quantity, a saccharine matter, and which appears to be very exactly of the nature of common sugar.

MCCCCL.

Doctor Willis seems to me to have been the first who took notice of the sweetness of the urine in diabetes, and almost every physician of England since has taken notice of the same. It is to be doubted, indeed, if there is any case of idiopathic diabetes in which the urine is of a different kind. Tho' neither the antients nor, in the other countries of Europe, the moderns, till the latter were directed to it by the English, have taken notice of the sweetness of the urine, it does not persuade us, that, either in antient or in modern times, the urine in diabetes was of another kind. I myself, indeed, think I have met with one instance of diabetes in which the urine was perfectly insipid; and it would seem that a like observation had occurred to Dr. Martin Lister. I am, persuaded, however, that such instances are very rare, and that the other is by much the more common, and, perhaps, the almost universal. I judge, therefore, that the presence of such a saccharine matter may be considered as the principal circumstance in idiopathic diabetes; and it gives, at least, the only case of that disease that I can properly treat
of

of here ; for I am only certain, that what I am further to mention relates to such a case.

MCCCCLI.

The antecedents of this disease, and, consequently, the remote causes of it, have not been well ascertained. It may be true that it frequently happens to men, who, for a long time before, had been intemperate in drinking ; that it happens to persons of a broken constitution, or who, as we often express it, are in a cachectic state ; that it sometimes follows intermittent fevers ; and that it has often occurred from excess in the drinking of mineral waters ; but none of these causes apply very generally to the cases that occur. They are not always, nor even frequently, followed by a diabetes ; and there are many instances of diabetes which could not be referred to any of them. In most of the cases of this disease which I have met with, I could not refer it to any particular cause.

MCCCCLII.

This disease commonly comes on slowly, and almost imperceptibly, without any previous disorder. It often arises to a considerable degree, and subsists long, without being accompanied with evident disorder in any particular part of the system. The great thirst which always, and the voracious appetite which frequently occur in it, are often the only remarkable symptoms. Under the continuance of the disease, the body is often greatly emaciated ; and a great weakness also prevails. The pulse is commonly frequent ; and an obscure fever is, for the most part, present. When the disease proves fatal, it generally ends with a fever, in many circumstances, particularly those of emaciation and debility, resembling a hectic.

MCCCCLIII.

The proximate cause of this disease is not certainly or
clearly

clearly known. It seems to have been sometimes connected with calculous affections of the kidneys; and it is possible, that an irritation applied there, may increase the secretion of urine. It perhaps often does so; but how it should produce the singular change that takes place in the state of the urine, is not to be easily explained. It certainly often happens, that calculous matters are long present in the urinary passages, without having any such effect as that of producing diabetes in any shape.

Some have supposed that the disease occurs from a relaxed state of the secretory vessels of the kidneys; and, indeed, the dissections of persons who had died of this disease have shown the kidneys in a very flaccid state. This, however, is probably to be considered as rather the effect, than the cause of the disease.

That no topical affection of the kidneys has a share in producing this disease, and that a fault in the assimilation of the fluids is rather to be blamed, I conclude from hence, that even the solid food taken in, increases the quantity of the urine voided, at the same time, with an encrease of the saccharine matter above mentioned.

MCCCCLIV.

The diabetes has been supposed to be owing to a certain state of the bile; and it is true, that this disease has sometimes occurred in persons who were, at the same time, affected with diseases of the liver; but this concurrence does not often take place; and the diabetes frequently occurs, separately from any affection of the liver. In twenty instances of diabetes which I have seen, there was not, in any one of them, any evident affection of the liver.

The explanation that has been offered of the nature and operation of the bile, in producing diabetes, is very hypothetical, and nowise satisfying.

MCCCCLV.

MCCCCLV.

As I have already said, I think it probable, that, in most cases, the proximate cause of this disease is some fault in the assimilatory powers, or in those employed in converting alimentary matters into the proper animal fluids. This I formerly hinted to Dr. Dobson, and it has been prosecuted and published by him; but I must own, that it is a theory embarrassed with some difficulties, which I cannot at present very well remove.

MCCCCLVI.

The proximate cause of diabetes being so little known or ascertained, I cannot propose any rational method of cure in the disease. From the testimony of several authors, I believe that the disease has been cured; but I believe also, that this has seldom happened; and when it has been cured, I doubt much if it was effected by the several remedies, to which these cures have been ascribed. In all the instances of this disease which I myself have seen, and in several others of which I have been informed, no cure of it has ever been made in Scotland, though many instances of it have occurred, and in most of them, the remedies recommended by authors have been diligently employed. I cannot, therefore, with any advantage, enter into a detail of these remedies; and as the disease, together with its several circumstances, are likely to become soon the subject of diligent investigation, I avoid going farther at present, and judge it prudent to suspend my opinion, till I shall have more observations and experiments upon which I can found.

C H A P.

CHAP. XIII.

OF HYSTERIA,

OR THE

HYSTERIC DISEASE.

MCCCCLVII.

The many and various symptoms which have been supposed to belong to a disease under this appellation, render it extremely difficult to give a general character or definition of it. It is however, proper, in all cases, to attempt some general idea; and, therefore, by taking the most common form, and that concurrence of symptoms by which it is principally distinguished, I have formed a character in my system of Methodical Nosology, and shall here endeavour to illustrate it, by giving a more full history of the phænomena.

MCCCCLVIII.

The disease attacks in paroxysms or fits. These commonly begin by some pain and fulness felt in the left side of the belly. From this a ball seems to move, with a grumbling noise, into the other parts of the belly, and making, as it were, various convolutions there, seems to move into the stomach, and more distinctly still rises up to the top of the gullet, where it remains for some time, and, by its pressure

upon the larynx, gives a sense of suffocation. By the time that the disease has proceeded thus far, the patient is affected with a stupor and insensibility, while, at the same time, the body is agitated with various convulsions. The trunk of the body is wreathed to and fro, and the limbs are variously agitated; commonly the convulsive motion of one arm and hand, is that of beating, with the closed fist, upon the breast very violently and repeatedly. This state continues for some time, and has, in that period, some remissions and renewals of the convulsive motions; but they at length cease, leaving the patient in a stupid, and seemingly sleeping state. More or less suddenly, and frequently with repeated sighing and sobbing, together with a murmuring noise in the belly, the patient comes out of this, and returns to the exercise of sense and motion, but, generally, without any recollection of the several circumstances we have here described.

MCCCCLIX.

This is the form of what is called an *hysterical paroxysm*, and is the most common form; but its paroxysms are considerably varied in different persons, and even in the same person at different times. It differs, by having more or fewer of the circumstances above mentioned; by these circumstances being more or less violent; and by the different duration of the whole fit.

Before the fit, there is sometimes a sudden, and unusually large flow of limpid urine. At the coming on of the fit, the stomach is sometimes affected with vomiting, the lungs with considerable difficulty of breathing, and the heart with palpitations. During the fit, the whole of the belly, and particularly the navel, is drawn strongly inwards; the *sphincter ani* is sometimes so firmly constricted as not to admit a small clyster pipe; and there is, at the same time, an entire suppression of urine. Such fits are, from time to time, ready to recur;

recur; and, during the intervals, the patients are liable to involuntary motions, to fits of laughing, and crying, with sudden transitions from the one to the other, while sometimes false imaginations, and some degree of delirium, also occur.

MCCCCLX.

These affections have been supposed peculiar to the female sex; and, indeed, they most commonly appear in females; but they sometimes, though rarely, attack also the male sex; never, however, that I have observed, in the same exquisite degree.

In the female sex, the disease occurs, especially from the age of puberty to that of thirty-five years, and though it does sometimes, yet very seldom appears before the former, or after the latter of these periods.

At all ages, the time at which it most readily occurs is that of the menstrual period.

The disease affects the females of the most exquisitely sanguine and plethoric habits, and frequently affects those of the most robust and masculine constitutions.

It affects the barren more than the breeding women, and therefore frequently young widows.

It occurs especially in those females who are liable to the Nymphomania; and the Nosologists have, properly enough, marked one of the varieties of this disease, by the title of *Hysteria Libidinosa*.

In the persons liable to the fits of this disease, it is readily excited by the passions of the mind, and by every considerable emotion, especially those brought on by surprise.

The persons liable to this disease acquire often such a degree of sensibility as to be strongly affected by every impression that comes upon them by surprise.

MCCCCLXI.

In this history, there appears to be a concurrence of symptoms and circumstances, properly marking a very particular disease, which I think may be distinguished from all others. It seems to me to have been improperly considered by physicians as the same with some other diseases, and particularly with hypochondriasis. The two diseases may have some symptoms in common, but, for the most part, are considerably different.

Spasmodic affections occur in both diseases, but neither so frequently, nor to so great a degree, in hypochondriasis as in hysteria.

Persons liable to hysteria are sometimes affected at the same time with dyspepsia. They are often, however, entirely free from it; but I believe this never happens to persons affected with hypochondriasis.

These different circumstances mark some difference in the two diseases; but they are still more certainly distinguished by the temperament they attack, and by the time of life at which they appear to be most exquisitely formed.

It has been generally supposed, that the two diseases differ only in respect of their appearing in different sexes; but this is not well founded; for, although the hysteria appears most commonly in females, the male sex are not absolutely excluded, as we have observed above; and, although the hypochondriasis may be most frequent in men, the instances of it in the female sex are very common.

MCCCCLXII.

From all these considerations, it must, I think, appear, that the hysteria may be very well, and properly, distinguished from hypochondriasis.

Further, it seems to me to have been with great impropriety, that almost every degree of the irregular motions of
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the nervous system has been referred to the one or other of these two diseases. Both are marked by a peculiarity of temperament, as well as by certain symptoms commonly accompanying that; but some of these, and many others usually marked by the name of Nervous Symptoms, may, from various causes, arise in temperaments different from that which is peculiar to either hysteria or hypochondriasis, and without being joined with the peculiar symptoms of either the one or the other disease; so that the appellation of Hysterie and Hypochondriac are very inaccurately applied to them. Under what view these symptoms are otherwise to be considered, I am not ready to determine, but must remark, that the appellation of Nervous Diseases, is too vague and undefined to be of any useful application.

MCCCCLXIII.

Having thus endeavoured to distinguish hysteria from every other disease, I shall now attempt its peculiar pathology. With respect to this, I think it will, in the first place, be obvious, that its paroxysms begin by a convulsive and spasmodic affection of the alimentary canal, which is afterwards communicated to the brain, and to a great part of the nervous system. Although the disease appears to begin in the alimentary canal, yet the connection which the paroxysms so often have with the menstrual flux, and with the diseases that depend on the state of the genitals, shows, that physicians have, at all times, judged rightly in considering this disease as an affection of the uterus, and other parts of the genital system.

MCCCCLXIV.

With regard to this, however, I can go no farther. In what manner the uterus, and in particular the ovaria, are affected in this disease; how the affection of these is communicated

nicated with particular circumstances to the alimentary canal; or how the affection of this, rising upwards, affects the brain, so as to occasion the particular convulsions which occur in this disease, I cannot pretend to explain.

But, although I cannot trace this disease to its first causes, or explain the whole of the phænomena, I hope, that, with respect to the general nature of the disease, I may form some general conclusions, which may serve to direct our conduct in the cure of it.

MCCCCLXV.

Thus, from a consideration of the predisponent and occasional causes, it will, I think, appear, that the chief part of the proximate cause is a mobility of the system, depending generally upon its plethoric state.

MCCCCLXVI.

Whether this disease ever arise from a mobility of the system, independent of any plethoric state of it, I cannot positively determine; but, in many cases that have subsisted for some time, it is evident that a sensibility, and consequently, a mobility, are acquired, which often appear when neither a general plethora can be supposed to subsist, nor an occasional turgescence to have happened. However, as we have shown above that a distension of the vessels of the brain seems to occasion epilepsy, and that a turgescence of the blood in the vessels of the lungs seems to produce asthma, so analogy leads me to suppose, that a turgescence of blood in the uterus, or in other parts of the genital system, may occasion the spasmodic and convulsive motions which appear in hysteria. It will, at the same time, be evident, that this affection of the genitals must especially occur in plethoric habits; and every circumstance mentioned in the history of the disease serves to confirm this opinion as to its proximate cause.

MCCCCLXVII:

MCCCCLXVII.

From this view of the subject, the analogy of hysteria and epilepsy will readily appear; and why, therefore, we are to say that the indications of cure are the same in both.

As the indications, so the several means of answering them, are so much the same in both diseases, that the same observations and directions, with regard to the choice and employment of these remedies, that have been delivered above on the subject of epilepsy, will apply pretty exactly to hysteria, and, therefore, need not be repeated here.

C H A P. XIV.

O F C A N I N E M A D N E S S,

And H Y D R O P H O B I A.

MCCCCLXVIII.

This disease has been so exactly and fully described in books that are in every body's hands, that it is on no account necessary for me to give any history of it here; and, with respect to the pathology of it, I find that I can say nothing satisfying to myself, or that I can expect to prove so to others. I find also, with respect to the cure of this disease, that there is no subject in which the fallacy of experience appears more strongly than in this. From the most antient times to the present, many remedies for preventing and curing this disease have been recommended, under the sanction of experience, and have, perhaps, also kept their credit for some time; but succeeding times have generally, upon the same ground of experience, destroyed that credit entirely;

entirely; and most of the remedies formerly employed are now fallen into absolute neglect. In the present age, some new remedies have been proposed, and have experience alleged to vouch for their efficacy; but many doubts still remain with respect to that; and, though I cannot judge in this matter from my own experience, I think it incumbent on me to give to my pupils the best judgment I can form with respect to the choice of the remedies at present recommended.

MCCCCLXIX.

I am, in the first place, firmly persuaded, that the most certain means of preventing the consequences of the bite, is to cut out, or otherwise to destroy the part in which the bite has been made. In this every body agrees, but with this difference, that some are of opinion that it can only be effectual when it is done very soon after the wound has been made, and they therefore neglect it when this opportunity is missed. There have been, however, no experiments made proper to determine this matter; and there are many considerations which lead me to think, that the poison is not immediately communicated to the system, and, therefore, that this measure of destroying the part may be practised with advantage, even many days after the bite has been given.

MCCCCLXX.

Whilst the state of our experience, with respect to several remedies now in use, is uncertain, I cannot venture to assert that any of these is absolutely ineffectual; but I can give it as my opinion, that the efficacy of mercury given very largely, and persisted in for a long time, both as a means of preventing the disease, and of curing it when it has actually come on, is better vouched by experience than that of any other remedy now proposed, or commonly employed.

END of the SECOND PART.

