A TREATISE, &c.

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A

TREATISE

ON

DISEASES

OF THE

NERVOUS SYSTEM.

Part the First:

COMPRISING

CONVULSIVE AND MANIACAL

Affections.

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PREFACE.

THE work I now lay before the public principally owes its existence to my having held, during the last ten years, the appointment of physician to a hospital, where a great proportion of the cases brought under my observation have belonged to that class of diseases which are the subject of this treatise. Here a variety of phænomena have presented themselves, from time to time, to my notice, which have appeared to throw light on some pathological inquiry, or to suggest some practical indication. It is now several years since the idea first occurred to me, that by publishing a selection from those cases which have seemed worthy of record, I might be enabled to make some addition to the general stock of knowledge respecting the interesting and obscure class of disorders

to which they belong; and in this hope I have been in some measure confirmed, as I have proceeded, by observing that the examples of disease, which continued to present themselves, seemed in general to coincide with certain pathological distinctions which I had been led to adopt.

It has been my principal object, in the composition of this work, to render the histories of the diseases of the nervous system somewhat more accurate, and to improve the treatment of them, by an inquiry into the circumstances of the constitution under which they take their rise and disappear.

Some facts, which have fallen under my notice, have induced me to suspect that disorders of the nervous system are, in the majority of examples, secondary and sympathic affections: they are often, at least, symptoms of some latent disease in another part of the constitution; and in particular in the state, either temporary or permanent,

of those organs which are subservient to the natural functions. If this be allowed, it becomes evident that by discriminating these affections into certain classes, according to the nature of the primary diseases, of which they are symptoms and indications, their history, as well as the ideas formed respecting their pathology, will be rendered more complete.

A similar method likewise holds out the best expectation of improvement in practical treatment: for it is obvious that the cure of such diseases, in so far as they are sympathetic, must be founded on, and bear a relation to the nature of the primary affection. Some of the diseases, of which I purpose to treat, are commonly regarded, at least in cases of long duration, as almost incurable by any efforts of human art. So repeatedly have medical practitioners been disappointed in the trial of various remedies proposed for the cure of these disorders, that

any new suggestion of this kind is justly regarded with suspicion: yet numerous instances occur in which Nature, in some period or another of life, effects a cure. The diseases are found to cease in consequence of some spontaneous change which takes place in the state of the constitution. If medical practitioners, instead of hunting after specific remedies, carefully directed their attention to trace the method by which these natural terminations are brought about, or to ascertain the process of those constitutional alterations, in consequence of which the diseases alluded to disappear, it is probable that they might be enabled, in some instances, to imitate the salutary operations of nature.

In offering these remarks I do not lay claim to any discovery. I am well aware that many of the distinctions I have pointed out were well known to the older medical writers; though of late, in some examples, perhaps generally overlooked. In other in-

stances I have been anticipated by recent authors; and, in many cases, have pursued a path of investigation already entered upon. If, indeed, I did not imagine my work to contain something more than is universally known on the subject of it, I should not have the presumption to offer it to the public. But I am not so sanguine as to flatter myself with the expectation of making any signal advances in a field in which the most intelligent men have been exerting, in various ways, their power of observation during many ages.

To the histories of particular cases, which are adduced as examples, I have added such remarks as were necessary, in order to point out the inferences that appeared to result from them separately, and by comparison. These facts and observations form the basis of this treatise. The remainder consists of inquiries and reflections on subjects which I was naturally led to consider, by their

intimate connexion with those matters in which I was principally concerned.

I anticipate some objections to my work, as confused and unsystematic in its arrangement: but the method I have selected in this particular, though irregular, is not founded on caprice. I have followed that series which has appeared to me to place the facts and analogies, on which my conclusions are founded, in the clearest point of view. I proceed to each topic in that order in which it will, by the consideration of what relates to it, introduce the reader in the most natural way to what is to follow, and in which the subjects considered in connexion mutually illustrate each other. It is with such a view that I have brought together the cases of epilepsy, arranged under each head, with those of maniacal affections which bear a similar relation to the primary disease. The motives for each particular deviation from the most simple and perspicuous arrangement will be

apparent to the reader as he proceeds; or will, at least, become so on a retrospective view.

The cases, of which I have given brief histories in the following chapters, are chiefly a selection from those which have occurred in my hospital practice. The details are extracted, or abridged, principally from memorandums and books of cases, kept by myself at St. Peter's Hospital and the Bristol Infirmary, and in part from a register of cases kept by the apothecary of the former hospital *. To these a few additions have been made from cases which have elsewhere fallen under my observation.

It is proper to apprise the reader that I look forward to the publication, at some future time, of another volume on several disorders of the nervous system, which are

* Principally by Mr. A. Kift, the late apothecary, now a medical officer in the navy; to whose great ability and diligence in his profession I have much satisfaction in bearing an ample testimony.

omitted in the present treatise; particularly on chorea, hysteria, and comatose affections. On some of these subjects I have already collected a considerable number of illustrative cases, but have as yet by no means such an assemblage of them as will authorize my proceeding to an immediate publication, or enable me to determine, by an appeal to numerous facts, how far the principles applied to the disorders comprised in this volume may be extended to other affections of the same class.

CONTENTS.

CHAPTER I.

PHYSIOLOGICAL SURVEY OF THE FUNCTIONS OF THE NERVOUS SYSTEM.

CHAPTER II.

PATHOLOGICAL SURVEY OF THE DISEASES INCIDENT TO THE NERVOUS SYSTEM.

CHAPTER III.

A GENERAL DESCRIPTION OF EPILEPSY.

CHAPTER IV.

A GENERAL DESCRIPTION OF MADNESS.

CHAPTER V.

OF EPILEPTICAL AND MANIACAL CASES, DEPENDING ON THE STATE OF THE UTERINE FUNCTIONS.

CHAPTER VI.

OF EPILEPTIC AND MANIACAL CASES, ARISING FROM METASTASIS; OR THE TRANSLATION OF MORBID ACTION FROM OTHER STRUCTURES TO THE BRAIN.

CHAPTER VII.

OF EPILEPTIC AND MANIACAL CASES, DEPENDING ON A DISORDERED STATE OF THE INTESTINAL CANAL.

CHAPTER VIII.

CHAPTER IX.

CHAPTER X.

CHAPTER XI.

CHAPTER XII.

A TREATISE

ON

Diseases

OF

THE NERVOUS SYSTEM.

CHAPTER I.

PHYSIOLOGICAL SURVEY OF THE FUNCTIONS OF THE NERVOUS SYSTEM.

SECTION I.

Peculiar Difficulties of this Subject.—Reason why the Animal Functions are less understood than the Physical.—What the former are.

A REMARKABLE degree of obscurity yet involves almost every subject connected with the theory of the Nervous System, and its operations, whether in health or in disease. In other departments of physiology, every step that has been gained in explaining the structure of parts has been attended with a corresponding progress in the knowledge of their functions. But although the texture of the brain and nervous system has been diligently investigated, this study can scarcely be said to have thrown one ray of light on the processes for which these organs are destined. Anatomy and physiology here stand aloof from each other, and

seem to disclaim all alliance. The reason of this want of connexion between them, as we shall perceive in the sequel, is not difficult to explain. All the acquaintance we possess with the physiology of the nervous system has been obtained through indirect channels, and in this instance, contrary to the usual and natural progress of knowledge, Pathology has furnished the clue and the materials to Physiology.

I have no expectation of contributing materially to improve this part of physiology; but it is requisite for my purpose, to take a survey of the data we possess with respect to the functions of the nervous system. These data will be found chiefly to refer to the inquiry, what the functions or proper offices of this system are. They do not enable us to elucidate the mode or *rationale* of the processes which are carried on in the nervous structure. Yet, limited as the information is which they afford, it will appear in the sequel of this work, that an important use may be made of it; or, at least, that we are not entitled altogether to neglect it.

Physiologists have generally distinguished the functions inherent in the living body into three classes, which they have termed vital, natural, and animal. The latter class comprehends all those phænomena which are found to be connected with the nervous system; the two former include all the other functions of the body.

The natural and vital functions, or the physical functions, as we shall term them collectively*, may be

* Bichât has included the functions, termed natural and vital, under the denomination of "fonctions organiques." The term is objectionable, since it is quite without meaning, the functions of all organs being equally organic. The frequent repetition of such

considered as common to all orders of organized beings. Even plants display, under modifications, these universal phænomena of life; for they originate by generation; increase by nutrition, or the continual accretion of new particles; are supported in vigour by a circulation of fluids; produce peculiar substances by a species of secretion, and decay by the spontaneous changes which ensue after death has terminated those operations which maintained the living state. All these processes can exist without a nervous system.

But when a nervous system begins to appear, a new series of properties is displayed, remarkably different in kind from any of the above-mentioned: I mean the properties of mind*: for, BY THIS TERM, WE DISTINGUISH ALL THOSE PHÆNOMENA WITH WHICH WE BECOME ACQUAINTED THROUGH THE MEDIUM OF CONSCIOUSNESS. This category, therefore, includes not only all the operations of thought, intellect, passion, volition, but even the lower and more common properties of appetite and sensation. Indications of these properties are discovered in those animals which are endowed with the simplest rudiments of a nervous structure; as in worms and the molluscæ: and they are more amply

expressions as "organic functions" and "organic organs," produces a most uncouth and unmeaning jargon. The most proper distinctive term which our language affords, for those operations which are subservient to (Φυσις) growth and merely corporeal life, is the expression "physical functions."

* Some persons will probably object to the including such phænomena as those of sensation and appetite among the properties or operations of mind; but the objection arises from inattention to the only real and applicable distinction between the attributes of mind and those of body.

developed as the nervous fabrick becomes more complete; until in man they display themselves in that infinitely more perfect state, of which all the other instances are but feeble scintillations. It results from this, as well as from other considerations, which it is unnecessary to adduce, that the operations of mind are instrumentally dependent on the nervous system; and on this account they have generally been termed, though in a loose and indeterminate sense, *functions of the nervous system;* and this term may be considered as equivalent to that of *animal functions.*

But a question has often been suggested: Are the phænomena of mind,—sensation, for example,—to be regarded as functions of the nervous fabrick, in the same sense in which the natural and vital functions are operations of their respective organs? There is the following difference between the two cases, which it is very important to notice.

In the latter instance, I mean that of the physical functions, we can observe a connexion between the result or end obtained, and the means which Nature has provided for its accomplishment. The organs are pieces of mechanism; their action is mechanical; the substances which are subjected to their operation act also upon each other, and are acted upon by the elements without, in virtue of chemical affinity. Thus, all the phænomena belonging to the physical functions, the results as well as the operation, resolve themselves into chemical and mechanical influences and effects*.

* On this subject I shall explain myself more fully elsewhere, and shall show, that the hypothesis of the vital principle, if conceded, can offer no exception to the position laid down. See Note A. at the conclusion of this chapter.

Such are the circulation of fluids by mechanical moving powers; respiration; nutrition, which is a mode of accretion; elimination; secretion, for the performance of which such various and complex, though imperfectly explained, systems of mechanism are provided. The more complicated processes, viz. those of generation and growth, are compositions and combinations of the more simple operations.

With respect to all these functions it may be observed, First; That the result is similar in kind to the means by which it is brought about. Secondly; That both the means and the end fall under the cognisance of observation by the senses; so that we can, by the same faculty, grasp the whole. There are, indeed, some steps in several of these processes not explained; some intervals in our view of the chain of causes and effects; still, in a collective survey, we are enabled to compare the product with the resources which nature has furnished in the organic arrangement of parts for the attainment of it, and to form some idea of the process.

Now, it is fully evident that none of these remarks can be applied to the case of the animal functions. The means afforded by nature in the structure of the nervous fabrick are indeed before our eyes, and we may at some future day be enabled to determine, in consequence of more attentive observation, what is the precise operation of this structure: for it can only be a chemical or a mechanical one; (a chemical change in the composition of the component substance, or of contained fluids; or a mechanical change in the

disposition or configuration of the parts;) since these are the only operations of which the structure of such an organized fabrick renders it capable. But if we were perfectly acquainted with the precise nature of those operations which are carried on in the nervous structure: if, for example, we knew whether they are, as Sir Isaac Newton conjectured, oscillations of chords; or, as Dr. Hartley called them, vibrations and vibratiuncules; or, as Darwin fancied, contractions and elongations of fibres; or, as the older physiologists supposed, secretions and circulations of fluids; or, as some modern theorists have imagined, transmissions of electric, galvanic, or similar influences; or any other sort of movement or action, (if there is any other), of which the parts of the brain and nerves may be thought capable; still we should probably be just as far as we now are from perceiving the connexion between the instrumental operation, and the effect which Nature has in some way or another connected with it. What relation, for example, or common property, is there between the movement of a fibre, and a sensation or a thought? There is no imaginable connexion, and yet the one phænomenon is the universal antecedent of the other.

In this case we must also remark, that we have not the advantage of surveying the whole train of phænomena in one connected point of view, or through the medium of the same faculty: the whole train is not subjected to sensible observation, as in the case of the physical functions. Observation can carry us no further than the ultimate change in the con-

figuration or state of the nervous parts. The result to which this change is destined to be instrumental, is known to us through another, and altogether distinct channel of knowledge; I mean that of consciousness. The result is termed, according to the definition with which we always set out in treating on this subject, *a phænomenon of mind.*

The considerations at which I have briefly hinted, but which this is not the proper place to explain at large *, have induced a great majority of reflecting persons, both in ancient and modern times, to regard the resulting phænomena, which consciousness opens to us, as the properties of an essence or substance, distinct from the nervous system, and indeed from the whole body, which they have denominated *Soul, the mental or immaterial principle.* As the arguments on which this conclusion is founded appear to me irresistible upon any ground of logic, or philosophical reasoning, I shall adopt the phraseology which it imports. According to this, all the phænomena of which we are conscious, such as sensation, thought, volition, passion, appetite, &c. are to be termed affections, not of the nervous system, but of the soul, which is acted upon through the instrumentality of that system; the possession of which principle must, therefore, according to the notions of the Platonic school, be regarded as co-extensive with the endowment of animal life, and not limited, as Christian philosophers have

* In note B. at the end of this chapter, the reader will find a brief abstract of the reasons which appear to me to enforce this inference.

generally thought it incumbent upon them to limit it, to the human species*.

Now, if we are justified in regarding all mental phænomena as affections of the soul, and the functions of the nervous system as instrumental processes, connected with the former, it remains to be inquired, Whether this connexion is universal? Are there certain instrumental processes in the material organ connected with every species of mental operation; or are some affections of the soul, some mental acts, capable of happening without any co-operation of the brain and nerves? This is an inquiry which is of itself equally important in its relation to the philosophy of the human mind and the physiology of the nervous system; and it is one, the prosecution of which will bring before our view several matters of consideration extremely interesting, in the further prosecution of this work.

* Yet some of the most profound and enlightened divines have not considered it necessary to maintain this opinion, as Bishop Butler.

When I speak here of soul, I have no reference to the theological doctrine of a principle necessarily immortal and indestructible. If there were any other word in the English language expressive of my meaning, I should prefer it. Vital principle will not answer the purpose; because the properties ascribed to that principle by those who maintain its existence, are quite of a different kind. See Notes A and B.

SECTION II.

Survey of the Intellectual Faculties in respect to their Connexion with the Operations of the Nervous System.—Sensation and Perception.—Memory.—Remarks on the Association of Ideas.—Imagination.—Judging or Reasoning Faculty.

THAT sensation is a phænomenon to which an operation of the nervous system is instrumental, will scarcely be disputed by any person who is not ignorant of physiology. The fact before noticed, that on surveying the animal kingdom from the lowest to the highest orders of beings, we discover clear proofs of the presence of feeling or sensation as soon as the nervous fabrick makes its appearance, affords in itself a strong presumption, which is converted into certainty when we survey the nervous expansions in the organs of sense, and contemplate the careful organization by which Nature has provided for receiving impressions from without, and for maintaining communications, by intervening chords, between the extreme parts and the centre of the nervous structure. The same conclusion is still further strengthened by observing that a morbid state of the nervous structure in any part is accompanied with a corresponding defect in the sentient power, and that a total obliteration of this power results from the dissection of a nerve, by which the communication is intercepted between the extremity and the common centre.

The dependence of sensation and perception upon the nervous organs is still further exemplified by the

total obliteration of these powers, which results from a certain condition of the brain. It is well known, that they are suspended for a time by the effect of a stunning blow on the head. A severe concussion of the brain produces a similar effect for a longer space: but the most complete suspension of the sentient and percipient faculties is occasioned by compression of the brain; and when the case is within the reach of human skill, the removal of the compressing cause is sometimes followed by an instantaneous recovery of these powers*.

The inference which seems obviously to result from all these considerations, has generally been received among physiologists as an undoubted fact; but of late it has been powerfully controverted, on the ground that the brain has been found, in many instances, to have undergone extensive injuries without any such corresponding effect as we should be led to expect, according to the opinion, that it is the organ or instrument of perception.

Some of the accounts which are current respecting

* An interesting instance of this description is mentioned by Mr. Abernethy in his Observations on Injuries of the Head. In consequence of a blow which occasioned a fracture of the skull, the person whom this accident had befallen was brought into the hospital in a state of complete unconsciousness. A depressed portion of the skull having been removed by the trephine, and the dura mater cut, five ounces of extravasated blood immediately flowed out through the opening; upon which the patient suddenly rose up in bed, as if aroused in a fright from a deep sleep, and presently recovered his faculties. Examples of a similar description, though not so strikingly marked, have, I suppose, occurred to every surgeon in extensive practice.

the extent of injury which the brain has sustained, without the destruction of life, and even without any suspension of the perceptive faculty, are of such a description as to leave us no alternative, if we give full credit to them, but to conclude that this organ is a part altogether superfluous in the system, the loss of the whole of it involving no detriment to any of the functions which can with probability be ascribed to it. This would be to prove too much : there must be some way of reconciling these facts, as far as they are true, with the tenour of ordinary observations; and a part of the evidence they offer may, (until it is presented in a more unambiguous form,) be rejected, as the result of carelessness and inaccurate observation, or of a love for the marvellous*. Still it must be allowed, that in a number of instances standing upon authentic record, the brain has been discovered, on dissection, to have undergone injuries and apparent disorganizations, which are altogether surprising. It has been found greatly compressed by contained fluids, and in some instances to have lost a considerable portion of its substance by various accidents, although, during life, the sentient power and the mental faculties in general appeared to have sustained no material injury. But these facts admit of an explanation, without contradicting an inference which seems necessarily to result from other facts equally well established. In relation to those

* See a surprising collection of facts to this effect in the 24th volume of the Edinburgh Review. The reviewer infers from the examples of compressed and injured brain, which have been reported, that the whole encephalon is entirely unconcerned in the changes which precede sensation.

cases of chronic disease in which the hemispheres of the brain have been so much compressed, and have lost so much of their substance by interstitial absorption, as to occupy but a small space within the skull, it has been suggested* that this organ, so necessary to life, and to the most important ends, is so framed as to be capable of undergoing an indefinite degree of distention and compression, when gradually applied, without sustaining such injury of its structure as renders it incompetent to the performance of its functions. That this power in the brain, of accommodation, or of modifying its structure under certain circumstances, affords the true solution to these phænomena, seems to be an unavoidable conclusion, when we consider that a much less degree of compression, suddenly applied, immediately obliterates the powers of the brain, and destroys existence.

With respect to those instances in which a portion of either hemisphere has been lost by accidental injury, I find no reason that prevents our acquiescing in the solution proposed by Gall and Spurzheim. I allude to their remark on the double structure of nervous organs, and the purpose to which this structure is probably subservient. We know that one eye is capable of affording vision after the destruction of its fellow. A similar remark may be applied even to several of the natural functions; one kidney, for example, performs the secretion of urine when the other has become obstructed, or otherwise diseased. Hence it is most probable, from analogy, that the disor-

* See Dr. Wilson Philip, and Dr. Alison, in the Quarterly Journal of the Royal Institution.

ganization of one hemisphere in the encephalon would leave the other still capable of carrying on the function of which the whole brain is the ordinary instrument.

But whether the brain is allowed, or not, to be the organ of sensation and perception, no physiologist has yet contested, or will ever, I presume, venture to dispute, that some portion of the nervous system is instrumental to these operations.

This conclusion may be considered as fully established with respect to the faculties above mentioned; but it cannot be extended, without some additional proof, to other classes of mental phænomena. In apoplexy, indeed, and in other cases of compressed brain, there is a suspension of all the faculties; and even a total obliteration, for the time being, of consciousness. But this fact alone, as we shall hereafter have occasion to show, is not sufficient to support a general conclusion, that the brain is the organ of all the mental operations. Some further proof must be adduced before we shall be entitled to conclude, that other mental processes, besides sensation and perception, are carried on in the animal economy, through the instrumentality of the brain and nervous system.

I believe, that on further consideration, we shall find reason to conclude that other mental operations besides those of sensation and perception, are instrumentally dependent on the nervous system: but, on the other hand, we shall not, unless I am mistaken, discover any proof that this doctrine is applicable to all the phænomena of mind, as many late writers on physiology have assumed.

We shall first consider this question as it relates to

memory, or the faculty by which ideas presented by perception are, after an interval, recalled or again suggested to the mind.

The relation which the mental actions dependent on this faculty bear to those of sensation and perception, affords a ground for presuming that similar organic operations are subservient to both. If it be allowed that a certain action, or change in the momentary condition of the nervous fabrick, precedes every sensation and perception, it becomes probable that the same organic operations are repeated, under certain modifications, in the exercise of memory. We know that there is a considerable analogy between these phænomena; that ideas, when recalled by memory in a lively and forcible manner, produce impressions and emotions very similar to those which arose when they were first presented to the mind.

But a number of pathological facts may be adduced, which establish this conclusion on more satisfactory grounds. Some facts of this kind I shall now mention, which tend to display the intimate connexion of the mental phænomena of memory, or recollection, with certain organic operations carried on in the nervous fabrick.

In the first place; it appears, from facts which are familiar to every body, that a certain condition of the brain is necessary, in order that the individual may enjoy the faculty of memory, or of recollection, in a complete state. There is scarcely any long continued disease of the brain, which does not, more or less, impair this faculty. It is, indeed, the first mental power which decays, as well on the approach of old

age, as in consequence of paralytic affections, apoplexies, severe and frequently renewed attacks of epilepsy, lethargy, or indeed any other form of cerebral disease.

Injuries of the head will induce the same effects, either immediately or more gradually. This last phænomenon is more infrequent, and therefore more interesting when it occurs. A case is reported by Hildanus, and cited by Van Swieten, of a boy of quick parts, ten years of age, who met with a blow, which occasioned a depression of the skull near the lambdoidal suture. No severe symptoms taking place, the depressed portion of the cranium was left, without any attempt to remove it: the boy's memory was found gradually so to fail, that he became incapable of instruction, and continued idiotic until his death.

But those observations are more striking, although, perhaps, not more conclusive, which show that *partial* defects of memory may be occasioned by disordered states of the brain; and particularly when it also appears, that when the healthy condition of the brain is restored, certain trains of ideas are recovered which had vanished during the disease. We may here remark, that there are also analogous facts, which indicate, that trains of ideas, which had been obliterated in the natural way by the mere lapse of time, may be revived, in a surprising manner, in consequence of the preternatural excitement of the brain, which exists in certain morbid states.

A gentleman with whom I am acquainted, and in whose accuracy I have full reliance, has given me

the following account of the symptoms which displayed themselves in his own case, after a severe injury of his head, occasioned by a fall from his horse. He was confined to his bed for several weeks, in a state of imperfect consciousness. On his recovery from that state, it was found that all recollection, not only of the accident, but of the circumstances which had for some time preceded it, had vanished entirely from his mind. A considerable time elapsed before the lost ideas began gradually to recur. The circumstances of his journey returned, one by one, to his memory, as he repeatedly rode over that part of the country where the accident took place, the sight of surrounding objects gradually recalling the evanescent trains of ideas with which they had been connected, to his recollection. He now remembers nearly the whole transaction.

It has often been observed, that persons who had learnt to speak some foreign language have lost this acquisition in consequence of disease or injury of the head. Mr. Abernethy has recorded the case of an injury of the head, which happened to a foreigner, twenty-seven years of age, who spoke English perfectly well: during his illness this man could only answer in French, and said he was but sixteen years old. But a more remarkable instance is the following, which occurred some years ago at St. Thomas's Hospital: —

"A man was brought in, who had received a considerable injury of the head, but from which he ultimately recovered. When he became convalescent he spoke a language which no one about him could

comprehend. However, a Welsh milkwoman came one day into the ward, and immediately understood what he said. It appeared that the patient was a Welshman, and had been absent from his native country about thirty years. In the course of that period he had entirely forgotten his native tongue and acquired the English language. But when he recovered from his accident he forgot the language he had been so recently in the habit of speaking, and regained the knowledge of that which he had originally acquired and lost*."

Two instances, tending to establish the same doctrine, but, perhaps, still more curious than the above, were reported by the late Dr. Rush, of Philadelphia, in the course of his lectures on the Principles of Medicine †.

One of them is the story of a French countess, who during the late anarchy had left her country, and resided in England. "She had a severe attack of fever, in the course of which she became completely delirious. At this time she was frequently heard to talk and cry out in a sort of jargon, which at first was quite unintelligible to every body, and seemed to consist of mere sounds without meaning. However, there happened to be in the house a Welsh domestic,

* I have extracted this curious account from Dr. Tupper's "Inquiry into Gall's System of Craniology."

† I believe these observations were never published by Dr. Rush. I am indebted to Dr. Stock, of Clifton, who was a pupil and friend of Dr. Rush, for my acquaintance with them. Dr. Rush used to relate them as facts of which he had personal knowledge; or, at least, certain information.

who declared that she understood the countess, and affirmed that she spoke correctly in the Welsh language. When the lady recovered from her illness, and again spoke to her friends in an idiom intelligible to them, they related the fact to her, which had excited no small surprise and curiosity. They were then informed, that during her infancy she had been taught the Armorican language, or the dialect of Lower Britanny, by a nurse who was a native of that country, but had totally forgotten it many years before the attack of fever, which in so curious a manner revived the impressions that had been so long obliterated*."

In these instances it would appear, that during the unusual excitement of the brain, which was the effect of that morbid state (probably a state of inflammation,) produced by fever, certain actions were re-excited in the organic structure, which had been for many years totally suspended, and these renewed actions recalled those ideas in the mind with which they had formerly been connected.

The following fact, with which I have become acquainted through the same channel, tends further to illustrate this subject, and to show that no other than the above solution is admissible.

A student at an university in the United States, who, as I may observe, is now one of the most respectable clergymen in that country, possessed a tolerable share of classical knowledge, when the consequences of a fever, which affected his brain, deprived him entirely of his former acquisitions. In fact, he

* The language of Lower Britanny is well known to be a dialect of Welsh.

had now become so ignorant that he was not only unable to read a Latin book, but even knew nothing of the grammar. When he had regained his bodily health, being of a persevering disposition, he began again the first rudiments: every thing was quite new to him; he passed through the accidence and syntax in his grammar, and was learning to construe, when, one day, as he was making a strong effort to recollect a part of his daily lesson, the whole assemblage of ideas which he had formerly acquired and lost, suddenly re-appeared to his mind, and he found himself able to read and understand the Latin authors, as he had done before his illness.

In this case the brain, or perhaps some part of that organ, having gradually approximated to the healthy condition during the period of this young man's convalescence, had been so far restored to the healthy state, as to be capable, when roused by a strong effort, of suddenly regaining the actions it had formerly performed.

I have heard lately of a case, in which the circumstances of the two examples above mentioned are in some respects reversed*. A lady, fifty-one years of age, of sanguine complexion and plethoric habit, after a fit of apoplexy, which held her in a state of inconsciousness for three or four days, was found to have her faculties in some respects impaired. The

* I obtained this account from a medical gentleman, who afterwards attended the lady who was the subject of the observation. The case was related to him in so circumstantial a way as to leave no doubt of the correctness of the statement.

remarkable circumstance was, that she had lost the power or aptitude to speak in her native language, which was English. This continued a month, and her nurses and servants were obliged to employ a person to interpret for them. The lady herself spoke to them in French*.

Instances of partial loss of memory are by no means infrequent. Sometimes it extends only to words; at others, includes events of a certain date. A lady in this city, who had some years ago an attack of apoplexy, has recovered her faculties in all respects, with one exception. She cannot recall the name of any body, but is able to identify well enough the individual she is speaking of by describing his person. Another lady, with whom I am acquainted, after a severe fever, lost at times the recollection of many things that had happened to her previously to the attack. Not long before her illness she had been married, and for some time she even retained no traces on her memory of an event so important and interesting to her.

* A parallel case to this is related by Wepfer, and cited by Dr. Abercrombie, in his learned researches into the pathology of the brain in apoplexy. The circumstances were as follow: — An old gentleman was seized with hemiplegia of his right side, with profound sleep: the same side was convulsed on the second day, and the palsy disappeared. On the 9th day he recovered from the state of stupor, but his faculties were gone. After several weeks he began to know his intimate friends; then began to remember words, to repeat the Lord's prayer, and to read a few words of *Latin*, (*rather than German, his own native language*,) every day. While making slow advances, he was cut off by a stroke of apoplexy.

In some morbid states of the brain, which take place during childhood, the powers of memory, and perhaps some other faculties, are displayed in an earlier age than the natural one. We often hear of precocity in the developement of the faculties, and it is generally connected with some diseased tendency in the constitution. There was lately living in Bristol a child, about three years old, whose head exhibited, from birth, the appearance which indicates chronic hydrocephalus. The bones have never closed. The quantity of fluid is subject to variation; when the vertex is tolerably tense, the child is in the best health; when flaccid, she is disordered; but it has been so tense as to produce convulsions. This child has always displayed premature developement of her faculties. When one year old she could talk fluently, and exhibited an uncommon acuteness of perception.

In this case I suppose that the convolutions of the brain are preternaturally expanded by fluid contained within the cerebrum; hence perhaps a premature growth or evolution of the organized fabrick; that texture, the operations of which are instrumental to the action of memory, particularly of speech, was brought into a state of aptitude for performing its functions at an age when, in a healthy subject, it is only beginning to be developed.

These facts, and the obvious solutions of them, lead us, if I am not mistaken, to the conclusion, that the operations of the memory, like those of sensation, are connected with certain actions in the nervous fabrick. As that act of the mind which we call sensation is uniformly preceded by a certain action in the material

organ, the brain; so the operation by which the mind recalls to itself and passes in review ideas formerly received from the senses, requires the instrumental aid of certain processes, carried on in the same organic structure; which processes being interrupted by a diseased state of the brain and nervous system, the mental power of recollection is, to the same extent, suspended. It is probable that no idea passes through the mind without some concomitant, or rather previous operation of the nervous system; or some change in the momentary condition of the nervous fabrick. The organic action of the brain seems to be as requisite to the recalling an idea into the mind, as the movement of the string of a harpsichord is to the generation of a corresponding musical tone.

These considerations serve, in some measure, to explain the doctrine of the association of ideas; at least they connect this last phænomenon with a class of phænomena, with which physiology has rendered us well acquainted. It is well understood that the law of association prevails very extensively in the actions of the corporeal organs: indeed the functions of life could not, as far as we can apprehend, be sustained without this regulation in the animal economy: it must be considered as one of the most general laws of our bodily organization. But in the philosophy of mind, the fact alluded to stands alone. It seems improbable that such a remarkable coincidence should be found in the laws of the bodily functions, and in those which properly and exclusively have reference to the mind. We are tempted to suspect that the latter phænomenon is resolvable into

the former. Now the mental phænomenon, the association of ideas, may be so far explained by adverting to the conclusions we have drawn respecting the functions of the brain. We have seen that a certain action in the nervous system is the necessary precursor, the physical cause, or material instrument by which every idea is called up in the mind. These actions of the nervous fabrick are, like other corporeal actions, associated; those which have already taken place simultaneously, or in sequence, have a tendency to recur in the same combination: this is exactly analogous to what prevails in all the functions of the body: the actions of the brain recurring in this manner, call forth the mental ideas with which they are severally connected; and thus the law of association, which is properly a law of the corporeal functions, has its sway over the mind.

It is not difficult to show, that all the observations we have made respecting the theory of memory, may be applied to the faculties of conception and imagination. The most familiar pathological facts lead to this conclusion; as those of dreams, in which this faculty is alive. How closely are these phænomena connected with the state of the body, and particularly with the excitement of the brain! Sleep after any great mental exertion, or under other circumstances which induce vascular excitement in the head, will generally give rise to active efforts of the imagination in dreaming. The ordinary phænomena of febrile delirium are related to the same observation, and afford sufficient proof of the above position. On this subject we shall have more to say when we

proceed to consider the condition of the brain in madness.

There is one very important faculty of the understanding to which none of the facts we have adduced bear any reference: I allude to the Judgment, or Intellectual Faculty, properly so called: or that power of the mind by which we distinguish true and false in speculative philosophy, and right and wrong in morals. This is the faculty to which the name of Reason has been given in the highest sense, and on which all science depends.

It would be a very interesting inquiry, Whether the brain has any share in aiding the operations of this faculty, or whether it is a power which the mind exercises, independently of all concurrence on the part of the corporeal organs? But I fear we are scarcely possessed of the means of obtaining any satisfactory conclusion on this subject.

I am not acquainted with any fact which renders it probable that the action of the mind, which is termed judgment, is connected with, or dependent upon, any action of the brain. It may be said, that analogy would lead us to infer that the functions of the nervous fabrick are instrumental in the operation of this faculty; since we have found reason to believe this to be the case with respect to the mental phænomena already adverted to. But there is in reality no analogy between remembering and judging; between the operations of a faculty which only recalls the impressions produced by external objects, and of one which is conversant with abstract relations; the acts of which are altogether

distinct from any other class of intellectual phænomena.

The testimony of pathological facts seems adverse to this supposition. I know of no disease of the nervous system in which the reasoning, or the intellectual faculty, is perverted. It is, indeed, a common remark respecting lunatics, that they reason correctly from false premises. Owing to the irregular excitement of the brain in this disease, erroneous conceptions are indelibly impressed upon the mind; but when he can be induced to exert this faculty, the lunatic often evinces as sound a judgment, as acute powers of discrimination, as a man whose faculties are uninjured by disease.

If this faculty is really not subject to disease, when the brain is in a distempered state, and its functions are generally thrown into disorder, this circumstance seems to afford a presumptive proof that its exercise is independent of the brain, and belongs entirely to the mind.

SECTION III.

Pursuit of the same Inquiry with respect to other Classes of Mental Phænomena.—Pathemata subdivided into Passions or Emotions, and active Principles; including Propensities and Affections.—Inquiry how far these Phænomena are related to the Nervous System.—Lastly; respecting Volition.

BESIDES the intellectual faculties, or the powers of the understanding, we are acquainted with a variety

of phænomena, which are said to take place within our minds; or which, to speak more philosophically, are the subjects of our consciousness. I allude to all the passions, desires, anxieties, hopes, and fears, which constitute the happiness and misery of human life:—

> Quidquid agunt homines, votum, timor, ira, voluptas,
> Gaudia, delectus.

As all these phænomena are known to us through the same medium as the operations of the understanding, they are, for that reason, termed affections of the mind, or of the soul. By writers on the philosophy of the human mind, they are all included under the terms active and moral powers. These terms convey a very inaccurate idea of the whole class of phænomena; since only one department of them can be said to have any immediate influence on action, or relation to morals. It is necessary, in order to avoid frequent repetitions, to make use of some general denomination; and as the English language absolutely contains none that is applicable, I hope I shall be excused for adopting the Greek term Pathemata; in which I include the whole class of phænomena above described. This class I venture to subdivide into two orders. The first of these may be termed Passions, or Emotions: they consist of phænomena which are attended, for the most part, with a strong and vehement impression on the mind, and do not immediately, or necessarily, excite to any particular action: such are joy, exultation, hope, fear, sorrow, regret, remorse, surprise, wonder, and the

like. The second order of Pathemata comprises the appetites, desires, and aversions; or those innate principles which immediately excite or prompt to voluntary action. They may strictly, and properly, be termed active principles. We do not, however, include among them Volition, or the action of the Will itself; though this is, in a certain sense, a principle of action: but it is clearly distinguished, in many respects, from the Pathemata, and must be considered separately.

We have already found reason to conclude, that those mental phænomena termed intellectual, at least several of them, are produced through the instrumentality of the brain and nervous fabrick, or are closely connected with the functions and movements of that system. By some it has been supposed that the Pathemata are equally associated with operations of the nervous system. On this question we shall now endeavour to arrive at some conclusion.

We may observe, in the first place, that these two classes of phænomena, viz. the actions of the understanding and the pathemata, have no feature in common, except the circumstance that they are both the subjects of consciousness, or become known to us through the same channel. In all other particulars there is no resemblance or relation whatever between the intellectual phænomena and those we are now about to consider.

I. *Of the Passions.*

THE ancients referred the faculties of the understanding to the heart; and Galen found it necessary

to enter into a disquisition, to prove that the organs, with which they are connected, are seated in the head. Some modern writers have referred the passions and affections to the head. Perhaps in so doing they have made as great an error as those who ascribed the intellectual faculties to the heart.

In common opinion, the passions, as well as the affections, are referred to the viscera of the thorax and abdomen, as many expressions in all languages sufficiently testify; such as a good and a bad heart, bowels of compassion, and similar phrases in other idioms.

It is not difficult to account for these expressions, and to trace the notions which gave rise to them to their cause. They have evidently originated in the powerful effect produced on the functions of the parts alluded to by all vehement emotions. Many persons have experienced a total loss of appetite, and even nausea, in consequence of sudden grief or joy. Anger, in most people, occasions a sudden increase in the force of the circulation: in others it appears to diminish the flow of blood to the face and extremities. Anxiety, especially if long continued, induces anguish in the intestines, and a bilious diarrhœa. Palpitation, or syncope, is the effect of sudden terror*. Hence

* A quaint epigram, founded on this circumstance, has been preserved from the comedies of Anaxandrides, of Rhodes: —

Ω πονηρὰ καρδία·
ἐπιχαιρέκακον ὡς εἶ μόνον τοῦ σώματος
ὀρχεῖ γὰρ εὐθὺς ἢν ἴδῃς δεδοικότα.

O malicious heart! thou alone, in all the body, rejoicest in our evils; for thou leapest whenever it is seized with terror.

it was supposed that these passions have their seat in the part which is felt to be so powerfully affected by their operation.

These notions, respecting the locality of the passions, are very vague and undefined. Physiologists have attempted to render them more accurate, without losing sight of the same principle. Bichât conjectured, that the ganglions of the great intercostal, or sympathetic nerve, which are dispersed among the thoracic and abdominal viscera, are the seat of these operations. This was, however, a mere hypothesis, unsupported by any conclusive facts. It is even in opposition to the tenour of the phænomena, of which it is proposed as a solution. The same emotion will display its principal effect on different organs in different individuals. Terror in one person increases the secretion of the liver; in another, its effect is confined to the excitement of an irregular action of the heart; but the particular effect ought to be constant and unvaried, if the mental emotion were connected with some particular ganglia of the great sympathetic. The vagueness of popular language on this subject is sufficient to prove that the feelings of men are very various. The Greeks referred most of the passions to the liver, spleen, and diaphragm; the Hebrews to the bowels and reins; we refer them almost solely to the heart.

The diversity of these phænomena, which vary according to the peculiarities of constitutions, indicates that they are effects which the mental operations induce secondarily, or by sympathy, on the functions of the viscera; those organs being most

affected in each individual which happen in him to be endowed with the greatest susceptibility of impression, or the greatest delicacy and irritability. There is no proof, or even reason to presume, that any organic action carried on in these parts, precedes, or is the efficient cause of the mental emotions.

Later writers on the nervous system, and its operations, refer the passions to the brain. This is a mere hypothesis. It would seem that physiologists have thought it necessary to fix upon some locality, as Descartes thought it worth while to conjecture the seat of the soul; and being discontented with the vulgar notion, and even with the modified one of Bichât, they found no other refuge but in the brain.

I am at present acquainted with no fact, either in physiology or pathology, which furnishes any ground for presuming that those mental phænomena, which are termed passions, take place through the instrumentality of any corporeal processes whatever. It seems to me probable that they are affections of the soul, or immaterial principle, and that primarily, and without the co-operation of any part of the corporeal structure. The phænomena displayed in the viscera are merely the effects of the sympathy between the mind and the body: they are at any rate consequences, and not causes. As the organized structure acts upon the mind, in the case of sensation and perception, so, in the instance of the passions, the primary operations of the mind react upon the body. They act in different individuals upon different organs: the influence of terror in one person gives rise to violent palpitation of the heart, in another to diarrhœa.

II. *Of the Active Principles.*

THIS term includes several phænomena, distinguished by various circumstances from each other: they may be subdivided without end. The common characteristic of the whole order is, that they excite to action, or give occasion to the operation of the will. All the active principles might be arranged into two departments, viz. Propensities and Affections, according to the objects towards which they are directed, the former term distinguishing all those tendencies to action which aim at the pleasure and comfort of the individual himself in whom they are displayed, and the latter directing him to seek the good or ill of some other person. The agent, who is under the influence of the former class of principles, is entirely selfish; under the latter, he is in a great measure disinterested. Yet the nature of man, as well as of the lower animals, is so constituted, that, in aiming at self-gratification, the individual is led to some mode of action which is beneficial to his fellow-creatures or to society; as, for example, to the propagation of his species; which is a matter that would be neglected if it were left to depend upon the sense of duty, or a patriotic regard to the good of one's country: while, on the other hand, the affections which immediately respect other persons, tend secondarily to promote the safety and comfort of the individual; as anger or resentment, which seems to have for its end, or, at least, contributes in effect, to deter from the commission of injury.

But it belongs to the metaphysician, or moral philosopher, to analyze the operation of these principles. The inquiry I am now interested in is this: Are they to be viewed as phænomena of the mind or soul exclusively, without any co-operation of the nervous structure? or is there any organic process in the nervous fabrick, through the instrumentality of which the mental affection is called forth or excited? In other words, Have these phænomena any local seat in the brain, or in other parts of the nervous system?

This question is much more intricate and obscure than that which we considered in the last section. I almost despair of coming to any conclusion which may appear tolerably well established; yet the attempt must not be relinquished. If it could be elucidated by physiological data, a great advantage would be obtained with respect to the theory of mental diseases; but, unfortunately, it is from pathology alone that we are furnished with any facts which bear upon it.

Before proceeding to this inquiry, with the scanty resources we possess, we must subdivide the propensities still further into appetites and desires; the former, comprehending the bodily propensities, hunger, thirst, and the sexual desire: the latter, all those whose aim is something more remote from sensible objects; such as the desire of knowledge, or curiosity; the desire of possession, or covetousness; the love of power, the propensity to fight; and, in short, all those principles which afford the most common incentives to activity and exertion. The whole of these

propensities might be termed, not improperly, human instincts, as they bear a certain analogy to the active principles of animals.

Perhaps it would be strictly philosophical to generalize the propensities, and to reduce them all to the desire or appetite for pleasure, and the aversion to pain.

With respect to the appetites, they are obviously liable to be affected by the states of the corporeal organs; as the appetite for food by the state of the stomach: hence there are diseases of appetite, as Bulimia, Pica, Satyriasis. But these facts scarcely bear upon the question, which is, whether the act of desire, or appetency, of which a person is conscious, and which is therefore a mental affection, is preceded by any organic operation of the brain or nerves, as we have reason to believe that the act of sensation or perception is. Now, a certain state of the stomach indicates to us that we shall get rid of a feeling of uneasiness, and obtain one of animal pleasure, by eating; and the desire is in proportion to this intimation. All that is subject to variation is in the state of the digestive organs; the desire of pleasure and aversion to pain, in which the conscious or mental appetency consists, is invariable. We have, therefore, no proof from pathology that this appetite is dependent on any action carried on in the nervous system; and the same remark, *mutatis mutandis*, applies with equal force to all the other appetites.

There is, indeed, one species of excess in the appe-

tites, that belongs to the mind; I mean the inordinate desires of the habitual gourmand or debauchee. But every one perceives that these moral disorders do not belong to the nervous system.

On the whole, we may conclude, that the appetites are so far dependent on the body, as to become active only under certain states of the organs, or according to the requirements or necessities of the system; it being a condition of their nature to act as their operation is called for, or is likely to be efficaciously performed: but, with this exception, the appetites are uniform and unvaried; the aversion to pain, and the desire of pleasure, remain fixed principles, amidst all the changes which the nervous system undergoes. And if this conclusion be allowed with respect to the appetites, it will more readily be conceded with regard to those desires and aversions which enter so largely into the moral history of our species. All these, as I have said, may be reduced to the desire of pleasure, and the aversion to pain; and I have not heard of any physiologist who has been so ingenious as to conjecture the site of these qualities in the brain, cerebellum, or solar plexus. They are constant laws of human nature, liable to be affected by no changes whatever in the state of the nervous system. They are principles of action invariably impressed upon the human being, and necessary to existence, being universally so constituted with respect to the objects at which they prompt the individual to aim, that the things and circumstances which are sought as the sources of pleasure, are those very objects which

are most essential to the well-being of himself, and the preservation of his tribe*.

* The conclusion to which I have been led by the foregoing considerations, is directly at issue with the inferences which Drs. Gall and Spurzheim have deduced from their observations: they insist, as it is well known, on the correspondence of certain protuberances or projections of the cranium, (from which a greater than usual developement of the subjacent portion of the brain is inferred,) with the prevalence of particular propensities. Although I entertain a high respect for the latter of these gentlemen, as well on account of his moral qualities as his talents, and the services he has rendered to anatomy and physiology, I must take the liberty of doubting altogether that part of his system which refers to cranioscopy.

Dr. Gall, in his work on Craniology, has mentioned some pathological observations, tending to evince the dependence of various active as well as intellectual powers on the brain, its organization and condition. Some of these refer particularly to the propensities. I shall cite his account of one incident, which is adduced with this view, in which a disorder of the propensities is stated to have followed an injury of the head.

The accident happened to a boy in Copenhagen, who until between his 14th and 15th years gave but very little promise of future abilities. At this epoch, however, he fell over a staircase from the fourth story; and subsequently to the fall he displayed great intellectual acuteness. Nor was this the only change. Nobody was previously aware of any bad qualities in his disposition, but after this accident he displayed a depraved moral character, which eventually proved the cause of his ruin.

A relation of this kind proves nothing. That an individual at the age of this youth should begin to display the influence of powerful passions on his mind, is nothing extraordinary. If stories of this kind gain credit, the College of Surgeons may expect one day to march in triumph and take possession of the vacant seats of the criminal judges; and we shall proceed forthwith to apply the trepan where now the halter and gibbet are thought most applicable.

The instincts of animals seem to stand in a near relation to the propensities of man, and the same observations may be made respecting them. We gain nothing in the way of explanation by referring the instincts of the bee or the ant to any particular ganglion in the nervous system of the animal.

I NOW proceed to the other class of active principles, termed the affections, which prompt us to seek opportunities of conferring good or ill upon others, and upon ourselves. Of this kind are the benevolent affection, and its modifications, as gratitude, friendship, the parental affection, (a principle as strong in the brute creation as in the human species); also malevolent affections, as hatred, envy, malice, revenge.

It has frequently been asserted, and with some appearance of truth, that the affections are liable to morbid changes, or perversions, in consequence of bodily disease. Lunatics, for example, not only lose all particular regard to their relations, or towards those persons to whom they had previously been most affectionately attached, but even manifest a decided hatred and antipathy towards them. In other instances, the temper has been so much altered in consequence of some diseased condition of the body, particularly under certain morbid states of the brain and nervous system, that persons, formerly of the most happy and cheerful disposition, have become habitually sullen and morose. Of this fact I have seen more than one distressing instance. Some per-

sons have become extremely irascible, and easily excited into dreadful paroxysms of rage. Are these examples of disorder and perversion in the active principles, induced by morbid states of the nervous system? If this be the case, it must be allowed that those actions of mind, which belong to this department, are so closely connected with certain processes carried on in the cerebral texture, that when the latter are thrown into disorder, the mental operations are liable to be disturbed.

I believe most of the facts, which appear to lead us to this inference, admit, when strictly examined, of a different explanation. The apparent instances of perverted natural affection are often, if not always, dependent on some hallucination. The insane mother, who neglects her offspring, only feels aversion for little imps or dæmons, which she imagines to have been substituted in the place of her own children, when they were cruelly torn from her. The irascible madman is the victim of some vexatious disappointment or mortification, which is continually harassing him: to the effect of this upon his temper, is added the continual irritation resulting from the want of refreshing sleep, and from a thousand feelings of internal uneasiness, which are molesting him.

I have scarcely seen any instance of alteration in the temper and affections, which did not bear a pretty exact proportion to the *irritamenta* that were connected with it, or which, in cases bordering on lunacy, were not dependent on some latent hallucination, or false impression. If this explanation can be admitted in all instances where the affections appear to be

perverted, it will follow that we have no decided instances of original disorder in this part of the mental constitution; and the argument which has been drawn in proof of the intimate connexion of the mental processes with organic operations in the nervous system, must, as far as it relates to this class of phænomena, be abandoned.

We shall have occasion to consider more fully the facts bearing on this subject when we enter upon the description of madness.

Of Volition.

THERE is another faculty of the mind, which, though connected in its operation with the phænomena above mentioned, is yet, in nature, totally distinct from all of them. I mean Volition, or that mental act of which we are conscious, that precedes every voluntary movement or exertion of the muscles.

There is no reason to believe that Volition has any local seat in the body, or that its exercise is preceded by, or effected by means of any organic change. It is an act of the mind, in the performance of which the nervous system, as far as we know, has no share.

Volition may be said to stand in the same relation to the passions and propensities, which Judgment, or the Rational Faculty, holds with respect to the other powers of the understanding. Sensation and Perception, Memory and Imagination, present to this highest intellectual faculty the objects on which its powers are exercised. It stands as supreme arbiter; surveys the

testimony of the inferior faculties; compares, discerns, judges what is true and what false; what right and what wrong in morals; what is expedient and what inexpedient in the business of human life. In like manner, the Will compares the various motives which are presented to it by the desires and aversions, the appetites, affections, and other active and moral powers, and makes its own choice from among them. It is important to observe, with respect to the theory of the mind, as well as to that of the nervous system, that these two highest powers, the principal or governing ones, in both classes of mental faculties, are, as far as we can learn, distinct from and independent of the organization; although the objects on which one is exercised, and the means by which the other produces its effects, are furnished by the corporeal organs.

Volition, as we well know; even an act of the Will to move the limbs; may take place in a paralytic; but it becomes abortive, unless the brain, the nerves and muscles, be in a state to obey its mandate.

SECTION IV.

Solution of an Objection to some of the preceding Remarks.—Recapitulation.—Is the Nervous System the Organ of any of the physical Functions?

NOTWITHSTANDING what has been said in the foregoing sections, it cannot be denied that the nervous fabrick is, in one sense, the organ of the whole mind;

since when the brain is compressed, as in apoplexy, all the phænomena of mind are suspended. This may be thought to indicate that the function of the nervous system is instrumentally subservient to the performance of all the mental processes without exception.

No mental process, indeed, whatever can go on while the brain is in a state of inaptitude for its function: the acts of sensation, perception, recollection, conception, or imagination, are all performed by the aid of organic operations: but when these faculties are reduced altogether to a state of inaction, the reasoning or intellectual power must needs be quiescent, because it can only exert itself on materials furnished by the above-mentioned faculties. A similar remark may be applied to the passions and all the active powers; they must be quiescent, while the perceptions or ideas which call them into action cease to present themselves. It does not, however, from this consideration, follow, that these faculties, when they have an opportunity of exerting themselves, require the co-operation of any organic action. They may be no further dependent on the brain than in so far as they can only act, when the ideas with which they have to do, the materials on which they are exerted, are supplied by those operations which the soul performs by the aid and co-operation of the bodily instrument. These are the commencement of every train of mental actions: every series of operations begins with the body, and ends with the body, though the more remote links are withdrawn from this intimate connexion with the organized instruments.

I shall now briefly recapitulate the inferences which I have obtained from facts adduced in the foregoing sections.

It appears certain, that every sensation of which the mind is conscious, as well as every subsequent act of apprehension or perception, of recollection or memory, of conception and imagination, although in itself an affection of the soul or immaterial part of our system, must always take its rise, or commence with an operation in the organic structure of the nervous system; the consequent operations of judgment or the rational faculty, as well as the phænomena of passion or emotion, desire or aversion, love or hatred, are mental processes or affections of the soul, with which I think it must be concluded, that we have no proof of the connexion of any co-operating organic process. And this conclusion may be drawn, perhaps more confidently, with respect to Volition.

The theory of those processes which belong to the mind, the disorders to which they are subject, and their general economy, is the province of the metaphysician or moral philosopher. I am only concerned with the functions of the nervous system, which are the vincula between the mind and the body.

I am sanguine enough to hope that the time will arrive when we may be enabled to ascertain the nature of the cerebral and nervous functions, and perhaps to understand thoroughly the whole of the process which is carried on in this part of our bodily fabrick. At present, however, we must confess that

we are not in possession of one fact that belongs to it.

We may indeed, as I suppose, be pretty well assured that all the operations carried on in the nervous fabrick itself are of the nature of mechanical or chemical changes; since these appear to be the only processes of which its structure renders it capable. The nervous and medullary fibres of the brain may be capable of oscillations, or vibrations, or vibratiuncules; though by their structure they do not seem to be well qualified for this mode of mechanical operation; or they may be subject to contractions and elongations, more or less analogous to the phænomena of muscular action; or there may be a secretion and circulation of fluids in the nervous fabrick, or a transmission of galvanic or other similar influences. All these are mechanical or chemical operations; and we may, I believe, safely conclude, that the ultimate changes in the condition of the nervous structure, which immediately precede the phænomena of sensation and other affections in the mind, are chemical or mechanical changes. But further than this general conclusion we cannot hope to proceed until our knowledge of the structure of the nervous fabrick shall be much more perfect than it now is.

Even when we have reached the utmost that we can hope to obtain, towards elucidating the theory of the nervous function, it does not seem probable that we shall understand the way in which the ultimate operation of the organized fabrick is subservient

to the consequent phænomena of mind; since we are, and are likely to remain, utterly unacquainted with the nature of the soul, of which these phænomena are affections. While we are entirely ignorant of the nature or essential properties of mind, we cannot understand how it can be acted upon, or excited into operation by any action of a material organ, such as the functions of the nervous structure. Hence it would seem probable, that there must ever continue to be a wide chasm in the chain of our observations respecting the theory of the mental operations.

I have now arrived at the conclusion of what I think necessary to say on the functions supposed to belong to the nervous system. Here I must make some remarks on the opinion of several physiologers, who consider this structure as the organ not only of the mental phænomena, but of several of the physical functions; who regard it, for example, as a chief agent in the function of secretion, and as the cause and depository of that principle termed muscular irritability.

It must be allowed to be, at the first view, extremely improbable that the same organ should be instrumental to operations so distinct as those which we have just ascribed to the nervous system, and the physical functions above mentioned.

There is also another consideration, which renders it probable that these physical functions are independent of the nervous system. I allude to the fact, that analogous phænomena are displayed by those tribes of organized beings which are not endowed with nerves or brains. The nervous system is co-extensive

with the manifestations of mind in the organized world: those beings which have no nerves display no mental faculties; but even plants possess organs which perform secretion; and the zoophytes, or the apathic class of animals, are endowed with irritability, though they neither have nerves nor betray indications of consciousness or feeling.

But this question seems to me to be settled beyond all controversy by an argument derived from some imperfect specimens of human organization; I mean children which have been born without brains, which nevertheless were possessed of the function of secretion, and endowed with irritable muscles. There are even well authenticated relations, by which we learn that a human fœtus can be formed possessed of both these properties, and yet destitute of all rudiments of the nervous system*.

* I shall not enter further into this subject, which has lately been treated with great ability by Dr. Alison, who has placed, in a very clear point of view, the arguments which evince that secretion and irritability are independent of the nervous system. I refer the reader to his remarks, entitled, "Observations on the Theory which ascribes Secretion and Animal Heat to the Agency of the Nerves. By W. P. Alison, M. D.," &c. On the subject of animal heat I have elsewhere expressed my opinion.

It must indeed be allowed that the physical functions are subject to be influenced by the state of the animal functions, and that this influence takes place through the medium of the nerves. It is needless to cite examples of this fact, which is familiar to every physiologer. It is a necessary result of the connexion that subsists between the animal and the physical system.

NOTE A.

Some of my readers will probably be staggered at the assertion, that all the natural and vital functions are to be resolved into chemical and mechanical operations. The expressions in which this proposition is announced will therefore require some explanation.

I do not mean to deny that there are certain properties peculiar to the living solid, or which inhere in it as long as life continues, and are lost after death. This admission, however, presents no exception to the above proposition.

Muscular irritability is the principal property, the possession of which distinguishes the living solid, say the living fibre, from the dead. But, whatever the cause of irritability may be, whether it results from a peculiarity in the chemical composition of a fibre maintained by the circumstances of the living state, or by the presence of a peculiar principle, such as the vital principle is fancied to be, analogous to the electric fluid; or whatever the nature of this property may be, it only displays itself in the living body as a peculiar aptitude for certain mechanical operations. Let us take the theory of the circulation for an instance. Though there are some circumstances relating to the state of the vessels and other less important particulars, as yet not fully explained, yet we know enough of this function to perceive that it is carried on by contrivances which act on the ordinary principles of mechanism. The heart is the great agent. It acts in virtue of its property of irritability, but it acts precisely on mechanical principles.

If we survey the remainder of those processes in the

animal economy which have for their end to maintain for a time, in continuity and perfection, the complicated fabrick of the living body, we shall find reason to conclude that they are carried on by mechanical and chemical powers, brought into action under peculiar circumstances. At least the laws of mechanism and of chemical affinity serve so far to explain these processes, as to afford reason to presume, that if our knowledge of the intimate structure of parts were more complete, the whole theory of the operations dependent upon them, would, on these principles, be explained. Until the discovery made by Harvey, the theory of the circulation was involved in as great perplexities as that of secretion now is. It was just possible to discover that there was an apparatus provided, apparently fitted to perform some operation upon mechanical principles; but this was all that could be determined, and this is all that we can now determine with respect to secretion. We observe a very curious mechanical structure in the glandular system, but we do not yet sufficiently understand it to know how it operates in producing a chemical change in the composition of the fluids transmitted through it.

There is indeed a class of physiologers, (among whom are reckoned many highly distinguished writers,) who think they are authorized, by the difficulty of explaining this process on the ordinary principles of chemical affinity, however modified by mechanical operations, to conjecture the presence of a peculiar agent, which they term the Vital Principle. This agent is supposed to be an extremely attenuated fluid, analogous to the electric or galvanic fluid, and possessed, like the electric fluid, of the power of modifying, under particular circumstances, the ordinary chemical affinities of substances; so as to give rise to results different from those which would take place in the absence of such a principle.

I shall not enter into the merits of this question, which

has of late undergone much discussion. It is sufficient for my purpose to observe, that the position I have made in the text, to which this note refers, is equally secure, whether we adopt or reject the doctrine of the Vital Principle. To take the instance of secretion before alluded to; if we refuse to allow this hypothesis, we must imagine the new product secreted from the blood to result from the mechanical operation of an organized structure, by which the component particles of the blood are, in some unknown way, brought into such a state as to form new combinations. Here the effect is the joint result of mechanical and chemical agencies. Now, if we suppose a fluid analogous to electricity to be present in the gland, and by virtue of its controlling power over ordinary chemical affinities, to assist the operation of the glandular structure, and to dispose the component particles of the blood to aggregate themselves in compounds, different from those which their ordinary tendencies dispose them to form, we only add one more chemical agent to those already known to be in action: the effect is still the joint result of chemical and mechanical powers.

What I have said respecting secretion may be applied to any other process in the living body.

Thus respiration is a very complicated function. It is performed by the aid of voluntary muscles, and is so far connected with animal life. The muscles, however, only bring into operation a piece of mechanism very analogous to a pair of bellows. This part of the operation is strictly mechanical; the rest of the operation is chemical, viz. the change effected in the composition of the blood.

The production of animal heat is so nearly connected, at least in several of the circumstances of this function, with the chemical changes produced in the blood during respiration, that we may safely refer it to the category of chemical operations. As I am not going

to enter into a minute disquisition on the theory of animal heat, I shall content myself with referring to some of the analogies which lead to this inference. These are, in the first place, the relation which the degree of animal temperature, peculiar to each species, preserves to the capacity of the respiratory organs, and the extent of the changes produced on the blood in the respiratory function of the animal. Secondly; The relation between the quantity of air consumed by any animal, and the degree of heat produced in any given time. Thirdly; I refer to the facts developed in the experiments of Black, Crawford, and particularly the late experiments of Dr. Davy.

Those who refer the production of animal heat to the vital principle, have not explained what they mean by this expression; but it can, I presume, be nothing else than to represent the vital principle as a peculiar chemical agent. This principle cannot be imagined to be possessed of the power of creating the matter of heat, or of producing it where it did not before in some form or other exist: it therefore only disengages the matter of heat from some previous compound by a particular influence on the chemical affinities: in other words, it operates as a chemical agent. In no manner, therefore, can we escape from the conclusion, that the production of animal heat takes place on chemical principles.

The phænomena of nutrition, generation, growth, are as yet very imperfectly understood. They seem to be, however, modifications of secretion, conducted according to very peculiar laws, and developed in part by chemical agencies of another kind. We are led to this opinion by considering the various relations which present themselves, on a comparison of animal generation with the processes of reproduction in plants. The production of the unfecundated ova in some animals is strictly a secretion. The germination of seed, and the developement of eggs in the process of incubation, require chemical agents,

such as heat and moisture: peculiar actions are set up in the organic structure they contain; but the capability of these actions can itself only be imagined to result from a certain mechanical structure, which is set in operation by the chemical properties of its component parts.

On the whole, I cannot imagine that any person who carefully considers the subject, and lays aside all prejudice or attachment to peculiar modes of expression, will refuse to admit that there is sufficient reason to conclude the whole of those processes, termed vital and natural functions, to be resolvable into chemical and mechanical agencies, variously modified, or operating under a great diversity of circumstances, to which they are subjected by the infinite artifices of Nature: or, if we speak in the language of philosophy, and divest ourselves of the phrases which are peculiar to naturalists and physiologists, by the infinite skill, and ever varied contrivance, of the Artificer who gave origin to the machines in which we live and move, and who so arranged the parts of which they are composed, as to render them self-preserving, and endowed with perpetual movement, and with the property of producing other systems of similar structure.

NOTE B.

In ascribing that class of phænomena with which we become acquainted through the medium of consciousness, to the Soul, or in describing them as affections of an immaterial principle, I am using language, which is so much out of the usual course of physiological disquisitions, as to require some explanation.

I would, in the first place, wish it to be understood, that I make no reference whatever to the celebrated vital principle of Hunter and his followers. The soul, of which I suppose the mental phænomena to be affections, is to be recognised on very different principles. On this subject I shall here briefly express my ideas, although I do not flatter myself with the expectation of saying any thing new: which, in fact, is impossible.

Nothing can be more unphilosophical than to ascribe attributes to a thing or being, the existence of which is in any degree a matter of uncertainty, or requires to be previously proved. This censure I hope not to have incurred; but, lest any person should impute it to me, I shall enter my defence on the two following considerations: —

1. It has often been observed, with justice, by those who are challenged to prove the existence of a soul distinct from the body, in which thought, consciousness, and all the properties of mind inhere, that the thing does not require any proof at all. The existence of mind, *per se,* rests, *primâ facie,* upon quite as strong evidence as the existence of body or matter, and the one stands not more in need of proof than the other. Two classes of phænomena are revealed to our minds by the faculties

implanted in our constitution. The faculty of perception is the medium which displays to us one class, that of consciousness the other. The objects set before us by the former are the properties of body, those shown by the second are the phænomena of mind. All properties must be qualities of some substance or essence. The essence to which the first set of properties belong, is, by common agreement, termed body or matter; that to which the second, soul, spirit, mind. The nature of both these essences is totally and utterly unknown: the word body or matter means nothing at all except the unknown substance to which certain known properties belong; and the word soul means nothing at all but the unknown substance to which another set of known properties belong: and algebraical symbols, such as x and y, would be just as expressive as these words, if there were only a general consent to use them for the purpose. If any body should challenge me to prove the existence of x, I can only answer him by requesting him to prove the existence of y: the very demand is frivolous and absurd; it only proves that the person who puts it has no notion of the first principles of logic.

But if any one chooses to assert that x and y are identical; or that the properties of mind are qualities of the same substance of which the properties of body are qualities; I have no objection to agree with him if he will only afford some proof of his assertion; but most certainly the *onus probandi* rests on him. There is nothing in the mode under which we become acquainted with these two classes of phænomena that leads the mind to adopt such a conclusion. On the contrary, we cannot contemplate them through the medium of the same faculty, nor can we imagine any possible connexion between them *. There

* This argument for, or rather observation on, the existence of mind or soul, has been placed in the strongest point of view by Professor Dugald Steward.

results, indeed, from the contemplation of the one class a notion which is quite irreconcilable with a notion which results from the contemplation of the other class: we cannot think of matter without fancying it to be infinitely divisible, and we cannot think of mind without feeling it to be absolutely indivisible. This is the only instance in which the qualities of the one essence can enter into any sort of relation to those of the other; and here they come into the relation of contrast.

Some writers, and among them no less a philosopher than Dr. Priestley, have made an attempt to prove that x and y are the same thing. They offer the following argument:—We never witness the phænomena of mind except in conjunction with matter; the one class is never found in a state of separation from the other: *ergo*, they belong to the same substance or essence.

If it is meant to call upon us to produce a proof of the existence of mind where there is no matter existing, it is very safe to give us this challenge; we cannot escape out of the material universe; we have no faculties capable of being employed in such a pursuit; therefore we cannot detect mind or soul altogether separate from matter.

But I apprehend that it is meant to assert that the properties of mind are only found in connexion with organization; to infer that they result from matter, in a state of organization, and to call upon the immaterialist to show them somewhere in a state of separation from organized matter*. If this be the challenge, he can very soon comply with it. The whole universe displays the most striking proofs of the existence and operation of

* This is Dr. Priestley's argument:—"The power of sensation, or perception, never having been found but in conjunction with a certain organized system of matter, we ought, as philosophers, to conclude, that this power necessarily exists in, and results from, that organized system, unless it can be shown to be incompatible with other known properties of the same substance."

intellect, or mind, in a state separate from organization, and under conditions which preclude all reference to organization. There is therefore, at least, one being or substance of that nature which we call mind, separate from organized body, not only somewhere but everywhere.

2. The second observation to which I advert, is an attempt, which appears to have been fully successful, to prove that the mental phænomena *cannot* result from the properties of matter, whether organized, or in any way modified. It is founded on experience, and a comparison of the results which universally arise from different combinations and arrangements of material particles.

In all combinations whatever of material parts, it is found that the powers or properties of the entire system, are nothing more than the sum or aggregate of the powers or properties of all the parts. Figure, magnitude, and motion, (in which are included attraction and repulsion,) are the universal powers or properties of material particles, and from the combination of material particles nothing has ever been known to result but some modification of figure, magnitude, and motion. It is therefore directly in opposition to the evidence of universal experience to suppose that a combination of material particles can give origin to such phænomena as those of pleasure and pain, hope and joy, volition, &c.*

But some metaphysicians have said, "The Creator, being omnipotent, could endow material particles, in a state of organization, with whatever powers it pleased him to bestow." This is a mere play upon words. If the powers bestowed were such as could not result from any possible modification, or composition of the powers of the parts, the endowing of such a system with new

* This consideration is more clearly and distinctly stated by Mr. W. Belsham than by any other writer. See Essays Philosophical, Historical, and Literary, vol. ii. Essay 25.

properties can mean nothing else than the adding to it of some new thing possessed of such properties.

On the whole, it appears to me, that the existence of a separate sentient, percipient, cogitative principle, distinct from the nervous system, but, by the constitution of things, capable at present of coming into relations with the external world only through the instrumentality of the nervous system, is a thing so certain and indisputable, that whatever affections of mind do not appear to be subject to changes from the various states and conditions of the nervous fabrick, or its parts, may safely be concluded to be affections of the immaterial principle itself.

But it may be questioned, How far does the sphere of mind or soul extend? What creatures are possessed of it; what are destitute? Where is the limitation between mind and mere matter?

The possession of mind certainly extends as far as its phænomena; whatever beings have conscious feeling, have minds or souls distinct from the substance of which they appear to us to be composed. If all animals feel, all animals have souls *. But some of the lower orders of animals are suspected to be altogether devoid of feeling, and to be possessed of mere irritability; a principle common to animals and vegetables †. Irritability, as it is merely a modification of mobility, a species of attraction, or a susceptibility of being acted upon by external substances in such a way as to occasion certain motions,

* However quaint and singular this expression may be, and however revolting to some persons the conclusion it presents, it cannot be objected to on any grounds, except those on which the advocates for materialism found their attacks on the doctrine of an immaterial principle. If organized matter alone is capable of conscious feeling, it is probably capable of all those other operations attributed to the soul: at least no reason can be alleged to the contrary.

† On this supposition zoophytes are termed, by Lamarck, "animaux apathiques."

without feeling or consciousness, is a property of mere matter; a property depending on chemical affinities, though of such a kind that it has only been discovered in the matter of a living body, or in the same matter within a short period after the death of the individual. It either results from some peculiar substance, possessed of chemical properties, inherent in a fibre during life, which is dissipated soon after death, (the doctrine of the Vital Principle,) or it results from a peculiar state of composition or organization in the parts of the fibre, (the doctrine of those who do not admit the Vital Principle); and this supposition is evidently a tenable one, since the supposed result, (viz. that peculiar mode of mobility, termed irritability,) is only a modification of the properties of the component particles. On either supposition, the phænomena of irritability, as well as all those of the natural and vital functions, generation, growth, &c., are altogether within the region of matter and its properties.

CHAPTER II.

PATHOLOGICAL SURVEY OF THE DISEASES INCIDENT TO THE NERVOUS SYSTEM.

SECTION I.

Resources for pursuing this Investigation.— Morbid Anatomy.— Observations on the History, Connexions, and Conversions of Diseases.— Doctrine of the Juvantia and Lædentia.

WHILE we remain entirely unacquainted with the theory of those processes by which the component parts of the nervous structure perform the offices allotted to them, and are therefore ignorant in what the ordinary and healthy action of these organs consists, we shall never be ablé to form a clear and distinct conception of those changes or variations from the healthy state, which constitute the disorders of the Nervous System. An artist, who is unacquainted with the principle of motion in any piece of machinery, can never fully understand the derangement to which its mechanism may be liable. It is therefore impossible for us to discover the proximate causes of these disorders, or those morbid conditions of the system, of which the train of symptoms are the outward signs, and from which they result by a necessary connexion. All that we can do may be compared to the awkward and imperfect attempts which an artisan would make who endeavoured to mend a clock without understanding its mechanism.

We must confine ourselves to a careful collection of the facts which dissection unfolds, and compare them with the most complete and accurate account of the symptoms and the history of diseases, and with the results of experiments on their treatment. Our proceeding must, in short, be founded, in a great measure, upon empirical* principles.

The resources we possess for this investigation may be mentioned under three heads.

I. Perhaps the most important is Dissection. Although we cannot expect to obtain from morbid anatomy a knowledge of the precise nature of those derangements of structure which are the proximate cause of disease, we are made acquainted, through this medium, with many circumstances in the morbid condition of the nervous system which differ from the state of health.

II. We are also enabled, by observations on the living, to trace many interesting phænomena relating to the connexion of these disorders with those of other functions, which throw light on their origin, and, in some cases, direct us to a cure. The conversions and mutual relations of diseases, is a subject to which the attention of physicians has not, till of late years, been much directed; but it is a resource which affords the means of extending the science of pathology in many of its departments. The assistance

* The very opposite method, however, from that of modern empirics, or ignorant pretenders: it is often observed that the most ignorant of our profession are the most addicted to hypothesis.

to be derived from this investigation is not more important in any other branch than in the difficult research into the pathology of the nervous system.

III. An attention to the Juvantia and Lædentia, is another channel of knowledge. To this head belong all experiments on the effect of remedies, and the histories of cases which have been subjected to various methods of treatment. From a variety of particular instances we are enabled to deduce some general inferences respecting the modes of practice, and even to throw an indirect light on the causes and nature of the diseases we have to combat.

SECTION II.

Connexion of Disorders of the Nervous System.— Apoplexy with Paralysis — with Epilepsy — with Mania. — Mania with Epilepsy.—Vertigo and Epilepsy.—Tremor.—Somnambulism. — Chorea. — Hysteria, with other Nervous Diseases.

In pursuing the observations suggested in the foregoing section, we are first led to notice a fact which is of great importance in the pathology of the nervous system. It would appear that many of the diseases of this class are more nearly connected with respect to their causes and the morbid conditions in which they consist, than most of the disorders that are classed together in other departments of nosology. This remark will be illustrated by observing the

mutual relations of some of these disorders, their successions, and their conversions into each other.

In some instances the affinity between these forms of disease is so apparent, and so much within the sphere of common observation, that it seems almost superfluous to notice it. This is the case with respect to apoplexy and paralysis, which are continually passing into each other, and evidently depend upon different degrees of the same morbid condition.

The connexion of apoplexy with epilepsy was noticed as long ago as the time of Hippocrates; and it has been observed by his commentator Martianus*, that the latter disease frequently terminates in the former. Many facts and observations, tending to illustrate the relation of these disorders, have been collected by Morgagni†.

Epilepsy is a distinct disease from apoplexy and palsy, and yet its relation to both is very near; and they all frequently pass into each other‡. Persons who have partially recovered from a recent apoplexy are often assailed by convulsions, which display most of the phænomena of epilepsy, and fits of the genuine epileptic character frequently occur after an attack of hemiplegia‖. On the other hand, persons who fall

* Annot. in l. Hippoc. de Gland. vers. 103.

† Morgagni de Sed. Morb. lib. 1. cap. 4. item cap. 9.

‡ Dr. Ferriar has mentioned a case to which palsy was converted into epilepsy, and the patient died comatose. In his brain were found scrofulous tumours, and water in the ventricles. Dr. Ferriar's Med. Hist. and Reflect. vol. ii. p. 11.

‖ Dr. Percival has related a case in which palsy, the sequel of fever, was converted into epilepsy, and afterwards into amaurosis.

victims to repeated fits of epilepsy, perish under all the symptoms of apoplexy; and others, who recover from a severe fit, or from frequently repeated fits of epilepsy, are often found to labour under hemiplegia, or other modifications of palsy. Sometimes persons who have long suffered under epilepsy, lose this disease, and become permanently paralytic*.

There are cases which appear in their phænomena so nearly intermediate between apoplexy and epilepsy, that it is difficult to say under which disease they ought most properly to be classed. Of this description are those fits, which are frequently repeated, and generally continue for a short time, leaving the patient nearly in the same state as before the attack; but which have, during the continuance of the paroxysm, none of the characteristic features of epilepsy. The patient in this disease is seized suddenly with vertigo, or falls down without any previous symptom, and is like a person in a profound sleep, with the pupils of his eyes dilated, and in a state of perfect insensibility. The stertorous breathing, which generally occurs in true apoplexy, is wanting in fits of this description; but in all other circumstances they resemble, during their continuance, apoplectic attacks: yet the course of this disease is much more analogous to that of epilepsy, and paroxysms of this sort are by many, and as we shall afterwards

The case terminated in the restoration of health. (Essays Medical and Experimental, vol. i. p. 148.)

* Many of these transitions will be illustrated by cases to be detailed in the following pages.

show, on good grounds, regarded as modifications of that complaint.

There are some cases, though of less frequent appearance than those just mentioned, which are intermediate in character between epilepsy and paralysis; the temporary duration and repetition of the fits following the course of the former disease, and the symptoms of the paroxysm resembling an attack of palsy*.

Apoplexy and hemiplegia betray a like affinity to mania: the condition of the brain and nervous system, on which the latter disease depends, is nearly allied to the morbid state of the same fabrick, which gives rise to the former complaints: for we find palsy and mania concurring at one time, and in other cases passing into each other. Maniacs are very subject to expire suddenly under an attack of apoplexy; in

* A case of this description is related by Dr. Ferriar. The patient was suddenly affected with a tingling pain, succeeded by numbness in the thumb and fingers of the right hand: the pain extending along the arm and shoulder, darted into the right side of the mouth, and the articulation was impeded until the fit was over, which was in about half an hour. It returned periodically. See Dr. Ferriar's Med. Hist. and Reflect.

Dr. Mead has observed, that physicians have recorded several remarkable instances of periodical palsies, and he quotes the following account from Carolus Piso:—"An aged man was seized with a sleepiness and great lassitude, which was followed by a dead palsy, stupor, loss of memory, and some degree of folly, with a fever. These complaints returned regularly every new moon for two years, the symptoms gradually lessening, and the last fits had but a faint resemblance to those he suffered in the beginning." Mead's Works, p. 181.

other cases, after a violent paroxysm of delirium, the patient is found to have lost the power of voluntary motion on one side. Paralytics, on the other hand, are subject to various appearances of impaired intellect: the most frequent of these is a degree of fatuity, or imbecility, which is the general effect of repeated attacks of the disease: but maniacal delirium is by no means a rare occurrence under similar circumstances.

Insanity is still more intimately connected with epilepsy. In very severe and inveterate cases of epilepsy, the paroxysms of this disease are often followed by attacks of maniacal delirium, which are generally of the most violent kind. These fits of madness most commonly abate in a few days after the epileptic attacks have ceased: in other instances, however, the maniacal state is of longer continuance, and epilepsy is sometimes the harbinger of a permanent and hopeless insanity.

Vertigo is sometimes a distinct disease; that is, it is the only morbid affection of the nervous system that manifests itself; though, like many distempers of the class we are considering, it is usually combined with some disordered functions in other parts of the constitution.

Very frequently, however, it happens that Vertigo is the harbinger of some more grievous malady. It is most commonly symptomatic of apoplexy. It likewise precedes attacks of epilepsy. These facts were even noticed by Galen, who considered vertigo as allied in its nature to both these disorders*. Vertigo

* In Aphorism. Comment. iii. 17.

occurs also in chorea; and occasionally in almost every other disease in this class.

Fits of tremor and attacks of partial convulsion occasionally continue for some time, and occur repeatedly without any loss of consciousness. In these instances they cannot be identified with the more frequent and more severe diseases of the description we are considering. The manner, however, of their occurrence, and the symptoms which precede and follow them, are sufficient to prove their relation to epilepsy, and we sometimes find them, at length, assuming decidedly the character of this disease.

Chorea is an affection in many respects distinguished from other species of the same class of diseases; yet there are some circumstances which indicate a connexion in pathology between chorea and paralysis, as well as between the former disease and epilepsy. In chorea it generally happens that the muscles on one side are more severely affected than on the other; and, in some instances, the disordered actions are confined to one side of the median line. I have several times observed that the same individuals have been subsequently attacked by palsy, and that the same half of the muscular system, which was previously agitated by chorea, is now subdued by hemiplegia*. In epilepsy also the convulsion is sometimes confined to one side of the median line.

The limbs, which have long been agitated by a

* Among the following cases of chorea several instances of this description will be mentioned.

violent chorea, fall into a state very much resembling a genuine paralysis.

Conversions of chorea, epilepsy, and paralysis, are by no means rare occurrences*.

Chorea, as it is well known, resembles epilepsy, in inducing, after a long continuance in a violent degree, a state of fatuity. In chorea, however, even when some degree of mental imbecility has appeared, the case is not so hopeless as when the functions of the brain, which are subservient to the intellectual faculties, have been injured by epilepsy or paralysis. I have seen a boy, who had nearly the aspect of an idiot, after a long continued and severe chorea, restored by a course of cathartic medicines.

Somnambulism is an affection which has excited more attention, as a matter of curiosity, on account of its singular phænomena, than as a subject of pathological inquiry and of medical treatment. It seems to combine, in a surprising manner, the functions of the waking state with some of the appearances of sleep. It has generally been regarded as connected with sleep and with dreaming, and as constituting no considerable deviation from the healthy state. Dr. Darwin was, as I believe, the first who advanced the

* I have this day seen a child, in whose case there has been the following remarkable succession of symptoms: — Three years ago the child laboured under hooping cough, and the fits of coughing threw her into paroxysms of tetanic epilepsy. These symptoms subsided after continuing some months. She was next seized suddenly with a slight hemiplegia of the right side, from which she nearly recovered, but is now troubled with chorea, which agitates, though in no very severe degree, the limbs of the same side.

idea that it is more nearly related to epilepsy; and although this suggestion seems to have been little more than a conjecture, and to have owed its existence to the author's fanciful hypothesis respecting the nature of epilepsy, yet it appears to point out to us the true state of the case. This is evident from some facts and observations, which will be adduced in the succeeding pages.

Hysteria is a disease which, in turn, puts on the form of almost every individual distemper of this class. "Sometimes," as Sydenham has observed, "it causes an apoplexy, which also terminates in a hemiplegia; exactly resembling that kind of apoplexy which proves fatal to some aged and corpulent persons."—"Sometimes it causes terrible convulsions, much like the epilepsy."—"Sometimes it seizes the vital parts, and causes so violent a palpitation of the heart, that the patient is persuaded those about her must hear the heart strike against the ribs." It may be added, that hysteria gives rise occasionally to an alarming trismus, which has at first all the appearances of an ordinary locked jaw, and induces the medical attendant to expect the other symptoms of tetanus. The event of these cases is, however, much more favourable than that of tetanus arising from a wound*.

Before I conclude my remarks on the subject of this section, I must add to what has been already

* Various examples of the mutual conversion of nervous disorders will be found in the cases to be inserted in the following pages of this work. I am here adducing only facts already well known, which are sufficient to establish my conclusions.

said, that the morbid appearances discovered on dissection are very analogous in most of the diseases above mentioned. In fact, it is much more difficult to point out some minor differences, by which they may be distinguished from each other, than to trace their common resemblance*.

What these appearances are, is a subject that belongs to a future part of this work.

SECTION III.

Application of the Inferences contained in the last Section, to the Pathology of Nervous Disorders in general.—State of the Vascular System in the Brain, in various Diseases of this Class.—In Apoplexy.—Hydrocephalus.—General Conclusion.

THE mutual conversions of disorders of the nervous system leads us to one conclusion, which is important with respect to the pathology of these complaints. Diseases which are so nearly allied as to be liable frequently to supersede or pass into each other, and at other times to co-exist in the same individual, must, as it should seem, when they have their seat in the same structure, depend on similar deviations from the healthy condition of the system. The predisposing circumstances, or remote causes, are indeed various, even in the instance of one and the same disorder: but the particular condition of the organic

* See M. Pinel on Insanity, p. 133 of the English translation.

structure, from which the phænomena of the disease immediately result, is probably always similar in the same complaint; and in cases which, though they do not come under the same nosological definition, are yet connected by their frequent transitions and combinations, it may be presumed that the causes differ from each other only in slight modifications.

We are then authorized, by the foregoing observations on the history of diseases, to conclude, that whatever may be the proximate cause * of the morbid phænomena in one disorder of this class, a condition in a great measure similar must exist in the other forms; and this is an inference by no means unimportant with respect to the theory of disorders of the nervous system in general.

In several of these complaints, as it is well known, the most apparent circumstance in the morbid state of the brain consists in a disproportionate circulation of blood through that organ, or in an undue accumulation in the head; whether attended with those appearances which accompany inflammatory, or what is termed increased vascular action, or merely amounting to simple congestion †. As it is well known that

* Notwithstanding the objections to this expression, which so many modern writers have made, I cannot discover any reason why we should discard it. The proximate cause is what logicians would term the real essence of a disease. It is, however, if we use words in their strict sense, not the cause of the disease, but the cause of the symptoms or immediate effects by which the existence of the disease is known to us.

† Some observations on the theory of local determinations, or accumulations of blood, will be found in Note C., at the conclusion of this chapter.

such a state exists in several of these disorders, we are entitled, if the doctrine just laid down be well founded, to infer that a similar condition is actually present in other complaints of the same class, although the proofs of it are not so decidedly manifest. This conclusion is, however, so important, that it deserves to be more particularly examined.

In apoplexy it is well known that the most apparent circumstance in the morbid state of the brain, consists in an excessive action of the arteries belonging to the encephalon; or, at least, in an unusual repletion and distention of the vessels; or in what is termed an increased determination to the head; often producing effusions of blood, or of serum, within the skull. If the foregoing remarks are well founded, we have from this fact reason to believe, that the immediate cause of other disorders, which by their frequent conversions and transitions, are shown to be allied to apoplexy, consists in a deviation from the healthy condition of a similar kind, though probably very different in degree, and modified by a variety of circumstances.

It is now generally agreed that acute hydrocephalus is an inflammatory complaint, and consists, in the first stage, of increased vascular action* in the brain, or its membranes, which terminates in serous effusion. The inflammatory stage of this complaint displays

* When I speak of increased vascular action, I only mean to describe that state of the circulation, either general or local, which is commonly so termed, without professing to adopt the pathological theory on which the phrase is founded.

phænomena, which bear a near analogy to most of the manifestations of disease in the nervous system above mentioned, such as *stupor*, *vertigo*, *convulsion*, and *delirium*. The disease sometimes commences with an *epileptic fit;* at least this is the first thing that announces its existence. In other instances a *furious maniacal delirium* occurs within a few hours of the attack, or of the period at which the presence of the disease first becomes known or apprehended, and while circumstances co-exist which preclude the supposition that it can have given rise to effusion. In these cases we must allow that several remarkable forms of *neurosis* are the products of cerebral inflammation; that the physical condition of the brain, on which they appear immediately to depend, is connected with vascular excitement in that organ. This inference, if correct, cannot fail to afford us an useful direction in cases of a more doubtful character, where the symptoms of congestion, or of the inflammatory state, are less obvious, or altogether elude detection.

The same forms of disease, particularly delirium, coma, convulsion fits, occur in the course of continued fever; and in this instance they may be traced to a condition of the brain, closely bordering upon, if not decidedly consisting in, inflammation. Fits of convulsion in fever are often symptomatic of suppuration in the brain; but I have met with this symptom, when the event proved that no such fatal mischief had taken place.

These conclusions from analogy, are confirmed by a general survey of the phænomena of nervous diseases,

especially as displayed by dissection. When we generalize the appearances which are discovered in the heads of persons who have laboured under the diseases we have enumerated, they are found to resolve themselves, for the most part, into the effects of inflammation and of increased vascular action; such are the adhesions of parts chiefly within the cranium, the effusions of serum into the cavities, the distention of vessels, abscesses, the hæmorrhagic effusion into the ventricles, basis, and interstitial openings of the brain, the redness, or other discoloration of surfaces, the thickening of membranes, which occur to us in such variety, and in such numerous instances, on the dissection of those bodies which have fallen victims to diseases of the cerebral system*.

* Other species of disorganization, besides the undoubted consequences of inflammation, are indeed occasionally discovered in the encephalon, in some forms of nervous disease; such as tumours, general hardness of the substance of the brain; sometimes, though more rarely, a preternatural softness, ossifications, or spiculæ of bone; other alterations of texture. These varied appearances are probably the causes, or more generally the consequences, of disordered vascular action; perhaps of inflammation.

When tumours are discovered in the substance of the brain, which often happens in epilepsy, and sometimes in hydrocephalus, I believe they contribute to the disease, and to the ultimate destruction of life, by inducing inflammation. That they have this effect may be inferred from the serous effusions, and other indications, which almost always accompany them. I once attended, for several months, a boy, who at length died of hydrocephalus. Several tumours were found in the cerebellum, as well as a large quantity of serum in the ventricles. In the course of this boy's illness, the symptoms had been, on repeated occasions, so much relieved by topical bleeding, blistering, calomel,

We shall conclude these observations by remarking, that the doctrine of the Juvantia and Lædentia points, in general, to the same result. Disorders of the nervous system are indeed frequently complicated with various affections of other structures, or of the functions allotted to them; and, from this circumstance, a diversified method of practice must often be adopted in treating them: still, if we were called upon to point out one particular indication, or principle of practice, which is generally applicable, to a greater or lesser extent, to distempers of the nervous system, I suppose there would be no hesitation in concluding it to consist

purgatives, &c., that he had appeared almost convalescent; but as soon as the measures directed to the reduction of inflammation in the brain were intermitted, they immediately returned. In this case the tumours appeared to be the exciting cause of inflammation in the encephalon; which, although repeatedly reduced, as the cause was permanent, at length gained ground, and destroyed the patient by effusion.

It is true that in some instances of these complaints, no other vestiges of disease have been found than redness of the membranes, and distended vessels: but it is highly probable that inflammation of the encephalon is capable of destroying life in the acute stage, and it is impossible to say how slight the vestiges of inflammation under these circumstances may be. It is only in its secondary effects that it can be traced with a very decisive evidence.

We shall, in the course of the following pages, have many opportunities of confirming these remarks by particular facts in various forms of nervous diseases. Here the observation is made chiefly with reference to the conclusion drawn from the near alliance of these disorders, and in order to obviate an objection that might be made to the general inference drawn from morbid appearances on dissection.

in the means adapted to restraining the determination of the blood towards the head, and diminishing the quantity of that fluid that is circulating through the brain. It must be allowed that bleeding, either generally or locally, is not a measure universally applicable to all states and periods of such disorders; that on many occasions it not only fails to afford benefit, but aggravates the evil: still I believe that there are not many cases of severe or long continued affection of the brain and nervous system, in which measures adapted to the indication above mentioned, have not afforded, or might not afford, relief to a greater or less degree, at some period or other of the disease.

But the fact, that evacuations of blood from the head fails to afford relief in many cases of nervous disease, is by no means a decisive proof that the affection, in this particular instance, does not depend upon, or is not connected with, increased vascular fulness in the brain; since we often experience a similar disappointment in those cases where we know the disease to consist in an over-distended state of the vessels. I have sometimes seen repeated venesections ordered for patients labouring under attacks of paralysis, which had evidently proceeded from determination of blood to the head; when, after every successive abstraction of blood, the disease seemed rather aggravated than relieved: and in cases which appeared to be precisely similar, I have witnessed the most decided benefit to accrue from discontinuing the practice of depletion, and adopting a gently stimulating plan of treatment: and I can make a similar assertion respecting several other disorders of the

nervous system. But such cases are exceptions, though perhaps not very unfrequent ones, to a general observation.

A question has probably, before this time, occurred to the reader, How one cause can give rise to such a variety of effects? I do not pretend to understand the *rationale* of action in the morbific cause, or to explain how it can give rise to different morbid states; how, for example, the proximate cause of epileptic fits is momentarily so modified as to become the immediate cause of an attack of epileptic delirium. Until our acquaintance with the physiology of the cerebral structure is more advanced, we are not likely to learn in what way these operations are so disturbed by an undue congestion of blood, or by irregular vascular action, as to give rise to one train of morbid phænomena in one instance; or how, by a slight modification in the state of the system, a new train, often of a very different description, is substituted for the former.

The only modifications we can distinctly trace, or infer, are in the degree. When we find a patient, in consequence of accumulation of blood in the head, subject to vertigo, then to partial paralysis, by and by attacked by hemiplegia, which, in process of time, becomes converted into apoplexy, we infer that a progressive increase in the morbific cause has developed this variety in the phænomena.

In other instances the constitution may be, and is, more predisposed to exhibit one set of phænomena than another; and this, perhaps, under similar morbid

alterations in the state of the circulation through the brain.

Perhaps also there may be some difference in the kind of vascular action. It is probable that a change may take place from venous congestion, or simple distention of the vessels, to that state which constitutes inflammation, and that these different conditions are connected with particular modifications of the morbid phænomena. If this supposition be allowed, it enables us to account for the sudden conversion of these disorders into each other*.

* These inferences are rendered more probable by several circumstances connected with the vascular action in other parts.

We know that an increase in the circulation of blood through a part is, under certain circumstances, productive of an increase of sensibility.

Inflammation of the organs of sense, a state accompanied by increased distention of vessels, occasions an increase of sensibility. When the eye is inflamed it is extremely sensible of light; and the ear, under similar circumstances, of sound. Even insensible parts, as bones and tendons, become extremely sensible when inflamed.

An increase of circulation through a part will also occasion increased sensibility, without inducing inflammation: we have an instance in the effect of rubbing the fingers when cold.

But there is a state of increased vascular distention, in which an unusual quantity of blood is accumulated in a part, without any increase and even with a diminution of the ordinary degree of sensibility: this state is commonly termed that of simple congestion, or of venous congestion, from a supposition that it consists in accumulation of blood in the veins; and that supposition is founded on the circumstance, that the colour of parts in this state is generally of a purple cast, resembling that of venous blood.

SECTION IV.

Connexion of Disorders of the Nervous System with several Diseases of the Natural Functions.—Distribution of Cases founded on this Observation.

By attending to the successions and relations of morbid phænomena, we are led to another train of observations, which, in a practical point of view, are not less important than the remarks we have made on the near affinity of disorders of the same class. I allude to the fact long ago noticed, and now fully ascertained, that diseases of the nervous system are often found, on inquiring into their previous history, to have been preceded by chronic distempers of various kinds, affecting other structures, and more especially by disordered conditions of some of the natural functions, and occasionally of the organs allotted to them.

It may be conjectured, on the ground of these analogies, that those disorders of the nervous system in which there is an increased excitement in the functions of the brain and nervous structure in general, an unusual intensity of feeling, or exertion, depend on a state of the circulation through the encephalon which approaches to, or is of the character of, inflammatory action: of this class are delirium, mania, perhaps spasm and convulsion: and that the opposite phænomena of torpor or diminished sensibility and energy, stupor, coma, palsy, &c. depend on a simple congestion or dilatation of the vessels, without that condition which constitutes what is commonly termed increased arterial action; or, when it attains a certain degree, active inflammation. At the same time it must be confessed that the distinction between congestion and inflammation is a subject involved in no small degree of obscurity.

The connexion of disorders of the nervous fabrick with diseased states of other parts of the system, and particularly with complaints of the viscera, which lie in the gastric and hypochondriac regions, was noticed by the ancients, and seems to have furnished many of the common terms for various complaints; some of which are still used, though the ideas on which they were founded have long been forgotten. Modern physicians have been more intent in endeavouring to trace the origin of diseases in the altered structure of the organs most remarkably and obviously affected; and, in their anatomical researches, have too much overlooked the morbid appearances of distant parts: but, of late, the admonition of two or three distinguished writers has contributed to lead the attention of medical practitioners into this neglected path: and the general truth of the doctrine alluded to, is no longer with any body a matter of doubt.

It would seem, however, that those physicians who have sought for the sources of nervous diseases in the state of viscera remote from the brain, have in general assigned a double origin to complaints of this description. They consider one set of nervous diseases as depending on a primary affection of the brain, or other parts of the nervous structure; and in this class they seem disposed to include, generally, all those cases in which any considerable vestiges of disease in this structure are displayed by anatomy. On the other hand, it is often taken for granted, that in those disorders of the nervous system which depend on the state of the natural functions, the symptoms of disease in the brain are deceptive, having no real foundation

in any morbid change of the encephalon itself, but resulting, in an indescribable way, from a sympathy between the nervous system and the functions of other organs.

It cannot be denied that cases do occasionally occur, the phænomena of which seem to afford countenance to this opinion. Persons have died under palsy, and sometimes after attacks of apoplexy, in whose brains, though examined by accurate anatomists, no clear vestiges of organic disease have been discovered: and a similar assertion may be made respecting epileptic and maniacal disorders*.

I am fully convinced that the pathology of these diseases is at present so imperfect, that we can scarcely regard one supposition on this subject as more probable than another. It is difficult to imagine how all the phænomena of diseased brain can arise from affections of the primæ viæ, without the intervention of local disease in the cerebral structure itself: but it is equally unknown to us how disorders of the digestive functions should induce such local diseases. In considering this subject, it is necessary to discard all preconceived opinions, and to collect simply the inferences from facts.

I am however persuaded, on surveying the facts which have fallen under my own observation, that among those cases of nervous or cerebral disease, which are consequent upon irregularities in the natural

* I have seen two fatal cases of epilepsy, in which, on examination of the brain, nothing preternatural was discerned, except a trifling quantity of fluid in the ventricles. There was no indication of organic disease in any other part of the body.

or vital functions, a great majority will be found to depend upon actual disease, and often organic disease in the brain, or some other part of the nervous fabrick, which, though in the first instance a secondary affection, becomes in the sequel a morbid cause of no less real existence, and often not less difficult of cure, than those diseases which primarily affect the brain itself. This, if I am not mistaken, is the general conclusion we must adopt: and those instances before alluded to, in which the functions of the nervous system are deranged, while the structure itself is free from disease, must be regarded as exceptions to a general observation.

From what has been said, I trust it will be evident that I lay no claim to the merit of discovery in bringing forward the proofs of connexion between nervous diseases and complaints of the natural functions. The fact that such a relation exists, is already well established: my endeavour will be to illustrate this doctrine by a considerable selection of cases and observations, and to make it the basis of distinctions which will be useful in a practical view. It is obvious, for example, that if we can discriminate one class of epilepsies, of which the primary cause is a disordered state of the alimentary canal, from another form of the same disease, which originates in a disturbed and unnatural condition of the functions belonging to the uterine system, this distinction would probably lead to some considerable improvement in medical treatment. The cases which belong to the first class require a different mode of practice from those of the latter; and both require to be treated, in some respects,

differently from those affections which are idiopathic, or have their primary seat in the cerebral structure itself: a class of disorders which every new accession to medical experience evinces to be more and more rare. On this principle the facts and observations I have to offer will be distributed*. In one department those cases of nervous diseases will be placed which originate in a suppression, tardy appearance, or other deficiency of the periodical functions of the uterine system. A second class will include those instances of similar disease which are the result of torpor, or irregular action in the intestinal canal, or of disorder in the functions of the stomach. Another division will consist of some cases in which morbid affections of the brain and nervous system are connected with disease of the liver. A fourth class may comprehend disorders of the animal functions, which may be termed idiopathic, since they arise in consequence of the operation of causes, which act immediately on the functions of the nervous system, or induce primary disease in the structure of the brain.

* I cannot conceive any thing more preposterously absurd, than the attempt to classify diseases with all the divisions and technology of a botanical or zoological system, and to force what is essentially disorder and confusion, to assume the appearance of that order and symmetry which nature displays in the arrangements of the organized world. Equally mistaken is the censure, so commonly repeated, of ætiological classification in nosology; as if medicine could ever acquire the character of a systematic and complete science. Ætiological classification is the only mode of terminology and arrangement that can be of any practical advantage; and this is all that we have to consult.

To this class belong, for example, those cases of madness and of epilepsy which arise from the influence of mental emotions, as grief, terror, and the like. Another class of nervous disorders appear to depend on diseases of the heart, whether of function or structure. Several cases of this description have casually fallen under my own observation, but I am afraid they are not sufficiently numerous to establish the fact of this connexion in a manner satisfactory to all my readers. Another division of diseases, distinct from all the foregoing, are those which arise from the metastasis of inflammatory disorders, such as rheumatic and cutaneous inflammation, and the inflammation of serous membranes.

These cases will be placed, not exactly according to the order in which they are here enumerated, but in that connexion in which they are most likely to illustrate each other, and the relation which they bear to the causes from which they originate. For the same reasons I shall transgress the regular mode of describing disorders monographically, and set before my reader a comparative view of epileptic and maniacal cases in connexion, after premising general descriptions of these diseases, with some remarks on their pathology. This mode of proceeding, though contrary to established custom, is the only one that will enable me to throw some light on the relation of nervous diseases to the other disorders which precede or accompany them; and I have selected epilepsy and mania as specimens, because they exhibit this relation more distinctly than other affections of the same system. My research into the nature of these

disorders will occupy the greater part of the present volume: the remainder will contain observations on other complaints nearly allied to them. In a succeeding volume I propose to treat in a similar manner of apoplexy and the various forms of paralysis, of chorea, and some other diseases of the same system; and to show that all these affections are equally referrible to derangements of the natural functions.

NOTE C.

Some writers have been disposed to reject the doctrine of particular determinations of blood, on account of certain difficulties attending it which are founded on the theory of the circulation. But the processes by which the circulation is maintained and modified according to the exigencies of the system, are not yet so perfectly understood as to warrant us in refusing to admit what appears to be a matter of fact, established by the evidence of our senses. We often find a patient labouring under intense and oppressive pain in the head, with vertigo, flushed and heated in the face, while the extremities are at the same time cold, and the vessels on the surface generally constricted. If under these circumstances we examine the arteries, we find in the carotid and temporal arteries a bounding pulse, with an evident increase of the ordinary calibre or capacity of the tube. At the same time we perceive in the arteries of the extremities a feeble, small, contracted pulse, attended with paleness of the skin, and every appearance of a constricted state of the vessels. If the feet are then plunged into hot water and rubbed, while blood is taken from the temples, and the head is covered with cold wet cloths, a different state is soon produced. The pulse at the wrist becomes in due proportion to that in the carotid, and the headache is relieved. In a case of this description we have a sensible proof of determination of blood to a particular part.

A person who doubts the possibility of a change of capacity in the vessels of one part, without any corresponding alteration in the general state of the circulation, may be convinced of it by plunging one arm into a vessel

of hot water, and the other into a vessel of cold water, at the same time. On again withdrawing his arms, he will find one somewhat larger than the other from the effect of distended vessels, with the external veins dilated, and the pulse of the brachial artery and its branches stronger, and of greater volume than in the arm which has been immersed in cold water*.

It must be allowed that, according to the prevailing ideas, which make the circulation depend in a great measure on an alternate systole and diastole of the arteries, it is difficult to conceive how a particular determination can take place. When a greater quantity of blood than usual is conveyed to a given part, this can only happen either by an increase in the number of contractions and dilatations, or in consequence of the conveying tube having become more capacious than usual. But the number of pulsations is the same in every part of the body; therefore an increased frequency of pulse can be no cause of local determination. This phænomenon must therefore be the result of an increased dilatation of the artery: that is, if the artery acts merely by systole and diastole, there must be a greater dilatation than usual at each diastole of the artery. But the diastole, according to the received notion, is not a condition capable of increase; it is simply the passive state of the artery,

* It is true that we have here the operation of an external agent, so that the case is not exactly parallel with that in which the determination arises from internal causes. This instance, however, proves that the structure of the vascular system is such as to admit of local variations of capacity; and we have other examples of similar effects produced by operations beginning in the constitution. The state of the circulation in the extremities, produced by the action of cold applied externally, is similar to the effect of a shivering fit upon the same part of the system: and the phænomena which result from the external application of heat are precisely similar, with respect to the state of the sanguiferous system, with those which take place in an inflamed part, as in the arm, when affected by erysipelas or phlegmon.

or the state of collapse, which alternates with its contraction, and its extent is determined by the elasticity of the tube. These considerations appear to me to demonstrate that local determinations are impossible, unless the arteries are endowed with some other property besides those of elasticity and muscularity, formerly and commonly ascribed to them. The property with which they in reality appear to be endowed is a capability of variation in their calibre, or average diameter at a given time, or that of becoming at one time more capacious than at another; and this property must be a vital one, (that is, a property resulting from that state of the solid which is peculiar to the living body,) since the variations alluded to take place in consequence of the operation of internal causes, or in connexion with particular states of the constitution. This temporary increase of the average cylindrical diameter of a particular artery, is altogether independent of the degree of systole, supposing such a mode of action to belong to the arterial system: a subject which I shall not attempt to discuss: it is a permanent dilatation, until some new circumstance arises in the constitution, which occasions a change. That the alteration is really a change in the temporary capacity, or that the vessel is actually larger for the time being, I have often been convinced, by comparing my own perception on feeling a carotid, or other artery, when beating forcibly with a large and full pulse, with the sensation I experienced on examining the same vessel under different circumstances. The difference of perception, arising from this comparison, is similar to that which occurs on fixing the fingers on a large and a small cord.

This property of the arteries is precisely that which Dr. Parry has described under the term Tonicity.

CHAPTER III.

A GENERAL DESCRIPTION OF EPILEPSY.

SECTION I.

Definition and Nosological Distinctions of Epilepsy.

FEW diseases are better characterized by their symptoms than epilepsy: yet, in this instance, there is such a variety in the phænomena as renders it difficult to contrive a definition in a few words which may comprehend every form of the complaint. Sauvages has defined it, "Spasmus clonicus, periodicus, chronicus artuum, cum sensuum obscuratione;" a definition which was adopted with little alteration by Cullen. Hoffman's description is, as usual, somewhat more precise: he terms this disease, "Universalis externarum partium præter voluntatem concussio, et vehemens agitatio, cum sensuum, tam internorum, quam externorum, interceptione stipata:" but presently after offering this definition, the author makes a remark which excludes from certain forms of the epileptic paroxysms most of the phænomena just enumerated as characteristic of it. He says, "Variantur vero et convulsiones et sensuum læsiones, tam gradu, quam specie; nam interdum, loco motuum convulsivorum, spasmus valde rigidus membra corporis totius prehendit, ut hæc distenta nec per vim explicare liceat; ac totum corpus subinde tam rigidum sit, haud secus ac si ligneam statuam quis movere velit."

It is impossible to include these different forms of the disease under any single description, and it is therefore obviously necessary to divide epilepsies, with reference to the phænomena of the paroxysm, into at least two species: these I shall distinguish by the terms convulsive, and tetanic epilepsy.

1. The more common form, or convulsive epilepsy, may be defined to be, "A disease manifesting itself in sudden fits, attended with total or partial loss of sense and consciousness, and a general convulsive agitation of the voluntary muscles."

2. The less frequent, or tetanic form, is distinguished by sudden fits of coma, or loss of sense and consciousness, without convulsion, but attended with a tonic spasm of the system of voluntary muscles; the whole trunk becoming during the fit rigid and inflexible.

3. To these may be added a third species of paroxysms, which consist in sudden attacks of coma, sometimes preceded by vertigo, but in other instances coming on without any premonitory symptoms. In these fits the muscular system remains in a completely relaxed state; the patient generally falls to the ground, and lies for an uncertain time in a state of insensibility, resembling a profound sleep. Paroxysms of this description must be considered as a modification of epilepsy, because they often occur in individuals who are at other times subject to the convulsive attacks. These forms of disease frequently pass into, or supersede each other. They occur under similar circumstances, and follow a parallel course through their whole history.

I shall distinguish this last species of paroxysm by

a term which Sauvages has applied in a different way*. Those fits which consist in a sudden loss of sense and consciousness, the muscular system being relaxed, and the patient lying in a state resembling sleep, and at the same time without that state of the circulation which is peculiar to syncope, may be termed fits of *Leipothymia*, or more particularly epileptic *Leipothymia*, in order to distinguish them from somewhat similar paroxysms, which fall under the description of apoplexy†.

SECTION II.

Outline of the History of the Disease.

A PERSON who is subject to epileptic fits, often, without any previous indisposition of which he is aware, and without any sensation or symptom which enables him to anticipate the attack, is suddenly seized with a total loss of feeling and consciousness, and if he happens to be in an erect posture, falls to the ground,

* Sauvages' definition of leipothymia is, "Virium muscularium totius corporis subitanea imminutio, pulsu superstite." This definition applies well enough to the paroxysm I distinguish by the term, but in the nosology of Sauvages it is affixed to a form or modification of syncope.

† The fits, described as epileptic leipothymia, are not easily distinguished from attacks of apoplexy, by the symptoms of the paroxysms merely, but the tenour of the disease sufficiently proves that they belong to epilepsy. In the following pages I shall produce many instances of leipothymic paroxysms which were manifestly connected with epilepsy.

sometimes with so much violence as to occasion him serious injury. Hence this disorder has been vulgarly termed the "Falling Sickness." In other instances the patient has peculiar feelings, which render him aware of the approach of his malady, so that he has time to place himself upon a bed in preparation for it. I have seen individuals who were firmly persuaded that they could often, by certain exertions, prevent the attack of the paroxysm.

Those patients who are aware of the approach of the paroxysm, describe very differently the feelings which they experience. The most frequent symptoms immediately preceding the fit are a sudden dimness of sight; or, as it is termed, a darkness coming over the eyes; often with a sensation of giddiness, and of noise in the ears, which is said to be a ringing or a buzzing noise. Sometimes there is a headache, pain over the temples, with or without vertigo, and a sense of weight and fulness: in other instances no disagreeable sensation is experienced in the head previously to the fit, but the attack seems to commence in some extreme part, as in a foot or hand; a convulsive tremor, or sometimes a rigid contraction of the muscles, takes place, first at the extremity of the limb, and gradually ascends towards the head: when it reaches the head the paroxysm of coma and convulsion ensues*. In

* This symptom is usually termed by medical authors the *aura epileptica*, and it is described by them as a sensation of a cold vapour affecting the part and rising upward. I have met with a great number of patients who have perceived the affection alluded to, but I never once heard it described in this way, though I have been very minute in my inquiries. It is generally repre-

many cases the symptoms which usher in the fit are more like those of the hysterical paroxysm. There is a distressing sense of inflation in the præcordia, attended with a general agitation and uneasiness, difficult respiration, palpitation of the heart; rattling of wind in the bowels, eructation; the globus hystericus, or a feeling of some hard body rising up from the stomach towards the throat, and there occasioning a distressing degree of constriction; frequent micturition, as in hysteria; the urine pale and copious*. In a few cases the premonitory symptom has been a sense of chilliness affecting the spinal column.

As the patient is seized, he often screams out as if in a fright; immediately a violent convulsion of the voluntary muscles ensues; generally the limbs on one side are most agitated; those of the face chiefly; the eyes are open and generally reverted, so that the white part only can be seen; the tongue is often protruded and bitten by the teeth, as the jaw is firmly closed by the convulsive action of the muscles attached to it. The patient breathes in an irregular and unnatural manner; often with noise; and he frequently foams at the mouth. These violent agitations, after a few

sented as a convulsive tremor commencing in a limb. Sometimes there is even a perceptible convulsion of the large muscles of the limb, as in a case to be adduced below, in which the patient averred, that, by grasping firmly the muscles of the leg in which the agitation began, she could prevent the attack of coma.

* These symptoms may be said to indicate an approach to the nature of hysteria: but the disease is in other respects a genuine epilepsy.

minutes, either cease altogether, or undergo some short remission which is followed by an exacerbation. The duration of the fit is very various; it is finished in three, four, or five minutes, or continues two or three hours; but the most frequent duration is from five minutes to a quarter of an hour.

When the convulsion ceases the patient generally remains in a state of stupor and sleep for a time: from this state he sometimes relapses into the convulsion, and a frequent repetition of fits takes place; but more generally the comatose state gradually gives way to a revival of sensibility and consciousness; when this happens the patient complains generally of aching pain, and a sense of severe oppression in the head. Sometimes, though but rarely, the patient is able to get up and walk about almost immediately after the fit subsides.

The paroxysm of tetanoid epilepsy is similar, in some particulars, to the attack now described. The patient is seized suddenly; his limbs are stretched, and the whole trunk extended and fixed by a rigid spasm; the eyes are widely open; not reverted, but staring frightfully; the pupils contracted, and quite insensible to the stimulus of the strongest light: "Erigitur quoque penis in infantibus; in adolescentibus semen ejicitur, et sæpius urina ad magnam distantiam prorumpit*."

The convulsive and tetanoid forms of epilepsy, though very different in appearance, are yet very closely

* Hoffmann mentions this symptom. I have never observed it.

allied in pathology. Fits of both descriptions sometimes attack the same individual within the space of a few hours.

Variations in Symptoms.

There are great varieties in the symptoms of epilepsy.

We have already observed that there are examples of epileptic fits without convulsion; and that there are some which seize the patient instantaneously, while others are preceded by symptoms which give warning of their approach. Neither are the headache and stupor which follow the paroxysm universal symptoms: I have seen patients who recovered from the fit almost immediately, and scarcely complained of pain in the head. But these are not frequent occurrences.

The symptom in the appearance of which there is the greatest degree of regularity, is the state of stupor or insensibility during the paroxysm. In a very great majority of cases this amounts to a complete coma; the patient, for a certain space of time, is totally deprived of sensibility and consciousness; but I have seen cases in which, on the most attentive and careful examination, it appeared that a degree of consciousness remained through the whole paroxysm, and that the patient knew and distinguished the by-standers through the whole time*. This has been the usual

* Sauvages lays this down as a characteristic of uterine epilepsy; and Dr. Ferriar is inclined to follow him in this distinction. I am by no means of their opinion. After a diligent inquiry

character of the fits in some individuals, but it more frequently occurs as a prelude to the total abolition of the disease. Hence it may be considered as depending on a lower degree of the morbid state, which constitutes the proximate cause of ordinary epilepsy. I believe, however, that in all cases of epilepsy there is a perceptible diminution of sensibility; or, as Sauvages defines it, an "*Obscuration of the sensitive power.*" Sometimes this amounts to nothing more than a dimness of sight, combined with a feeling of languor and vertigo.

Most of these remarks will be confirmed by cases, of which I shall adduce in the sequel brief relations.

Epileptic fits occur during the waking hours, but they happen more frequently during sleep. There are many persons who are subject to their attack equally during sleep and when awake: others experience them only when asleep, and, for the most part, soon after falling asleep. In one case*, which was under my care, a fit scarcely ever failed to seize the patient immediately after he had fallen asleep; and this

respecting this point, in a considerable number of cases, it has appeared to me that there is no species of epileptic attack accompanied with a more complete obliteration of consciousness and feeling than those termed uterine; the instances in which I have had reason to believe that a degree of perception was retained during the fit, of which several will be mentioned in the sequel, are cases of a different description.

* As the case I have alluded to is somewhat remarkable, I shall subjoin here a brief account of it:—

Elias Stroud, a rustic labourer, of stout make, short neck, aged twenty-four years, enjoyed good health till about two years ago, when he was suddenly awakened in the night by a spasmodic

occurred even when he endeavoured to gain the repose of a few moments during the day-time. I have seen a child subject to fits, during the process of dentition, who was seized with the paroxysm in like manner almost as soon as he closed his eyes; and this recurred repeatedly through a whole night, while the disposition to the fit seemed not to exist during the waking state.

It must therefore be concluded, as many authors have remarked, that there is some peculiarity in the state of the brain during sleep, which is highly favourable to the appearance of the epileptic fit.

action of the muscles connected with the left shoulder, which violently extended the arm, and drew the head down to the shoulder: the muscular system was then affected generally: his senses confused, and, for the time, almost lost: the fit lasted four or five minutes, and left him in a tremor, which was succeeded by a perspiration. This affection has recurred every night since that time.

The only cause he can assign for it is, that about two years and a half ago he was thrown out of a wagon and fell on his shoulder, which he bruised, and broke the skin; but it soon got well.

The above account I received from a very intelligent gentleman in Somersetshire, who put this man under my care. His letter is dated January 2, 1816. This man soon afterwards came to the Bristol Infirmary, where a variety of methods were put in practice, with a view of relieving him, but without the smallest benefit. At that time his fits were epileptic paroxysms, which never failed to seize him immediately on his first going to sleep: they occurred during the day, if he happened to doze for a few minutes. He went out just in the same state, with respect to his disease, but very much reduced by the attempts made to cure him; and I have since been informed that his complaint continues.

The disease occurs in nearly the same degree of frequency in both sexes. It has been said to be more incident to the male than the female sex; but this remark is, as I believe, without foundation.

There is no temperament which is in a very decided manner more subjected to epilepsy than others. I have witnessed its appearance in every variety of habit, from the most exquisite examples of the sanguine to the most strongly marked melancholic. I have, however, observed a greater proportion of cases in persons of blooming and delicate complexion, and of light flaxen hair: and this remark particularly applies to a form of the disease which will be hereafter distinguished, and in which the proofs of a general plethora of the sanguiferous system are, perhaps, the most evident*. At no period of life is the body exempt from the attacks of this malady, but there are several occasions at which its commencement is more frequent than at others. It occurs in very young infants; in which case it generally arises from irritation in the bowels, and speedily disappears as soon as the exciting cause is removed. Again, during the first dentition, many children are assailed by it; and there is often in all, or many children of the same family, a predisposition to fits, when under the irritation excited by this process. But the disease thus produced generally ceases soon after the first dentition is completed. Epilepsy often appears, for the first time, about the eighth, or from that to the twelfth year; and it is under these circumstances

* See Chapter V. on Uterine Epilepsy.

that the greatest danger exists of its becoming an habitual disease. There is still a prospect of its subsiding in males at the age of puberty, and in females at the establishment of the catamenia; but if these periods pass over, and the disease subsist through the changes which the habits of the constitution then undergo, there is great danger of its continuing through life. But if the appearance of the catamenia sometimes assist the constitution to get rid of this disorder, it much more frequently gives rise to it; or, rather, the laws of the animal economy require a new set of operations to be set up in the system at this time, in the place of which, when they are not regularly performed, a variety of tumultuous efforts ensue; and among phænomena of this class none is more frequent than epilepsy. In fact there is no time of life, in females, at which it so frequently makes its appearance.

Hippocrates has said that epilepsy scarcely ever appears after the twentieth year of life: but as the authority of facts and experience is now superior even to that of Hippocrates, we are under the necessity of contradicting him in this instance. There is, however, thus far, a foundation in truth for his remark, that the appearance of this disease, after the age mentioned by Hippocrates, is much more rare than during the preceding periods of life. We must not, however, omit to mention, that persons in advanced age are particularly subject to attacks of leipothymia*.

* Very aged persons often become subject to fits of sudden vertigo, in which they fall to the ground, and sometimes speedily recover their senses; at others lie in a state of inconsciousness.

The predisposition to epilepsy, like the liability to all other disorders of the nervous system, is often hereditary, or appears to affect certain families. I had once a patient, who died about the age of twenty-five, from the effect of another disorder. He had laboured under this disease from infancy, and had fits within a few days of his death. His father had been subject to them from a very early age, but got rid of them as he became adult. A child of the first mentioned individual was seized with severe fits when a few weeks old, which recurred very frequently, and soon put a period to its existence. In this instance the predisposition seemed to increase with each succeeding generation.

I have alluded to the intimate connexion which appears to subsist between different disorders of the nervous system. One circumstance, connected with that observation, bears a reference to our present subject. I mean the fact, that a predisposition to epilepsy will sometimes appear in some individuals of a family, while their nearest relatives are affected by other maladies of the same class; as palsy, or connate idiotism: but the disorder to which, of all others, epilepsy would appear, from this and similar observations, to be most nearly allied, is mania. I believe these diseases more frequently pass into each other,

I have a relative, upwards of ninety years old, who has for some years been subject to this complaint. He generally rises immediately; but on one occasion lay some hours insensible. Another kinsman of mine, who died after attaining his eightieth year, was, during the last two or three years of his life, subject to fits.

and, what is more to our present purpose, more frequently appear in persons related to each other by consanguinity, than any others of the same class; except those affections which are strictly considered as merely modified appearances, or as sequelæ of the same disease.

There is another remark connected with hereditary predisposition, which I must not omit to mention before I take leave of this subject.

The predisposition to various diseases shows itself, in particular families, at certain periods of age. We often hear of phthisis pulmonalis appearing in many or all the children of the same parents, when they arrive at their seventeenth or eighteenth year. In other families a similar disposition manifests itself at a more advanced age. I know a family, formerly a numerous one, of which several members died of phthisis between the ages of twenty-five and thirty; two individuals, who still survive, after having passed over the critical time with difficulty seemed to lose all tendency to the disorder of their kindred. I could adduce easily many other facts, in proof of the observation that predispositions are often temporary, and occur at different ages in different individuals, and that these varieties prevail through families.

The same remark may be applied to the predisposition to the disease I am now treating of. I attended a gentleman, some time ago, of middle age, who was attacked by epilepsy: an elder sister of this individual had the same disorder some time before, and I subsequently witnessed the appearance of a convulsive disease, in which the characters of

hysteria and epilepsy were combined in a younger sister. They were all three attacked about the same period of life. All of them got rid of the disease; the two former have been, during some years, healthy; and the third, who is in other respects subject to severe diseases, has had no returns of her convulsive fits.

These circumstances in the history of the disease are of great importance, when we attempt the consideration of particular cases with a view to prognosis.

Terminations, and Consequences of Epilepsy.

1. Epileptic fits in children often terminate in sudden death; the cause of which is obscure, and hitherto unexplained by any appearances observed in dissection.

In more advanced years, and especially after the disease has become habitual, there is little danger of this event, unless the repetition of the paroxysms is very frequent. Sometimes a rapid succession of fits takes place, the patient falling into one almost as soon as he has escaped from the former. In this case there is great danger of the disease proving instantaneously fatal; or if the patient does not expire under the violence of convulsion, of his falling into a state of coma, from which he will not recover.

2. Severe epileptic fits give occasion to almost every modification of paralysis*. In fact, every

* I have this day seen a case in which epileptic fits in a child, three years old, were followed by hemiplegia. The child is of a plethoric habit: the first appeared while the variolous eruption was coming out: the third fit left the child hemiplegiac.

species of disease which is known to depend on lesion of the brain, is found to have resulted from this cause; among these a partial hemiplegia, and amaurosis, are some of the most frequent occurrences.

3. Whether the fits are very severe or not, the disease seldom continues long, especially if the recurrence is frequent, without giving rise to some diminution in the acuteness of the faculties. This first appears in the complaint, that the memory is impaired: in severe and inveterate cases there is a complete fatuity, or a state much resembling natural idiotism.

4. Another concomitant of epilepsy is that affection which has been termed "mania epileptica." It is, in fact, a fit of raving delirium, resembling the delirium of phrenitis, and probably depending on a similar physical condition of the brain. The first author who noticed this feature in the history of epilepsy, was, I believe, Dr. Mead*. It has been little, if at all, observed by subsequent writers, until the late Dr. Percival described it, in his valuable monograph on Mania. Yet it is of so frequent occurrence, that it can scarcely have been unknown to any physician connected with an hospital for the reception of patients subject to disorders of this class.

This affection, which I shall distinguish by the

* Dr. Mead, however, had a very erroneous idea respecting the nature of this affection. He remarks, "that the raving fits of mad people, which keep lunar periods, are generally accompanied with epileptic symptoms;" which, he adds, "was attested to me as a constant observation, by the late learned Dr. Tyson, formerly physician to Bethlehem Hospital, who upon that account usually called such patients 'epileptic mad.'"

term "epileptic delirium," generally appears when the patient is expected to revive from the comatose state consequent on a severe fit; but, in other instances, it appears without any previous fit. The face is flushed, and the aspect of the patient is like that of a man under intoxication; he attempts to start from bed and run about, and on being withheld, vociferates and endeavours to overcome resistance. Sometimes an appearance of maniacal hallucination displays itself, but more generally the disorder resembles phrenitic delirium. It commonly continues one, two, or three days, during which the patient requires confinement in a straight waistcoat, and then gradually subsides, and the patient returns into his previous state.

A remark which I have made, connected with this affection, is, that it has given rise to a suspension in the recurrence of the epileptic fits. This fact may be noticed in the history of a case inserted below*.

5. A more unusual circumstance in the history of epilepsy is the appearance of a species of somnambulism, or of a kind of ecstasis, during which the patient is in an undisturbed reverie, and walks about, fancying himself occupied in some of his customary amusements or avocations. This takes place during the waking as well as the sleeping hours.

This singular affection will be considered fully in a subsequent chapter.

* See case 14th, in Chapter V. below.

SECTION III.

Observations on the Pathology of Epilepsy.

I HOPE to be enabled to throw some light on the pathology of this disease by the cases to be adduced in the following pages, which, as before observed, will be distributed according to the functions, on disordered states on which they are supposed to depend. What I have to say at present on this subject will, therefore, be little more than the anticipation of results to be afterwards established; and the chief reason for now offering it, is to direct the attention of the reader into the train of observations to be followed out in the sequel.

The immediate cause of an attack of epilepsy, or that physical change which, in a constitution prepared by natural predisposition, or by the action of morbid circumstances, is the immediate precursor and occasion of the fit, appears to me, as I before hinted, to be a preternatural influx of blood into the vessels of the encephalon, or an unusual fulness in some part of the vascular system of that organ.

The reasons on which I found this opinion may be referred to the following heads:—

First, A consideration of the intimate relation and frequent mutual transitions, or conversions, of disorders of the nervous and cerebral system, connected with the certain knowledge which we have attained, that several maladies of this class depend on the state

of the circulation above described. On this subject I have said enough in the last chapter.

Secondly, A comparison of the circumstances which in a variety of instances are known to give rise to attacks of epilepsy. They are such as are found to occasion a morbid plethora of the brain.

Thus epilepsy often occurs in persons who have rapidly increased in bulk and fulness of habit: in men of indolent habits, who live luxuriously: the quantity of blood in the body being excessive, a slight change in its distribution occasions excessive local plethora.

It occurs in females who labour under suppression or retention of the catamenia, or when the flow is scanty and difficult. Such women are chiefly subject to the attacks at the periods of menstruation, when it is well known that in the defect of the natural relief of the system, a variety of morbid determinations take place, sometimes to the vessels of the stomach, occasioning violent gastrodynia with hæmatemesis; sometimes to the pulmonary vessels, giving rise to hæmoptysis; at others to the external vessels of the head, when the consequence is a profuse epistaxis: all these phænomena have been witnessed over and over again by every medical practitioner. When epileptic fits appear under the same circumstances, we have reason to believe that they arise from an analogous cause, viz. a determination to the vessels of the brain.

The appearance of epilepsy from metastasis is a phænomenon which leads to the same inference. After the repulsion of cutaneous eruptions, the drying up of old sores or artificial discharges, the retrocession of gout, rheumatism, or inflammations of serous mem-

branes, it is well known that inflammatory affections of various organs, and various local determinations, frequently ensue. And epileptic fits, as we shall in the sequel observe, occur under all these circumstances. The inference is obvious.

Under a variety of morbid circumstances, which are well known to occasion an inflamed state of the encephalon, epileptic fits, or phænomena very similar, occur in the usual course of things. The fits of convulsion, after severe injuries of the head, are examples of this description: we may add the paroxysms of the same kind, which sometimes happen in the acute stage of hydrocephalus, and in cephalic fever, in combination with other marks of cerebral inflammation: in this case they are sometimes, but not always, indications of suppurative inflammation: the fits which occur in children from dentition, appear to arise from a temporary affection of the encephalon of the same character; though obviously arising from the irritation occasioned by this process, they sometimes usher in hydrocephalus.

Epileptic fits occur sometimes in consequence of great muscular exertion, the effect of which on the circulation in the head is obvious: also from loud speaking. They are brought on by sitting in hot and crowded rooms. Violent emotions, which powerfully increase the action of the heart, have the same effect; as a sudden fright, giving rise to palpitation; or a paroxysm of rage. But I think there is no instance in the history of this disease in which we can more clearly trace the connexion of cause and effect, than when we find epileptic paroxysms to be the immediate

result of a violent fit of coughing. The reader will find at the end of this chapter an account of two cases, one of convulsive, the other of tetanoid epilepsy, which were occasioned by severe hooping cough: in one, if not in both of these instances, it is evident that the brain sustained a considerable injury; apparently from the violent impetus of blood forced into the cerebral arteries during the paroxysm of the cough *.

It must be confessed that the circumstances I have now enumerated do not include all the examples of epilepsy, and that the disease sometimes appears under circumstances which do not decidedly indicate the presence of that condition of the brain which I consider as the immediate cause of the disease: but as we have reason to believe that epilepsy, in the majority of cases, we may say in general, depends on the cause assigned, we may presume, or consider it as most probable, that the same condition is present in other instances, unless there is some reason to forbid this supposition: and this can scarcely be pretended.

The instances which seem most likely to furnish an exception to the pathological doctrine just laid down, are those cases of epilepsy which proceed from worms, or irritation of the intestinal canal. I believe I shall be enabled in the sequel to afford satisfactory proof, that in many instances at least of this descrip-

* See Note D., at the end of this Chapter.

The reader also will find in that note an account of two remarkable cases, illustrative of the same subject, which were reported to me by my friend Dr. Laird, physician to Guy's Hospital.

tion, the morbific cause I have suggested is actually present.

Thirdly, The phænomena of the paroxysm itself are such as indicate determination of blood to the head. Such are the flushed and turgid appearance of the face, the vehement action of the carotid, the dilated pupils, the stupor or insensibility which accompany the fit, as well as the vertigo which often precedes it, and the headache, with throbbing of the temples, which almost universally follows it.

Fourthly, The consequences of the disease lead to a similar inference, whether we regard the state of epileptic patients during life, or the appearances discovered on dissection after death. It is not an uncommon occurrence to meet with cases of epilepsy in which the brain has sustained so much injury, during a paroxysm of unusual violence, as to leave a permanent fatuity, or palsy, of some part of the muscular system, or of some organ of sense. In this way an hemiplegia, an incurable deafness, at other times, an amaurotic blindness, has often been occasioned.

The appearances displayed by dissection of the brain are various, and this is not the place for entering into any detailed account of them. In general, however, they resolve themselves into the evidences of inflammatory action. The appearances, by far most common, are a turgid state of the vessels which ramify upon the tunica arachnoides, and sometimes a reddened condition of the cerebral substance itself; effusion of serum into the cavities or on the surface of the encephalon. Tubercles are often found in the

brains of epileptics; but they appear to act as occasional causes, inducing, at times, local determinations to the head, as in a case mentioned in the last chapter, in which the presence of tubercles gave rise to repeated attacks of cerebral inflammation, which terminated in hydrocephalus.

There are indeed many cases on record, in which, after a patient has fallen a victim to epilepsy, no morbid appearance whatever has been discovered in the brain; and more than one instance of this kind has fallen under my own observation. In these cases it is probable that dissolution has sometimes been the consequence of the extreme exhaustion occasioned by the severe and protracted agitation of the paroxysm: and at others, has arisen from some sudden impediment to the process of respiration, either in a spasmodic stricture of the glottis, or in the disturbed or arrested action of the system of muscles which expand the thorax: or, perhaps, in some instances, from the spasm extending to the heart itself. Perhaps the immediate cause of death is some accident of this description in most of those patients who perish during some violent paroxysm; whether that paroxysm itself has been the result of some disease of function merely, as in the cases just now alluded to, or has arisen from the irritation of tubercles or exostoses. In other instances, however, as when there are indications in the encephalon of a high degree of inflammatory action, or of extensive disorganization, effected by a long subsisting disease, we may presume that the brain has

become so much changed in its structure, that it has been incompetent to perform its requisite functions, and death has ensued in consequence. Patients under these circumstances generally sink, not through the violent agitation of any particular attack, but by the gradual approach of coma.

NOTE D.

SARAH PONCHARD, aged nine years, was admitted an out-patient at St. Peter's Hospital, Feb. 9, 1821.

About three years ago she was troubled by severe hooping cough, which brought on fits of tetanic epilepsy. When seized with these fits she became stiff, and her limbs were stretched out and fixed. She laboured under these fits four months. She continued in a bad state of health after she got rid of the cough, and about two years ago was afflicted with a weakness and partial paralysis of the right side. This symptom came on suddenly, and after a short time she began to get the better of it. About three or four months ago she began to be troubled with involuntary jerking motions of the limbs of the same side.

℞ Ol. Terebinth, ʒss. in
Aq. Cinnam. cum Syrup. Tolu, ʒj. ter in die.

Feb. 23. She is much better, but is sometimes attacked by fits of vertigo, in which she is liable to fall to the ground.

Repeat the medicine.

March 9. She is continually getting better.

Continue.

—— 23. She can now walk very well; her limbs are stronger: yesterday she was seized with headache; and, for a time, talked in a wild and rambling manner. Her bowels are regular.

Six leeches to be applied to her temples.
Episp. ad nucham.
Pulv. Cath. gr. xv. omni nocte.

March 30. She has a troublesome cough; in other respects has no ailment.

Mist. Sal. Ant. Op. c. T. Scill.
Repet. Pulv. Cath.

April 13. She has now no disorder at all.

Discharged cured.

Elizabeth Howell, aged eleven, August 28, 1820, an out-patient at the Infirmary.

When nine years old had the hooping-cough. While labouring under this disease she was one night seized with a spasmodic stiffness of the right arm, which was soon followed by a general convulsion. From that time she has been subject to similar fits, which generally molested her about once in a fortnight; but lately she has been generally disordered, and has had febrile symptoms, which her mother attributes to a cold, and the fits have occurred three or four times in a night.

They always come on with a spasm of the right arm. Sometimes, if any body catches hold of the arm and rubs it, the affection goes off for the time; otherwise she is soon affected with the symptoms of an epileptic fit. She is convulsed; her eyes are reverted; she foams at the mouth; sometimes bites her tongue; afterwards she has a severe headache. What is remarkable is, that she retains consciousness and perception during the fit. At least her mother very confidently declares, that she repeats what has been said to her during that time. She often has severe vertigo.

Natural functions.—She has lost her appetite. Her bowels were, till lately, very costive, but are now open. She often complains of severe shooting pain in the abdomen; often shivers, and is feverish.

Pulv. Cath. ℈j. omni nocte.
Mist. Cath. ter in die.

September 3. She has taken only two powders in all, and a small quantity of the cath. mixture every day. The bowels have been open; no appearance of worms has been discovered. She complains of pain when pressure is made at the lower part of the belly on the left side. Pulse natural, slow; tongue white; headache relieved. She has had only two fits since she was here. The girl appears more collected; and, on being strictly questioned, avers that she never has lost her consciousness during the fits, but recollects all that happens during them.

Pil. Cath. 3. o. n.
Emuls. Tereb. cochl. j. t. d.

—— 6. Appetite better; fits less troublesome: she is now seized, about twice in each night, with the spasm of her hand, which has not gone up her arm: she has not had one severe fit, viz. affecting her head.

Repeat.

—— 13. One slight fit yesterday night: she has had three slight fits since she was here. Appetite natural. Is stronger, and feels better.

Affus. Frigida.
Emuls. Tereb. ʒij. ter in die.

—— 20. Spasms nearly as before; occur more than once in a night for the most part. Once she was affected with the severe fit. Bowels opened by the mixture; tongue white.

Soon after this period she ceased to attend. She had certainly derived benefit from the measures adopted, but they were not continued long enough to afford decided relief.

The other cases referred to, in page 104, I shall here insert in the words in which they were communicated to me by Dr. Laird.

" The first was that of a gentleman, about the middle period of life, and of rather full habit of body. He became,

early in the spring of last year (1820) the subject of cough, which recurred in paroxysms, and was at its commencement unattended by febrile excitement, approaching in its character to hooping-cough, which was at that period very prevalent, and which there was no certainty of his having previously had. As the paroxysms increased in severity and frequency, they were accompanied by much flushing of the countenance, and upon several occasions with entire insensibility; of short duration, however, and terminating in the expectoration of some remarkably tenacious and viscid mucus. During the state of unconsciousness the eyes were fixed, the tongue protruded from the mouth, the countenance bloated, and the pulse quick and weak. The difficulties by which the powers of life seemed in this struggle to be sometimes nearly extinguished, appeared to arise from stricture of the glottis; in the first instance probably of a spasmodic nature, and the danger by which he was threatened to be apprehended from instant suffocation. Under general and local loss of blood, inhalation, and the continued exhibition of conium, ipecacuanha, and mercury, the complaint gradually gave way; and there have been since neither any symptoms of pulmonary mischief, nor any disturbance of the functions of the brain."

"In the second case sudden insensibility; which, from the account I received at the time, partook more of the character of apoplexy than of epilepsy, was followed, in a few hours, by death; and on examination of the body, the lungs were found so gorged with blood, and the bronchial cells, with even the larger ramifications, so full of effused fluid, that it was made a question, by a surgeon of acknowledged skill in anatomical researches, whether any further investigation was requisite to account for the fatal event. On opening the head, the real cause was determined to be a considerable extravasation of blood at the basis of the brain, by which the substance of that

organ was lacerated. We have then, in these instances, an additional illustration of the mutual influence of the brain and respiratory system, in their respective conditions, and must admit the necessity of inquiring fully into the state and affections of each under any obscurity with regard to their pathology."

CHAPTER IV.

A GENERAL DESCRIPTION OF MADNESS.

SECTION I.

Outline of the History of this Disease.

THERE is no other disorder so difficult to describe as madness, and there is none of which so imperfect and erroneous ideas are entertained. It is common to found a general observation on some striking and often peculiar case. Of this kind is the remark, so frequently repeated, that madness begins in some single hallucination, or false impression, and gradually extends itself to other trains of ideas. In a great majority of cases the disorder seems, at its first onset, to involve every succession of images that passes through the mind. It is chiefly distinguished by a general incoherence of thought; the ideas appear scarcely to follow any connected course; the attention passes in a hurried manner from one assemblage to another.

There are indeed instances in which madness makes its approach gradually: a certain waywardness, or singularity of character, is observed for some time; perhaps for years, before the individual is set down by his friends as a lunatic. But in general the disease breaks out all at once: the manners of the patient are unusually impetuous, his conversation hur-

ried, his mind full of projects, which he pursues with restless activity. He betrays the absolute derangement of his intellect by announcing some false and absurd impression, or by acting upon it. When his attempt is resisted, or when by accident he explains the motive of it, his condition is at once made evident, and the necessity of restraint becomes obvious.

At the first attack of madness there is generally a considerable disorder of the whole system: febrile excitement; all the functions disturbed: the bowels are confined, the appetite impaired, and often there is an entire disinclination to food; the sleep is disturbed; the patient incapable of repose. The pulse is accelerated; the face flushed; the eyes red; the pupils contracted.

The ideas of the patient are often more incoherent at the commencement of madness than at a more advanced period. In this state of things, the mind sometimes rambles, from one object to another, so rapidly, that the association which connects the ideas can with difficulty be traced; it is often impossible to confine the attention of the patient for a sufficient time to allow of obtaining an answer to a short question respecting his health or feelings. As the complaint goes on, and the general excitement of the bodily functions lessens, the ideas acquire a greater consistency; the impressions still have the character to which the term of maniacal or insane is applied; but the thoughts occur in trains more evidently connected and coherent: the ideas are now found to be joined by new habits of association. The patient is now able and willing to

answer questions, though frequently he makes absurd replies; and, when under the influence of some vivid hallucination, becomes violent and intractable.

The disease often remains long in this state; there are sometimes relapses into the greater degree of incoherence; but in general the ideas become more settled and connected; until either the morbid impressions gradually disappear, and the same condition is insensibly restored; or they become more firmly, and, by degrees, indelibly impressed, and the patient turns out to be an incurable lunatic.

The character of this disease differs, in a variety of instances, from what may be regarded as the more ordinary description. It sometimes breaks out at once with paroxysms of the most violent and frantic rage. The lunatic regards every body as his enemy, and assails the by-standers with the most clamorous invectives. This form of madness is generally accompanied with a high degree of constitutional irritation; considerable excitement of the sanguiferous system; strong pulsation of the vessels carrying blood to the head; increased heat and thirst. It is in fact a more acute disease than the most common form of mania. On the other hand, those which are termed cases of melancholia are of a more chronic kind. In this disorder the patient is sorrowful and dejected; always dwelling on the most gloomy ideas; anticipating future evils: his imagination is not contented with spreading a shade of dreariness and despondency over the prospects of this life, but expatiates with greater freedom in the unknown regions of futurity. It is this tendency which has given rise to the common

epithet of religious madness. It is in cases of sorrowful or melancholy madness that particular hallucinations are most frequently observed; or instances of false impressions, connected with some particular trains of ideas, the mind retaining its sanity and coherence of thought on topics foreign to the subject of its delusion. The constitutional disorders, combined with affections of the melancholic class, are also by no means so acute as those which occur in frantic madness; a low degree of febrile action exists; often dull and oppressive pains in the head; a deficiency of the secretions, particularly those which belong to the intestinal canal; whence ensue anorexia, dyspeptic disorders, and torpor of the bowels, to a greater or less degree.

Melancholy madness is generally a permanent disease, especially when its progress has been slow and gradual. The other forms of madness undergo remissions, and the patient often completely recovers his sanity. The recovery in some instances is permanent; in others a liability to the disease remains, and the individual continues, through his life, subject to occasional relapses. This modification of the disease, which ought to be termed Recurrent Madness, has received the epithet of *Periodical:* a term evidently improper, since it is not meant to imply that the disease observes any definite period in its returns.

SECTION II.

Remarks on the Phænomena and Nature of Madness.

It seems to be generally acknowledged that there are few or no subjects within the range of medical inquiries encumbered with greater difficulties than a correct distinction of the characteristic circumstances of madness. Numerous are the definitions which have been offered, and soon abandoned, or proved to be incomplete. Of late it seems to have been considered as nearly impossible to lay down any absolute criterion by which the existence of this disease might be determined.

The confessed obscurity of this subject, and the many abortive attempts which have been made to elucidate it, would afford an apology for declining altogether to enter upon it. Since, however, the inquiry seems to relate to matters which do not lie beyond the reach of human observation, it ought not to be given up in despair. I shall therefore make an attempt to analyse the nosological character of madness, and to discover what are its peculiar and distinguishing phænomena. If this endeavour, as it is too probable, should fail, I shall only experience the fate of my predecessors.

The nosological writers in general describe insanity as consisting in some error of the judging or reasoning faculty. Sauvages has prefixed to the whole order of "Deliria" the title of "Errores mentis judicantis;" and yet there is no observation more trite,

and more frequently repeated even by writers of this description, than the remark, first made, as I believe, by Mr. Locke, that madmen reason correctly from erroneous premises. Dr. Cullen has entered in a more deliberate and systematical way into this subject, and after discussing the nosological ideas of his predecessors, he has given the following definition of *Delirium*; the term applied by him, and other writers of the same class, to the morbid state of the mind which belongs to madness. "It may," he says, "be considered to be, in a person awake, a false or mistaken judgment of those relations of things which, as occurring most frequently in life, are those about which the generality of men form the same judgment; and particularly when the judgment is very different from what the person himself had before usually formed."

This definition, like many others which have been offered, is defective in this respect, that it includes within the limit of madness a great number of persons whose peculiarities are more properly to be regarded as examples of caprice. In a certain paradoxical sense it has often been maintained that the majority of mankind are mad. But this comprehensive species of insanity is not the object which we wish to describe by a nosological definition. That kind of madness of which we stand in need of a distinguishing character, is something different from eccentricity or folly.

Dr. Cullen himself was not quite contented with this definition, for he afterwards adopts a different one, involving some additional circumstances. "Deli-

rium," he says, "may be more shortly defined — in a person awake, a false judgment, arising from perceptions of imagination, or from false recollections, and *commonly producing disproportionate emotions.*"

I think it very questionable whether there is any real ground for the additional remark contained in this definition. The emotions of a lunatic are indeed often vehement, and are forcibly expressed; but it may very well be doubted whether they are out of just proportion to the mental impressions from which they arise, or are in reality more vivid than those which many sane persons, of susceptible temperament, would experience, were they actually placed in the precise circumstances with which the imagination of the lunatic environs him. A madman will often fancy himself a king, and then he will utter expressions of violent indignation if he is not treated with all the respect and obedience to which his elevated station entitles him: but I believe there is many an autocrat who would be just as grievously affronted, if his royal honours were treated with as much freedom and contempt as the poor lunatic is fated to experience. Give the latter the obeisance which he fancies to be his due, and he will be infinitely gracious and condescending.

I believe it will be found requisite, in attempting to define or form a correct idea of the nature of madness, to exclude, as before hinted, all reference to the state of the judging or reasoning faculty. Indeed, the more I reflect on this subject, the more nearly I approach to a conviction that the judging faculty is in nowise involved in the calamity; that no defect of the reason-

ing power constitutes any part of madness*. Men indeed arrive every day at such diversities of opinion from the same data, that it seems impossible, by any rule or criterion, to define the limit of error which might be allowed without consigning the individual to

* A very remarkable and interesting case of insanity is recorded in the Gentleman's Magazine for 1762, which strongly exemplifies the observation that the reasoning power is retained by lunatics, and that they are capable of arguing correctly on the premises furnished by their hallucinations. This is the case of Mr. Simon Browne, a dissenting teacher, of great intellectual powers, who became convinced, to use his own expressions, that he had fallen under the sensible displeasure of God, who had caused his rational soul gradually to perish, and left him only an animal life in common with brutes; that it was therefore profane in him to pray, and incongruous to be present at the prayers of others." In this opinion he was inflexible, at a time when all the powers of his mind subsisted in their full vigour. Being once importuned to say grace at the table of a friend, he excused himself many times; but the request being still repeated, and the company kept standing, he discovered evident tokens of distress; and, after some irresolute gestures and hesitation, expressed with great fervour this ejaculation: — " Most merciful and Almighty God! let thy Spirit, which moved upon the face of the waters when there was no light, descend upon me, that from this darkness there may rise up a man to praise thee!" But the most astonishing proof of his intellectual excellence and defect is, " A Defence of the Religion of Nature and the Christian Revelation, in Answer to Tindal;" with a dedication to the queen, in which his hallucination discovers itself.

Cases analogous to this are by no means rare occurrences, though it is not usual to meet with instances in which the facts are of so striking a description.

The case of Simon Browne has been already extracted by Dr. Arnold from the Gentleman's Magazine, and inserted in his work on Insanity.

the imputation of insanity. Hence the difficulties with which this subject has been unnecessarily encumbered.

It seems likewise, for the reasons above hinted at, that we may exclude from the characteristics of madness any primary derangement of the emotions or passions. These, although they appear to us under a distorted aspect, are still in due proportion to the impressions from which they take their rise.

We shall cursorily survey the state of the other intellectual faculties*, and endeavour to reduce the field of observation within narrow limits.

There are diseases in which sensation is erroneous or impaired; but these are totally distinct from madness. Erroneous sensation occurs in the dilopia or double vision, in the paracousis and parageustia of nosological writers; but in these cases there is no correspondent error of perception. The false impression on the organ of sense is immediately corrected by the mind, and no mistaken apprehension takes place. Disorders of this class are quite distinct from those cases in which the perception is depraved, so that the mind apprehends the presence of objects which are not really presented to the organs of sense, and of which there is no actual sensation. In the former case, there may be said to be sensation without perception; in the latter, perception without sensa-

* I purposely omit to make any reference at present to the active principles, and the question, whether they are the subject of disease in madness: for if it be the case, it is a comparatively rare occurrence, and the consideration of it cannot enter into our idea of the pathology of this disease in its ordinary form.

tion: whereas in the healthy state of the organs and of the brain, perception is connected with sensation as its proper and inseparable consequent.

Neither can madness be said to consist chiefly and essentially in any error or defect of the power of perception, distinctly considered; since lunatics in general have very acute perceptions, and distinguish very clearly and correctly the persons and objects that surround them. It must be allowed that confused and indistinct perception may be observed to take place in some states of disease which arise occasionally in the course of madness. The ravings of a maniac are also, on some occasions, so incoherent, that it is difficult to distinguish in them the proofs of his possessing the power of clear perception: still it cannot be thought that any defect of this faculty is a general or characteristic trait of the disease; since lunatics, in general, amidst all their hallucinations, evidently possess the power of perception in a very perfect state.

If, then, we determine to exclude from our idea of madness the above-mentioned classes of intellectual phænomena, viz. sensation and perception, as well as the reasoning or judging faculty, we at least reduce our inquiry within narrower bounds. But what now remains? What are we to regard as the essential circumstances of madness?

It will be found, if I am not mistaken, that the faculties of the mind, to which we must direct our chief attention in investigating the nature of madness, are memory and imagination, or reverie; and, in fact, that the habit which characterizes a lunatic is that of

confounding the results of these two mental operations, and mistaking the ideas of reverie for the impressions of memory and reflection.

We may remark, that the mind, when it is not occupied in receiving new impressions from external objects, or in exerting the faculty of perception, is in one of two states, or habitudes, which are, in some respects, opposed to each other. It is during the waking hours never absolutely vacant, but is ever occupied by a succession of ideas, which may be said to pass over it with various degrees of rapidity. But although the mind is never altogether vacant of thoughts, there is, during the waking hours, a state of exertion and a state of repose. In the former of these, the attention is alive; the mind is in a state of energetic reflection; it recalls impressions in a particular mode, of which one characteristic circumstance is, that it is attended with the consciousness of a voluntary exertion; it compares ideas; it actively pursues certain associated trains of thought to the exclusion of others; it judges of true and false. This condition of the mind may be termed the state of active reflection. But when wearied, or otherwise indisposed to any pursuit that requires the active exertion of the faculties, the mind sinks into an opposite state, which is one of inactivity and repose. The ideas that present themselves follow their own course, or succeed each other in those trains in which they spontaneously occur. This latter habitude may be termed the state of passive reverie. It is that condition into which the mind naturally returns when it has no motive to exertion; when approximating to

the state of sleep, or when it suffers itself to be idly amused by the current of floating images. Like other mental states, it is described by figurative terms, borrowed from sensible objects, and other obvious analogies: of this kind are the expressions, fantasy, imagination, day-dreams; building castles in the air. Sometimes, in these processes, the feelings become more or less interested; occasionally they are so much excited that the attention is again awakened, and the mind is roused into its posture of active reflection.

In ordinary circumstances the mind possesses the power of immediately distinguishing the impressions produced by these two modes of mental operation from each other: the images, or assemblages of ideas, which occur in combination during the state of reverie, are recognised as such; and the recognition is attended with the persuasion that such impressions are fantastical and unreal: and those assemblages of thoughts, which were combined by active and attentive recollection and reflection, are distinguished by the mind as such; and the recognition is attended with the conviction of their truth and reality.

Now, if we suppose the power of discriminating these phænomena to be lost, or if the impressions of reverie should become so modified and altered that the mind is unable to distinguish them from those of reflection, let us consider what will be the result. The power of accurate perception will yet remain; and judgment, or the reasoning faculty, may still exist unimpaired, and be exerted with energy and clearness, upon those materials which are presented to it: but the mind will, nevertheless, be a complete chaos: the

individual thus affected, will no longer be able to distinguish truth, or matter of fact, from the most whimsical suggestions of his imagination. If in the course of his day-dreams he has represented himself as possessed of all that his heart most desires, as great, opulent, or renowned, he becomes so in real belief: if his temper is vindictive, and he has been dreaming of the satisfaction he should enjoy in punishing his enemies, were he powerful and possessed of authority, he becomes a king or an emperor: if of a timid and desponding mood, and in the habit of brooding over griefs and fears, and placing himself in imagination under some extreme agony, or imminent danger, the phantasm is converted into a substantial conviction, and he retains the belief that such is his predicament, as clearly as if the impression were founded on realities; he is overwhelmed with despair*.

Such appears to be the condition of the madman: his reveries,—the character of which depends upon the native bias of his temperament, or upon his previous habits,--even the most idle and fantastical of them, produce upon his mind the same effect, and leave exactly the same impression, as in a sane person

* The hallucinations of the maniac generally refer to a class of ideas with which his former habits of mind have rendered him familiar. In a healthy state his reveries would turn upon such subjects, but they would be conceived in a different way, and would present themselves to the mind as unreal phantasms; whereas now they appear, some of them at least, as truths. Mr. Haslam has mentioned the case of an usher to a school, who fancied himself a kinsman of Anacreon.

takes place through the medium of actual perception, or of the assemblage and combination of the ideas of perception, by the active exertion of memory and reflection. To sum up this account in a few words, the character of madness seems to consist in the circumstance that the *impressions of reverie are so modified by the disease as to be no longer distinguishable from those of attentive and active reflection.*

There is one form of madness which may be thought to differ from this description, and to involve circumstances which I have excluded from it; I allude to those cases of maniacal affection, in which the lunatic fancies that he perceives things and persons as actually present, when they have no existence, or are absent. In this instance it may appear that there is an erroneous perception. I believe, however, that even cases of this description will be found, on a little consideration, to be quite consistent with the account I have given of genuine madness.

When the maniacal hallucination becomes exalted to a very intense degree, it represents unreal objects as actually present: some particular phantasms, the creations of reverie or imagination, are presented to the mind in such vivid colours as to produce a similar effect to that of actual perceptions; the patient in other respects makes no mistake with regard to place or time; his perceptions of surrounding objects are correct and uniform, whenever his attention is directed to perceptible things; but he is so intent upon his reverie, that for the most part he totally neglects them: his fancy becomes so intense in its operation

as to carry him away from the influence of his external perceptions, and to environ him with visions of unreal scenes*.

I have seen a lunatic under this form of disease, walk up and down a street sufficiently alive to external objects to avoid falling in the way of horses and carriages, or running against foot-passengers, but so intent upon the scene presented by his reverie, as to be busily employed in issuing commands to troops of soldiers, of which he imagined himself to be the general, and directing them to enfilade to the right and left, and perform a variety of evolutions. All this he performed with a voice and gesture which were perfectly natural, and consistent with reality.

To this modification of madness belong those maniacal hallucinations, termed by some authors idolo-mania, or dæmonomania; in which the lunatic fancies that he sees and holds conversation with imaginary beings. The conception of the mind is so vivid and intense, that it withdraws the attention entirely from surrounding objects; of which, nevertheless, there is no actual inability to form a correct perception; and represents the phantasm as an object

* This is analogous to the case of the lunatic mentioned by Horace, whom he considers as more sane than the majority of his countrymen.

——— Fuit haud ignobilis Argis,
Qui se credebat miros audire tragœdos,
In vacuo lætus sessor, plausorque theatro;
Cætera qui vitæ servârat munia recto
More; bonus sanè vicinus, amabilis hospes,
Comis in uxorem, posset qui ignoscere servis.

really present. In one instance, which fell under my notice, a person who was liable to this affection would reply to a spectre which appeared to him, and at the next moment speak rationally to persons who were really present, and who called off his attention from the phantasm. Perhaps a similar phænomena to this may depend occasionally on an affection of the perceptive and sensitive faculty: but this case, if it occurs, seems to be distinguished from those which are strictly of the class of maniacal hallucinations, in which the false impression is connected with reverie.

It would be easy to fill a volume with cases of this description, but it would answer no useful purpose. It is sufficient to establish the existence of this form of disease, and to discriminate it from others. This affection, in which the fancy conjures up an unreal scene, and represents it as actually present, may be termed, by way of distinction, ecstatic mania. It is a rare phænomenon, if we compare it with those cases in which the hallucination refers to past occurrences, or leaves, at least, the perception of the present scene undisturbed by the intrusion of phantoms*.

The affection, which I have denominated ecstatic

* Dr. Cullen has remarked, that in madness "there is sometimes a false perception, or imagination of things present, that are not; but this is not a constant, nor even a frequent attendant of the disease. The false judgment is of relations long before laid up in the memory." First Lines, Par. 1558. This observation would have been perfectly correct if he had said that the hallucinations seldom refer to the scene actually present, but to the impressions of memory.

mania, has a near relation to the phænomena of somnambulism, or ecstasis, as I shall hereafter have occasion to observe. These affections probably depend on similar morbid conditions of the brain.

But to return to the description of mania, under its usual aspect, I have been led to conclude that it consists in such a modification in the impressions of reverie, as renders them no longer distinguishable from those of attentive recollection or reflection. How such a modification can take place cannot be explained, while we continue so ignorant as we now are of the functions of the brain. We know not by what physical cause those affections of the mind are produced which are termed impressions of memory, and which, in the healthy state, are attended with the conviction of reality; nor do we know in what respect these operations differ from those which are peculiar to the phænomena of reverie; we are therefore not prepared to explain how the former can be changed into the latter. The difficulty, however, of conceiving that such a change may happen will be diminished by adverting to the conclusions obtained in the foregoing inquiry into the functions of the brain.

We have found reason to conclude that a certain momentary change in the configuration, or otherwise in the physical condition of the cerebral structure, takes place in conjunction with, or rather precedes, or is at least intimately connected with every individual perception in the mind. This operation in the brain is a thing totally distinct in kind from the consequent perception; but it is in the present con-

stitution of things the requisite instrumental cause of every perception. As it is subservient to perception, I shall term this operation of the brain the perceptive action; meaning always by this expression to designate, not the mental phænomenon of perception, but that change in the configuration, or otherwise in the physical condition of the organ, which is its uniform antecedent.

But perception is not the only mental phænomenon which is produced through the instrumentality of an organic process in the brain; a particular change in the state of the organic structure precedes every act of memory, or takes place whenever any idea, originally the produce of perception, is again suggested to the mind. We have found reason to extend this conclusion not only to the phænomena of recollection, but to those of reverie or imagination. It appears then that a certain operation in the brain is the physical cause of each impression of memory, as well as of every phantasm which is presented to the imagination.

An impression of memory bears that sort of analogy to the corresponding perception, which renders it probable that the organic operation by which it is preceded is, to a considerable extent, similar to that operation through the agency of which the idea was originally presented to the mind. We may regard it as probable that these operations in the organized fabrick, in whatever changes they respectively consist, are similar in kind; that they are in reality modifications of a similar process: in other words, that the organic operation, which re-suggests an idea, is a

repetition, under some modification, of the perceptive operation, which first impressed it.

If this be granted, it will scarcely be disputed that a similar relation probably exists between the organic operations, connected with the phænomena of reflection and memory, and those of reverie or imagination: or that the operations of the brain, which belong to the latter class, are merely modifications of those belonging to the former.

We have then only further to suppose, that in a diseased state of the brain this distinction is abolished: that the two processes, always analogous, now pass into each other, or are confounded, and we shall form a probable theory of the nature of insane hallucinations; and conceive how it may happen that the impressions of reverie become so analogous to those of memory and reflection, that the phænomena of one class can no longer be distinguished from those of the other.

Whether this transition of the organic operation of reverie, into that belonging to recollection, consists in a morbid increase in the intensity of action in the organic structure of the brain, or in what other diseased change it consists, we shall never be enabled to explain, unless we discover the nature of those operations by the instrumentality of which the mental phænomena are developed.

What I have here said in allusion to the operations of the brain is merely proposed as a conjecture, which the reader is at liberty to adopt or reject, as he prefers. Whatever opinion may be formed respecting it will not, in any degree, involve the preceding

attempt to analyse the morbid phænomena in which madness or lunacy consists.

SECTION III.

Continuation of the same Subject.— Varieties of Madness, distinguished by Authors, reduced to the foregoing Description.— Dementia, or Incoherent Insanity.— Supposed Derangement of the Active Powers, or Madness without Delirium.— Disorder affecting the Temper.

In the foregoing section I have attempted to draw an outline of the theory of maniacal hallucinations. I shall now proceed to consider whether it may serve as a general description, or only applies to some particular cases of madness.

Nosological writers have divided this disease into a variety of species, which they regard as different affections. Are these only accidental variations, or must it be allowed that there are in reality several distinct kinds of insanity?

A most elaborate classification of the different forms of insanity occurs in the work of Dr. Arnold. All his diversities, however, reduce themselves under two principal varieties, which he terms Ideal and Notional Insanity. The former he describes as a disease of the faculty of perception: *the patient perceiving* external objects erroneously, or forming false ideas respecting things present to his senses. In the other species, or *Notional Insanity*, the author supposes the faculty of perception to remain unimpaired, while *the judgment is disordered, and forms erroneous*

and unreasonable notions respecting the relations of things; as when a man fancies that he is ruler of the elements, or has the power of flying through the air.

I have already endeavoured to show that hallucinations of this description are explicable without supposing any disorder of the judgment, or the reasoning faculty; which faculty the lunatic possesses, and can exercise when he will, in a powerful manner, even on the false premises which his imagination sets before him. His hallucinations are the suggestions of a wandering phantasy or reverie, which he mistakes for the impressions of recollection and reflection. This is the true character of Dr. Arnold's notional insanity. Again, when the lunatic is so intent upon his day-dreams that his attention is entirely withdrawn from external objects, as in that form of the disease which I have termed ecstatic mania, the case assumes exactly that description to which Dr. Arnold affixes the term of ideal insanity. In this instance the fact seems to be, that the perceptive power remains unimpaired, except in some particular cases; but the attention is wholly absorbed in the unreal scene conjured up by the imagination.

There is a common modification of this disorder, which is termed by Dr. Arnold "incoherent insanity," and by Pinel "dementia." The patient is perpetually muttering or raving in an incoherent manner, and passing so rapidly and incessantly from one train of ideas to another, that it is sometimes impossible to trace any connexion or association in his thoughts.

If this were a distinct and permanent character of

disease, it would seem to afford countenance to the opinion, that madness consists in a disordered state of the association of ideas. This was the conjecture of Mr. Locke. But it is in reality only a casual modification, often an aggravation of symptoms, and frequently gives way to a different state. I have witnessed a transition from this incoherent raving, in the space of twenty-four hours, to the ordinary maniacal reverie; in which the ideas, though turning on the same hallucinations, followed each other in connected trains, which were not too rapid in their transitions to be traced.

I may observe that, in order to be enabled to unravel the strange and whimsical combinations of thought, which are often to be observed in the wanderings of a maniac, it is necessary to advert to the new associations which have been formed since the commencement of his disorder. The susceptible mind of a lunatic speedily admits new catenations of ideas; the principle of which is nothing else than the accidental fact of their successive occurrence. Ideas of objects, which have been presented to him in succession, will afterwards suggest each other, and the most whimsical and incongruous combinations of thoughts are thus brought together and permanently connected. These phænomena, which, when explained, are found to depend upon well known laws of the system, are exceedingly perplexing to a casual and uninformed witness.

Before we dismiss the consideration of the theory of madness, we must endeavour to arrive at some conclusion on the question, whether there is a species

of maniacal disease, in which the active powers are primarily disordered, without any affection of the intellectual faculties. Such cases, if they exist, will require a very different pathological description from the preceding, and lead to a very different theory.

I must allow that there is a common persuasion among physicians that such a disease exists. It is even described, by M. Pinel, one of the best practical authors on the subject of madness; who has adduced cases, which he regards as decided examples of this character. This species of disease is termed, by M. Pinel, "mania without delirium;" that is, madness without any lesion of the understanding. The victims of this dreadful malady display a propensity to violent paroxysms of rage, which exerts itself upon every person indiscriminately who happens to come in their way.

Notwithstanding the authority of general opinion, and, what is of more consequence, the testimony of such a writer as M. Pinel, I cannot persuade myself of the accuracy of the reports on which the existence of this disease rests. That a human being, in the possession of a clear understanding, having, therefore, a correct apprehension of social relations, of his own interest, and what he owes to others, should be suddenly transported by a paroxysm of rage, without any incitement in what seems to be universally and necessarily connected with the movements of anger, I mean an apprehension of real or unreal injury or offence, would be a phænomenon quite at variance with the known laws of human nature. A passion or emotion taking place in the mind,

implies an impression or idea adequate to call it forth. An emotion without a corresponding impression on the understanding, is like a volition without a motive, or like an effect without a cause.

It may be replied that this remark is well founded, in so far as it relates to a sound mind, but that madness subverts, or throws into confusion, the processes of the mind.

It must be allowed that the mental phænomena take place, under disease of the brain, in a different manner from that of the healthy state. Still, however, the same laws govern these operations, though their action is disturbed and thrown out of its usual course. But such a phænomenon as that of a man rushing with eagerness to commit the most atrocious murders, under the influence of ungovernable fury, without any impression on his mind that is calculated to excite anger, even without any fancied ground of offence against his unfortunate victim, cannot be imagined to result from the operation of any natural causes. Such a maniac must be literally possessed by a dæmon: his action is not that of a human being, however insane. Yet M. Pinel describes this as the proceeding of a man, who, in the common sense of words, must be called sane, as being in full possession of his intellectual faculties.

I am convinced that experience will not support this representation. All the atrocious murders committed by lunatics have been perpetrated under some hallucination. A hundred celebrated instances of such commissions on historical record, will occur to every reader. Such facts are allowed on all hands to

be extremely rare, and hence the probability increases of an incorrect report.

I believe the true explanation of these phænomena to be the following. The individuals who are the supposed subjects of this affection, are, in their ordinary state, free from any maniacal illusion, and are hence supposed to have an undisturbed possession of their intellectual faculties: but they fall at certain periods under the influence of some sudden hallucination, which excites their rage to a vehement degree, and gives rise to atrocious attempts. Perhaps this sometimes amounts to nothing more than a vague and undefined impression of some grievous injury or affront, inflicted upon them by the person against whom their malice is directed. It often happens that the imaginary cause of anger is studiously concealed; and hence the opinion may have taken its rise, that the paroxysm of rage has arisen independently of any such impression*.

I may observe, that in all those instances of madness, which have been represented to me as examples of disorder affecting the active principles, without lesion of the understanding, I have discovered, on adequate inquiry, that the case was in reality otherwise. After minutely interrogating such patients, I have traced some latent impression, which has

* It must have been observed by every medical person, who has the care of lunatics, that they sometimes acquire the habit of concealing their impressions, particularly if frequently questioned respecting them, and that it requires some art and address to bring them to the subject without putting them on their guard.

sufficiently accounted for the change observed in the feelings or affections*.

It has often been observed that insanity reverses the whole moral character; that the habits and propensities undergo a complete revolution; that the temper becomes completely altered: but even in cases which verify this statement, a disorder of the understanding, or some prevalent illusion, often gives rise to the peculiar tendency. The habits are also very much under the influence of the internal sensations which arise from the state of the natural functions, and the impression they give to the temper and spirits. When the stomach is oppressed by imperfect digestion, and all the secretions are performed with difficulty, a constant irritation is thence excited in the system, which occasions peevishness, fretfulness, and low spirits, in a person accounted sane, and gives a moody and discontented turn to his thoughts: the

* I have at different times seen a number of maniacal patients, whose disorder has appeared, on a superficial view, to consist in a deranged state of the pathemata, or feelings. In all these cases, after an accurate examination, I have discovered some morbid bias of the understanding, some hallucination, more or less strongly marked, which has been sufficient to account for the phænomena. This species of disease generally appears in occasional paroxysms: during the intervals the patient is tolerably sane, and, if questioned at these times, he will exhibit no disorder of the understanding; but when the attack of his disease comes on, he is found to be under the influence of some illusion.

It has been remarked, that this occasional recurrence of violent paroxysms is the particular form which madness assumes when combined with epilepsy. I have seen several instances that were by no means in accord with this observation.

same causes acting on an insane person determine the complexion of his hallucinations. Thus we find melancholic patients, for the most part, dyspeptic; a fact from which the very term of hypochondriasis had its origin. On the other hand, when all the internal functions go on easily and prosperously, a general sense of animal enjoyment, a perpetual state of comfortable and pleasurable feeling arises, by which a cheerful flow of spirits is promoted. This state is liable to interruption in every instance of disease; but, as far as it exists, it determines in a great measure the natural temper, and has a great influence on the general habits.

SECTION IV.

On the Pathology of the Brain in Madness.

WITH respect to the pathology of the brain in mania, most of the observations offered on the subject of epilepsy might be repeated. On the appearances of the brain after death I shall make some further remarks in the course of the following chapters; where they will be most properly placed, as bearing immediately on practical conclusions.

It has been a common complaint among morbid anatomists that nothing has been found in the brains of maniacs sufficiently distinct to elucidate the disease. The fact is, that they have looked for some peculiar phænomenon distinctive of this particular malady; whereas, if I am right in the observations I have

made on the nature of nervous disorders, all that can be expected to be found are the common vestiges of increased vascular fulness, whether inflammatory or congestive, if there be, as it is commonly, and, I imagine, correctly thought, any difference in these states. To the effect of increased vascular action I suppose we may refer all the phænomena usually found in the brains of maniacs; without excepting that preternatural hardness, so often mentioned by authors, or even the depositions of bony matter, which are frequently seen about the processes of the dura mater.

I shall dismiss this subject for the present with the following complaint of M. Pinel. He says, "I have attended at thirty-six dissections in the hospital of Bicêtre, and I can declare that I have never met with any other appearances within the cavity of the cranium than are observable on opening the bodies of persons who have died of *apoplexy*, *epilepsy*, *nervous fevers*, and *convulsions*." "From such data," he adds, "what light can be thrown on the subject of insanity*?" This remark, however, pronounced as it is in a manner so unsuspicious, is calculated to throw much light upon the subject, in the point of view in which I am now contemplating it.

* M. Pinel on Insanity. Translation, p. 183.

CHAPTER V.

OF EPILEPTIC AND MANIACAL CASES, DEPENDING ON THE STATE OF THE UTERINE FUNCTIONS.

SECTION I.

Remarks on the Pathology of Nervous Diseases, connected with the State of the Uterine Functions.

BEFORE we proceed to consider the phænomena of these affections particularly, it is necessary to premise some general observations on the pathology of diseases in the nervous system which take their rise from the circumstances of the uterine function, or depend on that state of the constitution which coincides with the appearance or cessation of the catamenia.

It is well known to every person who has paid any attention to the phænomena of the animal economy, that the constitution is endowed with a power of giving rise to variations in the distribution of blood; in other words, that the proportional quantities of blood flowing towards different parts are subject to changes, which take place according to certain laws, and in relation to particular states of the system. The utility of this resource in the animal economy is very evident. In many instances the functions requisite for the preservation of the individual, and the maintenance of the species, could not, according to the present constitution of nature, be carried on without it. For example, the fœtus could not grow and

be developed, or the uterus undergo the changes that are necessary, if a much larger proportion of blood were not determined towards it, during the period of gestation, than what it has been accustomed to receive under ordinary circumstances. At the end of this period a new determination is required, and actually takes place. The vessels conveying blood to the mammary glands become enlarged, the breasts swell, a secretion of milk ensues for the nourishment of the infant. The ordinary proportion of blood would be very inadequate to this supply. These are the most striking instances of the phænomenon I allude to, which the physical history of the body displays; but it is probable that less obvious changes of the same kind happen every hour, according to the requirements of the system. To every gland, at the period when its secretion is to be increased, it is probable that an augmented flow of blood takes place; and it has often been conjectured, not without reason, that the state of the brain, which gives rise to sleep, is brought about by a temporary plethora, induced in the vascular system of the encephalon.

We are as yet unacquainted with the methods which nature employs for bringing about this change: it is obvious, indeed, that the last step in the process which gives rise to the determination of blood towards a particular organ, is a dilatation of the vessels of the part; but by what previous means, or owing to what peculiar contrivance and arrangement of physical agencies, it comes to pass, that a particular set of vessels dilate, or that their calibre becomes greater than it was before, just at the time when a greater

flow of blood than usual is required in the organ which they supply, or how, when the temporary exigency is over, the distribution of that fluid is brought again to its former state, we are, at present, unable to discover. We can say, indeed, that this effect is a part of the operation of the Vis medicatrix, or conservatrix Naturæ; but this is no explanation.

But we are not here considering this subject in a physiological point of view: the foregoing remarks have been made in order to prepare the way for some observations, which may tend to illustrate the pathology of the diseases we are employed in investigating. We observe in the first place,—

1. That particular determinations of blood are not incidental or insulated phænomena, but have certain relations to the general state of the animal economy.

2. That the arrangement or method in the system by which these phænomena are brought to take place, is liable to partial disorders; in consequence of which determinations happen unduly, or at times, and in modes and degrees pernicious rather than salutary.

Among the circumstances connected with these remarks, one of the most important is the fact that particular determinations supply the place of, and in a certain way succeed each other; and that, after one determination has subsisted for some time, so that the energy of the system has been exerted during a period in one particular direction, when it ceases, a necessity for some supplementary or vicarious action seems to have been created; so that, if, owing to any impeding circumstance, a new healthy determination does not ensue, a morbid one is very apt to follow.

The constitution is subjected to a sort of tumultuous action, irregular efforts take place, and disorders are set up in various functions. We shall find the most striking illustrations, and at the same time unexceptionable ones, of these remarks among morbid phænomena. It is well known, for example, that after an old sore or artificial drain, which has discharged much for a long time, has been dried up, particularly if it be done suddenly, a determination to the head is very apt to ensue, giving rise to vertigo, headache, and sometimes to apoplexy. It is equally well known, that after some cutaneous eruptions have been repelled, disorders of the stomach or other parts frequently ensue; and that, after habitual epistaxis or hæmorrhois has ceased, the constitution is liable to other hæmorrhagies or undue determinations.

On the other hand, it has frequently been observed that natural and healthy determinations will sometimes supersede and overcome morbid phænomena of the same description. Thus pregnancy is well known to suspend the progress of pulmonary phthisis, and even to supersede that disease as long as the new and temporary condition of the system continues.

This undoubted fact in physiology serves to illustrate, to a certain extent, the theory of menstruation; so far, I mean, as to point out what purpose it answers in the animal economy. The female is subjected to circumstances, which, if it were not for this provision, on the principle just adverted to, would render her liable to extreme dangers. So great a portion of the vital fluid, so much of the energy of the constitution is directed in a particular channel

during gestation and the subsequent period of suckling, that after these exertions have ceased the system would be subject to a formidable train of maladies, from irregular determinations, if nature had not provided a supplementary resource, to divert the accumulating energy of the constitution into a particular channel. Such a resource is afforded in the periodical returns of the catamenia.

As the female constitution is designed to undergo the occasional effort of pregnancy, and as menstruation is the destined successor and supplement to this temporary exertion, the periodical determination to the uterine vessels constitutes a part of the original arrangement, or systematic relation of functions, in the female economy. It takes place about the age when the growth is nearly complete, and the energy of the system is no longer required for the evolution of the frame.

The female constitution being so by nature arranged, if from any accidental cause the vascular fabrick of the uterus does not assume its proper action at the time when it comes to hold an important place in the system of natural determinations; or if, after it has performed its office, this function becomes suspended or suppressed, all the evils follow, which, from the preceding observations, might be calculated upon. Morbid determinations take place in consequence. These are various in kind. The pulmonary system, as it is well known, often suffers; not unfrequently the gastric; and the stomach is then the chief seat of morbid symptoms; we have gastrodynia and hæmatemesis: but no other part of the con-

stitution is assailed more generally than the nervous fabrick, and we thence witness the phænomena of epilepsy, hysteria, mania, apoplexy, and a variety of other diseases.

These considerations may be applied, perhaps, still more directly and obviously to explain the origin of various diseases which occur soon after delivery. A considerable and long continued determination to the uterine system having ceased, other supplementary actions speedily ensue. Sometimes these have the character of healthy processes, as when a free and copious production of milk takes place, and is followed in due time by a restoration of the catamenia. In other instances the determination gives rise to disturbance in the economy, or to morbid phænomena; as when puerperal peritonitis, or phlegmasia dolens occur, or some pulmonary or other chronic disease, which gestation had suspended, becomes now renewed. If the brain is the part that sustains the impetus, and there be any predisposition to a maniacal state, the same cause gives rise to an attack of puerperal mania.

On a similar principle we may explain the fact, that women, who attempt to suckle their children when the secretion of milk is very scanty, become liable to hysterical complaints, and sometimes even to maniacal paroxysms. The expenditure of blood, and the determination towards the mammary system, is just sufficient to divert the constitution from restoring the determination to the uterus, and is yet too sparing to afford relief by its own effect.

It affords confirmation of these remarks to observe,

that pregnancy, when it takes place, arrests the course of those diseases, which seem to arise from scanty or absolutely deficient menstruation. This effect, indeed, is apt to ensue when any new determination is set up, whether it be morbid or natural. Under the former head some cases fall, in which uterine epilepsy has ceased on the appearance of a disease in the lower limbs, somewhat resembling the phlegmasia of lying-in women: of the latter, I believe the instances would be much more frequent if the circumstances, under which the result may be looked for, more commonly took place.

Before we take leave of this subject it will be proper to observe, that different constitutions differ very considerably with respect to the degrees of relief which they require through the medium of the catamenia, in order that the health of the system may be maintained. What would be adequate and abundant for the safety of one constitution, is scanty and defective in another. On this account we must not always conclude, when we are told that the flow of the catamenia is regular and apparently natural in the quantity and duration, that the source of disease may not lie in the state of this process.

SECTION II.

Outline of the History of Uterine Epilepsy.

THIS disorder chiefly affects young females of the sanguine temperament; I mean those who have fair and ruddy complexions, light sandy or reddish hair, light eyes, with a full developement and vigorous action of the sanguiferous system, and a delicate and irritable constitution.

It makes its appearance, in general, about the age when the catamenia usually commence, or at no long period afterwards, and before the long habit of recurrence has given this function a firm hold in the constitution. There are, however, cases in which it has taken place at a later period of life, when, from any accidental cause, the flow of the catamenia has been obstructed.

In many instances the catamenia have taken place naturally for some months, when, owing to exposure to cold or damp weather, or wetting the feet, at the period of their recurrence, and while they are actually taking place, a suppression follows, and epileptic fits are the consequence. In other cases, and without any assignable cause, the flow is, at some particular period, much more scanty than usual, and of an unnatural quality; and then about the commencement, and sometimes even after the orgasm has passed over, the head becomes suddenly affected with pain, strong pulsation, vertigo, and epileptic

fits ensue. In other examples, the catamenia altogether fail to make their appearance at the proper age, and the person becomes subject to disorders of the head at the same time, and to epileptic fits, which continue until the function of the uterine system displays itself, and often more or less severely during life.

There is often nothing peculiar in the character of the fits which belong to uterine epilepsy, that distinguishes them remarkably from the fits of epilepsy arising from other causes. They sometimes commence with the aura epileptica; at others, are preceded by pain in the head, pulsation of the carotids, and vertigo: not unfrequently they take place without any premonitory sign. The character which has appeared to me to belong more particularly to the paroxysms of uterine epilepsy is the form I have termed Leipothymia. Some authors have denominated this disease Epilepsia hysterica*. The

* Sauvages has given the following account of uterine or hysterical epilepsy, which he uses as synonymous expressions:—"Distinguitur," he says, "1°. Sexu ægrotantis; 2°. Prægressis aut intermixtis insultibus hysteriæ; 3°. Insultus sequuntur tempus menstruationis quoad periodos; 4°. Aut à terrore similive pathemate excitantur; 5°. Obscurissimæ sunt in paroxysmo sensationes, non omnino suppressæ."—SAUVAG. *Nosolog. Method.* tom. i. p. 582.

The 3d of these remarks is the only one that is founded on facts: for the first affords no distinction, since females are subject to other forms of epilepsy: secondly, hysterical paroxysms as frequently occur in combination with enteric as with uterine epilepsy; examples of this description will be cited in the sequel: the fourth remark is by no means peculiar to this form of the

term is not improper, but it has been connected with an erroneous opinion. There are, indeed, cases of epilepsy which are preceded or accompanied by many of the phænomena of hysteria; by the rising of the globus hystericus, by sobbing, constriction of the præcordia, or by that sensation of stricture in the throat which hysterical women complain of; sometimes by crying and laughing. Indeed there are fits which it is extremely difficult to discriminate, and some cases where the two diseases really pass into each other: but these observations cannot be applied particularly to the form of epilepsy I am now considering. I apprehend that hysterical symptoms as frequently attend epilepsy, when occurring in females from other causes, as when it arises from disturbance of the uterine system, and coincides with the periods of the catamenia. Some facts will be related in the following pages, which confirm this remark.

Before I proceed to lay down any indications or principles of medical treatment in this disease, I shall submit to the reader some brief notes of several cases which have occurred to me chiefly in hospital practice. I must request his attention to them, as they form, in some measure, the basis of my remarks on treatment; or will, at least, afford an exemplification of the practical rules and inferences which I have afterwards to offer.

disease, or even to the female sex: the fifth observation is, as I have observed in the text, contrary to fact. See the cases in the following section.

I here beg the reader to take notice, once for all, that I have not adduced the methods of treatment followed in each particular case as examples of the practice most to be approved or recommended, but only as a part of the medical history; or as contributing towards the stock of facts, the comparison of which will serve for comment or inference. The whole of the recommendations with respect to practice, which I venture to offer, will be summed up in a particular section, under each head or subject of the work. In this, reference will be sometimes made to the practice detailed under particular cases, where a comparison with the event, whether favourable or otherwise, gives a sort of authentic appeal; or affords occasion for pointing out cautions and improvements.

SECTION III.

Cases of Uterine Epilepsy, and Observations.

CASE I.

Anne Davis, aged seventeen years, of sanguine complexion, was brought into the Infirmary in a comatose state, on the 18th of January, 1820.

The following account of her case was obtained on subsequent inquiry:—

About five months ago, in consequence of a severe cold, the catamenia disappeared, and she has never experienced a return. Two months after that period she became affected with headache and giddiness, attended with shiverings. On the day when she was brought into the Infirmary these symptoms had come on with unusual violence, and

increased until she became quite insensible, and had the appearance of a person in an apoplexy.

Twenty ounces of blood were immediately taken from her arm; after which she began to recover her senses. She took a cathartic powder, and the next day lost sixteen ounces of blood.

Mist. Cath. ter indies.

On the 20th she had quite recovered her faculties, but still complained of her head. The blood last taken was slightly inflamed.

Repet. Ven. Sect. et fluant ℥xvj.
Pulv. Febrif. omni nocte.

I did not see her again until the 27th, when I learnt that the catamenia had began to flow soon after the last bleeding: they had ceased on the 26th. She was now taking nothing but the aperient mixture.

31. Attacked yesterday by headache, attended with diarrhœa and thirst.

Repet. Venæ Sectio.
Mist. Laxans Antimon.

Feb. 3. Complains of headache. Cathartic pills and mixture were prescribed, and twelve leeches ordered to be applied to her head.

8. She has now no complaint.

Discharged from the Infirmary. Allowed to attend as an out-patient.

Observations.—This is a well marked case of leipothymia, depending on suppression of the catamenia. The attack probably arose from an ill-directed effort of the constitution to restore the function. The effect of the evacuation of blood, not only in relieving the symptoms of determination to the head, but also in restoring the natural flow of the catamenia, is in this case clearly marked.

CASE II.

Mary Laning, admitted in-patient at the Infirmary, January 18, 1821.

A girl of fair, rather florid complexion, dark hair and

eyes, aged eighteen years. About six weeks ago she was seized, in the afternoon, with a convulsive catching of the right arm, which continued all the evening to increase, and at night she had an epileptic fit. The same symptoms have recurred twice since that time. The last fit was on Monday night last. (This day is Thursday). She has a severe headache, which has continued from the first fit. Her pulse is rapid, and beats violently in the carotid.

Natural functions. — Bowels regular; tongue white. Catamenia first appeared two years ago, but never came regularly: recurred after long intervals. The last time she had them was two months ago, when they were very scanty: before that time they had been wanting several months.

Ven. Sec. et fluant sang. ℥xvj.
Baln. Calid. post V. S.
Pil. Cath. o. n.
Mist. Sal. Antim.

19. Head relieved. Pulse full and strong. Bowels only twice moved.

Repet. Venæ Sectio.
Mist. Cathart. ter indies.

22. Bowels very open; blood not inflamed; complains of pain in her left arm.

Pil. Cath. o. n. — Haust. Cath. manè quot.
Mist. Sal. Antim. ter indies. — Baln. Calid.

25. On the morning, after going into the warm bath, complained of a sense of coldness in her right thigh, which still continues. Sometimes the pain troubles her in her arm. Otherwise she feels well.

Repet. Ven. Sect. (Blood not inflamed).

Feb. 3. Pulse full and strong; violent pain in her head and in her right thigh.

Venæ Sectio repet.
Fiat Fontic. in brachio.

8. Pain and sense of constriction in the epigastric region.

Empl. Lyttæ ad epigast. — Mist. Aper.

13. Has lately fallen down two or three times, as if seized with syncope: immediately recovers herself. No catamenia have yet appeared.

Cucurb. Cr. Nuch. — Baln. Calid. alt. noct.
Pil. Cath. o. n. Emuls. Tereb.

17. Cupping not performed: she is, however, better. Cannot take the emulsion of Turpentine.

23. Is tolerably well, but has had no catamenia.

Ferri Carbonat. ʒss. ter indies.
Mist. Cathart. quotidie mane.

March 6. No catamenia. Omit Ferri Carb.

Tinct. Melampodii, gutt. xxx. ter indies.
Baln. Calid. o. n.
Mist. Cath. p. r. n.

14. Repet. Tinct. Melamp.

Ol. Tereb. Rect. ʒi. o. n.

22. Catamenia flowing scantily for two days. Complains of shooting pains in her hands.

24. Is relieved.

April 16. Feels herself quite well, but has had no catamenia.

Mist. Myrrhæ cum Ferro. ℥ij. ter in dies.

28. Catamenia have appeared and flowed naturally for two days. She now appears quite well. Has become a nurse in the Infirmary.

Observations. — In this case the connexion of epilepsy, together with other symptoms of determination to the head, with a want of the catamenia, is clearly marked. In women who menstruate irregularly, the attacks of epilepsy often commence, as in this instance, after a scanty flow. It is when the system is making an effort that the danger of a misplaced determination occurs.

The effect also of the plan recommended, in relieving the system, is decisively marked in this instance. The epilepsy was cured by relieving vascular plethora.

CASE III.

SARAH BOON*, æt. 20. Admitted in-patient, June 15, 1820.

A girl of sanguine temperament, rather full habit, who has never been regular with respect to the catamenia; but has had, at distinct intervals, a slight appearance. About seven or eight months ago she became subject to epileptic fits, which have continued to trouble her since that time.

She has two or three fits every day, which sometimes continue an hour or more. She sometimes knows when they are coming on by a pain in her head, but more frequently they attack her without any premonitory symptom. Formerly she used to struggle, while under the fit; now she lies quite still. Bowels generally regular.

Fiat Ven. Sec. et fluant ℥xvj.
Pulv. Cath. o. n.—Mist. Aper. ter indies.

16. The blood is not inflamed. Pulse 94, and full. Bowels confined.

Repet. Ven. Sec. et fluant ℥xvj.
Mist. Cath. 4ta. quâque horâ donec alvus fusa sit.

17. The blood not buffy. Fits as frequent as ever. She was now seen under one: lying quite still, breathing easily; with a pulse of 90; looking as if asleep: the pupils contracted on admission of light.

Repet. V. S. ad ℥xvj.
Epispast. inter Scapulas.

19. She thinks herself rather better; but the fits are as frequent as ever.

V. S. ad ℥xvj.

20. She was not bled yesterday, and had two fits, accompanied by some convulsions. She says she is better.

V. S. ad ℥xvj.

21. Only half the quantity of blood ordered was taken, because she had a fit at the time, and more could not be obtained. She says she is better.

V. S. ad ℥xvj.

* This was a patient of Dr. Carrick's, the senior physician to the Infirmary. I had no part in the management of the case.

22. Not yet bled. She had but one fit yesterday, which lasted about the usual time: this is the only day when she has had but one. She feels herself much better; has no headache. Her pulse is 104, full: her tongue clean.

23. She was bled yesterday, and had no fit all the day: she feels her head much relieved. Pulse 110, and full.

25. No fit yesterday. Some little pain in the head.

26. She has had no fit since the 21st. No appearance of the catamenia. Swelling of the right arm, resembling phlegmasia dolens. It has been poulticed, and is to-day better.

28. Her arm is still affected. She has had no fits.

July 8. No fits. No catamenia. Phlegmasia of the right leg; skin red. It is to be poulticed.

12. Redness of the leg gone: leg still swelled. She is to bandage it, and use a spirituous lotion. Takes Pil. Cath. o. n., and Mist. Cath. ter in die. No catamenia.

25. Leg swelled, and painful up to the knee. Pulse quick, and rather full.

V. S. ad ℥xvj.

28. Felt better for the bleeding. Her legs now both swelled; swelling painful and hot, and pits a little. Bowels open. She feels well, except her legs.

Sept. 7. Her legs somewhat improved under the use of leeches and blisters, and purgative medicines. No fits. No catamenia.

29. Swelling almost gone. No fits. No catamenia.

Made an out-patient. I saw her repeatedly many months afterwards, and found that she continued free from her fits and in good health, except that the pains in her legs still troubled her occasionally.

Observations. — The effect of bleeding and evacuations in uterine epilepsy is strongly exemplified in this case. It seems as if the determination to the head was removed; but the necessary discharge by the catamenia not succeeding, a new morbid determination took place, occasioning the attack of phlegmasia; an occurrence by no means unusual.

CASE IV.

ELIZABETH DOWNTON, æt. 15. April 13, 1820.

A girl of sanguine temperament, fair complexion, brown hair. More than twelve months ago her skin became beset with patches of the lepra vulgaris, which chiefly occupy the legs and thighs. Her belly is tumid. She complains of pain on a moderate pressure being made below the umbilicus, and in the left hypochondre, at the region of the spleen.

About twelve or fourteen months ago, but subsequently to the appearance of the lepra, she was attacked by epilepsy. The fits occurred frequently, generally twice or thrice in the course of a week, and she was sometimes much convulsed in them. At that time she had never menstruated. The catamenia first made their appearance about six months ago; and previously to this change taking place the fits ceased, and have not since troubled her. The abdomen has been tumid for several months. Her appetite is deficient, but she says that her bowels are regular. Her pulse is natural.

Pil. Hyd. gr. x. bis die.

14. Pulv. Cath. to open the bowels.

22. Is better. Her appetite good. Bowels not painful on pressure.

Repet. Pil.
Mist. Sal. Antim.

26. The eruption continues nearly as before; in other respects she is better. The catamenia are beginning to flow.

She was ordered to take Pulv. Febrif. gr. vj. ter in dies, and to use a warm bath, as soon as the catamenia should cease.

28. She went into the warm bath by mistake, while the catamenia were beginning to flow. The effect was an immediate suppression, followed by an attack of epilepsy, which occurred yesterday. To-day she has had a second fit.

Let her have some cold water thrown on her head.

℞ Æther.
Spir. Ammon. Fœt. ♏.
Capt. cochl. parv. j. subinde.

May 1. She has had fits every night since the suppression; had one last night.

V. S. et fluant sang. ℥xvj.
Enema ex Ol. Terebinth. ℥j.
Statim injic. et omni nocte repet.
Tinct. Asafœt.
Tinct. Valerian. Volat. āā. ℥ss. 4ta quâque horâ.

6. Is pretty well. No fit since the injection was first used, and the bleeding.

10. Has been well since last report, but is now threatened with a fit: viz. by an appearance of agitation, which precedes the attacks.

Spir. Ammon. Fœt. ʒj. when the agitation comes on.
Emuls. Terebinth. ter indies.
Enema omni nocte.

12. She had a slight fit on the day of the last report.

16. V.S. et fluant sang. ʒxvj.; no buffy coat.

20. Had yesterday a violent fit.

V. S. ad ℥xvj.

27. Pulv. Cath. o. n. Mist. Cath. ter indies.

June 4. She says that the eruption sometimes goes in, and that her head is then worse, and the fits come on. To-day she has complained of headache; her pulse was very full. She was ordered to be bled. A small quantity was obtained, which, however, afforded relief.

V. S. et fluant sang. ℥xvj.
Episp. ad Nucham.
Pil. Cath. 2. o. n. Mist. Aper.
Ung. Antim. Tart. super epigast.

7. The head relieved by the bleeding, although a small quantity flowed.

Yesterday the catamenia began to flow, without any symptom of disorder in the system. No fits have occurred for a considerable time.

15. The catamenia were copious, and continued their usual time. No symptom of disease has appeared. She has no ailment, except the remains of the leprous eruption. Discharged.

This girl went out well, and had no recurrence of her fits during half a year. Afterwards her bowels became much disordered, and her fits returned; but were then unconnected with the catamenia.

CASE V.

SARAH HARRIS, admitted out-patient at the Infirmary, Sept. 25, 1820.

A girl of short stature, slender form, sanguine complexion, pale-red hair, aged seventeen years.

About five months ago she became subject to the catamenia, which have occurred regularly with respect to the period, and were in due quantity until the last occasion. The period of return was about fourteen days ago, when she suffered more pain, and the menstruation was more scanty, and of paler colour than usual. A few days afterwards, about eight days ago, she suddenly felt a stiffness of one hand, the muscles of which were spasmodically contracted. This affection ceased at that time, without any further ailment; but about three days afterwards it recurred, and on that occasion was speedily followed by a trembling or quivering sensation, which went up the arm towards the head; when it had reached the head, she fell down senseless, and was convulsed for some minutes. She has had two fits of the same kind since that time, viz. in the course of the present week. She suffers from pain in the head, particularly towards the back part. Her sleep is disturbed. Pulse frequent, rather small in the arm, but full and hard in the carotid. Appetite deficient.

Fiat Venæ Sectio. fluant sang. ℥xvj.
Pilul. Cathart. 3. omni nocte.
Mist. Cath.—Mist. Menth. c. Rheo. bis terve indies.
Empl. Lytt. super nucham.

27. Her head was immediately relieved by the bleeding. She has had no fits or spasm of the hand; but sometimes complains of a feeling of deadness or numbness, at others of a pricking or tingling sensation in the same hand, and in the leg of the same side. Her sleep is more undisturbed. Pulse as before. Tongue white. Her bowels have only been moderately opened. Says she cannot take pills, and has taken but little of the mixture.

Repet. Ven. Sec. fl. ℥xvj.
Hydr. Submur.—Scammonii, āā. gr. iv. o. n.
Mistur. Cathart. bis indies.

30. She has had no fits; but to-day, as she was walking to the Infirmary, she was seized with the contraction of the hand, and the sensation arose towards her head, which used to precede the fits. She thought she should have fallen down in a fit, but escaped. Pulse frequent; strong and full in the carotids. Has been griped by the medicine.

Repet. Ven. Sec. fl. ℥xvj.
Mist. Cath. manè quotidie.
Emuls. Terebinth. 4ta. quâque horâ.

Oct. 4. A small quantity of blood was obtained on the 30th. On the next day the catamenia appeared, and flowed more copiously and of more natural appearance than before. Sleep undisturbed. No symptom of her complaint has occurred, except a very slight degree of the contraction which has occasionally affected her fingers. Bowels freely opened. She could not retain the emulsion.

Pulv. Cathart. ut antea o. n.
Mist. Cathart. manè quotidie.

11. Fingers still slightly affected with twitchings. In other respects she is well.

Pulv. Cath. altern. noct.
Mist. Cath. manè quotidie.

18. She now considers herself perfectly well, and wishes to be discharged. Advised to continue her medicines some time longer.

Nov. 1. (Wednesday). She remained perfectly well until Saturday; the catamenia then occurred, and are not yet quite over. On Sunday some twitching of her fingers occurred; but, with that exception, she has been perfectly well. She was ordered

to lose ℥xij of blood, by way of precaution, as her pulse was full and frequent.

She was relieved, and remained free from fits during several months afterwards; she neglected to attend, and omitted all remedies, and in the following May came to the Infirmary, having suffered a relapse.

CASE VI.

ELIZABETH SUTTON. Nov. 25, 1819.

A girl of sanguine complexion, eighteen years of age. About two years ago she was attacked by epileptic fits, which first came on without any apparent cause, and troubled her almost every day. When the catamenia made their appearance the fits ceased. The catamenia returned in due periods, but were more scanty than natural. About six months ago she had again an epileptic fit; and since that period a similar attack has occurred three times. The last fit happened eleven days ago; it took place two days after the catamenia had stopped. This fit continued three hours, and was followed by a severe pain in the occiput, which still continues, and prevents her from sleeping by night. The bowels are constipated, and the right hypochondre is tender. Pulse frequent and strong. Tongue white.

Venæ Sec. et fluant sang. ℥xvj.
Empl. Lyttæ ad Nucham.
Pulv. Cath. o. n.
Mist. Cath. ter indies.

Nov. 27. The pain in her head was lessened by the bleeding.

Repet. Ven. Sec.
Pil. Cath. o. n. (instead of the powder).

Dec. 1. She feels herself pretty well, except a pain in her head; chiefly in the fore part.

Let twelve leeches be applied to the temples, and repeated occasionally.

4. Her head partially relieved: it still pains her. Two days

ago she was troubled with the globus hystericus, but had no epileptic symptoms. Pulse frequent.

V. S. et fluant ℥xvj.
Mist. Cath.—Menth. c. Rheo.

On the 9th she complained of pain in her left side, for which she lost blood again. On the 15th the catamenia returned, though in a scanty degree. From this time she continued to complain of pains in her head, and giddiness; which were relieved, from time to time, by the application of leeches and blisters, but not wholly removed. On Feb. 21 following she was made an out-patient. The catamenia had once again made their appearance, and were then scanty.

She attended afterwards as out-patient.

March 22. Catamenia returned a few days ago: they were scanty. She has had much pain in the temples and vertigo.

Fiat Setaceum in Nuchâ.
Mist. Lax. Antim.

April 5. Is quite relieved of the vertigo, and the pain is much lessened since the discharge has been free from the seton.

26. Catamenia have returned scantily; complains of pain in her head.

On June 7 she was again bled. The medicines she was now taking were,—

Pil. Hydrarg. laxant. 2. ter indies.
Mist. Aperient.—Aq. Menth. āā ℥j. t. d.

21. Catamenia flow naturally: she is now well, with the exception of slight pains in the back of the head, and some remains of the vertigo. Discharged.

On July 8 she was again admitted, having suffered a return of her symptoms; viz. pain and vertigo, but without any renewal of fits. She was, at first, relieved by a warm bath: on the 11th she was bled, to the amount of ℥xvj, and the venesection was repeated on the 16th, with much benefit. Soon after the bleeding the catamenia began to flow. Topical applications were afterwards adopted; and on the 17th of August she was again discharged, in a much improved state of health.

Observations.—This was a very obstinate case of deter-

mination of blood to the head, evidently connected with a deficient flow of the catamenia. At first this disease displayed itself in epileptic fits: it was restrained by bleeding, discharges, purgatives, and local applications, and prevented from reaching so severe a degree; but as the cause continued, the complaint was not removed: an increase of pain and giddiness was generally perceived after the imperfect attempts of the constitution to relieve itself by the menstrual discharge.

It may be remarked that the flow of the catamenia was several times promoted by bleeding, and was generally more free when it occurred after a considerable abstraction of blood.

The connexion of the fits, in this case, with the defective menstruation, was very distinctly marked. The patient was subject to epilepsy before the catamenia first appeared: they were late in their appearance: when they occurred the fits ceased to trouble her. In most of these features her case resembled that of Elizabeth Downton.

CASE VII.

Dinah Gay, admitted in-patient Dec. 1, 1819.

A girl of sanguine complexion, dark brown hair, aged about twenty years, who has been subject four years to epileptic fits. They return very frequently, and she seldom passes a week without an attack. Sometimes she has three or four violent fits in a day. She menstruates, as she says, freely, but always has the fits about the period. No other function seems to deviate much from the natural state. She is subject to feel a strong pulsation in the left hypochondre.

Present state. — Pulse full. Three days ago she had several violent fits.

Ven. Sect. fl. sang. ℥xvj.
Pil. Cath.

Dec. 4. A fit occurred to-day, which continued about an hour: she was very little convulsed. Pulse still full.

Ven Sect.—fluant sang. ℥xvj.
Pil. Cath. o. n.—Mist. Cath. *m.* quotid.

Dec. 11. No fits since the last bleeding; but she is now affected with severe pain down the right leg, from the hip, but most violent in the ankle. The knee also is in pain. The pain keeps her awake at night. In other respects she is well.

Ven. Sec. — fl. ℥xij.
Pulv. Febrifug. o. n.

Jan. 1, 1820. Her leg is still very painful.

Liniment. Terebinth.
Emplast. Lytt. super Ischium.
Tinct. Colchici ʒj. ter indies.

4. No relief to the pain in the leg has resulted from any of the remedies prescribed, but, since this symptom commenced, the epileptic fits have entirely ceased.

Soon afterwards she menstruated naturally, without any return of the fits, which she never remembers to have done before.

31. Pain in the leg abated.

The disorder in the leg abated from this time, and for a short interval she was free from any ailment. The epileptic fits then returned, and she had several before the end of February, when she went out of the Infirmary.

In the following month she again attended as an out-patient. She now complained chiefly of nausea, pain and pulsation at the epigastrium. The fits sometimes recurred at the period of the catamenia.

She continued to attend during the summer of 1820. She now entirely got rid of the fits, which never occurred after Whitsuntide, (25th of May). Soon afterwards her abdomen became large; and she said she had lately been married, and supposed herself pregnant.

September 30. She has attended frequently since the last report. No fits since Whitsuntide. Catamenia have only occurred once since that time. Abdomen tumid: thinks she has distinctly felt the motion of a child. Pain in her back very troublesome;

has no other ailment. Keeps her bowels regular, and stomach in good order, by the use of the Mist. Menth. cum Rheo et Magnesiâ.

April 11, 1821. Dinah Gay has come to return thanks, and be dismissed. She has a child several weeks old. Is quite well: has never had any return of her fits since she became pregnant.

CASE VIII.

MARY-ANNE BANBURY, admitted out-patient, Aug. 30, 1819.

A domestic servant, aged twenty-one years, of middle size and stature, who, about three years ago, was seized with an epileptic fit, which she attributed to a fright. A similar attack occurred about six months afterwards, and she has lately undergone a third.

At the early part of her complaint the catamenia were wanting. The returns of them are now more frequent than the natural periods.

Her pulse is frequent and full. Her bowels constipated habitually. She has been bled since the last attack.

V. S. et fluant ℥xvj.
Pil. Cath. o. n.
Mist. Cath. o. m.

Sept. 4. She has had no fits: complains of headache and pain in her limbs. Pulse quick and strong.

Repet. Venæ Sectio, et Medicamina.

14. Head relieved by the bleeding. No returns of the catamenia. Feels herself pretty well. Pulse 106, strong. She has taken the medicines regularly.

Repet. Venæ Sectio, et Medicamina.

25. Much relieved. The catamenia have taken place without any morbid symptom: they are now present.

Repet. Medic.

Oct. 9. She left off taking her medicines for a week. The catamenia returned after an interval of three weeks. A sudden

giddiness sometimes seizes her for a few moments. In other respects she has no complaint to make: this symptom has been more troublesome since she left off her purgative medicines. Pulse quick, strong, and full.

Repet. V. Sectio et Medicamina.

20. Four days ago the catamenia began; and on that day she had two fits. She complains of vertigo and headache. Pulse quick and strong.

Repet. V. Sectio et Med.

22. The bleeding removed the vertigo, and the catamenia ceased at the same time.

Repet. Med.

30. Pain and tenderness in the epigastrium. Pulse quick; strong. She has been living on a full diet.

Spare Diet. Repet. Med.

Nov. 10. Notwithstanding the injunctions laid upon her, she has been living too freely. Pulse quick and strong. Complains of vertigo and headache.

Repet. V. S. et Med.

16. Head relieved by the bleeding. Bowels opened thrice or four times in a day. Pulse 100, and softer.

Repet. Pil. Cath. et Mist. Cath.

23. She has taken a cold. Pulse 120. Tongue furred. Has pain in her head: makes no other complaint.

Pil. Cath. o. n.
Mist. Lax. Ant.
Hirud. temporib.

Dec. 8. Leeches not applied. Pulse quick, but she feels herself quite well. The catamenia now have flowed twice without any ailment. Thinks herself well, and wishes to cease attending. Discharged.

Observations.—It may be concluded that this case of epilepsy was connected with disordered functions of the uterine system, from the occurrence of fits at the menstrual period when the flow of the catamenia was commencing, and from the age at which they first made their appearance; a time of life when the periodical function is

as yet scarcely established; when it is more easily disturbed, and its suppression is most commonly accompanied by disorders of the nervous system. As the catamenia were wanting when the disorder made its first attacks, it may be inferred that they arose from the suppression of this function, and from abortive struggles of the system to restore it or set it up.

Afterwards the menstrual orgasms became more frequent than natural: but the disease was probably still of the character of dysmenorrhœa, and the frequent repetitions only ineffectual efforts of the uterine system. These efforts were still accompanied by fits.

2. The beneficial effect of freely evacuating the system was obvious in this case. It was evidently pointed out by the symptoms, and was followed by a relief, and, at least, a temporary removal of the disease. A return of vascular plethora, with constipated bowels and a stimulating diet, would probably again excite the predisposition to epilepsy into action: but it seems likely that a recurrence would be avoided by an opposite regimen. As I have not heard any thing of this patient since her discharge, I infer that she has had no relapse.

CASE IX.

Elizabeth Millard, in-patient; admitted Aug. 30, 1820.

A girl of fair sanguine complexion, aged seventeen years. She has been subject to the catamenia about three years, and they were regular in their returns. Two months ago, when the period was just over, she had an epileptic fit; her head had ached for a fortnight before. The fit came on in the day-time. One month ago she had another fit, under similar circumstances; and to-day, when she expected the catamenia to return, a third attack of epilepsy came in their stead. It attacked her suddenly, without any prelude, except a headache. She fell down

quite insensible, and in that state was brought into the Infirmary.

She was immediately bled, to the amount of ℥xviij, and afterwards took Mist. Cath. ℥ij, with Antim. Tartar. gr. i, which opened her bowels, and made her vomit.

31. Blood taken not inflamed. She has a cough and pain in her chest, apparently a pneumonic affection from cold. Complains of headache. Pulse 90, full.

V. S. et fluant ℥xvj.
Epispast. ad Sternum.
Pulv. Feb. omni nocte.
Mist. Feb. ter indies.

Sept. 4. She has been better yesterday and to-day.

5. On the afternoon of the 4th she had two fits, and one again this morning. She had no warning of their attack, except that, just before she lost her senses, she felt as if she was going to faint. The fits lasted about an hour each time, and she was much convulsed in them. After they had ceased, a violent headache remained. Pulse 90, not full.

7. She had two fits yesterday, and two on the preceding day, subsequently to the report.

V. S.

8. She had one fit yesterday before the bleeding, but none since.

9. Is better, but complains of pain in her thighs and legs, which are somewhat swelled.

14. She had two fits to-day; the first since the bleeding.

V. S. ad ℥xvj.
Emuls. Tereb.

18. No fit since the bleeding. On the same day the catamenia began to flow, and continued in the usual way. She has had no headache since. The emulsion makes her vomit.

23. She had two fits after the catamenia. She had another on the 24th.

Now takes Mist. Lax. Ant.

25. Her head aches, and she feels generally unwell. Pulse full. She was desired to be cupped, but refused, and was bled.

26. Blood not buffed. She was relieved.

27. An issue was ordered to be made in her arm.

30. Leeches to her head.

Oct. 1. The headache removed by the leeches. Issue begins to discharge freely.

5. She has been better since the issue has discharged.

11. Is apparently well, and gaining strength daily. Yesterday the catamenia made their appearance.

16. The catamenia continued the usual time, and were natural. To-day she complains of a return of headache, and has a slight cough. Pulse quick.

V. S. ad ℥xvj.

17. Her headache was rather worse after the bleeding.

Twelve leeches to the temples.

21. Head aches: the pain seems to her to be in the scalp: carotids pulsate too strongly. The leeches last applied relieved her head at the time.

Repeat the Leeches. — Epispast. ad Nucham.

A few days afterwards she was discharged, free from any ailment. She lives near the Infirmary, and says she will apply again if she should have any return of her complaint.

NOTE.—*July*, 1821. I have not heard that Eliz. Millard has had any return of her complaint.

CASE X.

MARY HODGE, admitted out-patient, May 11, 1818.

A girl of fat and plethoric habit, twenty-two years old, who has been five years subject to epileptic fits. They always accompany the returns of the catamenia, and occur at the conclusion. She says she has never missed having the fits at the usual period: never has more than one at a time. They attack her without any premonitory symptom. Bowels regular. Pulse natural.

Venæ Sec. fluant sang. ℥xvj.
Pil. Cath. o. n.
Mist. Cath. ter indies.

June 3. Complains of tenderness of the epigastrium: pain on pressure.

Pil. Cath. o. n.
Mist. Menth. c. Rheo. ter d.

30. Feels herself well.

Continue.

July 3. Repeat the medicines.

10. She has had no fits. The catamenia have been expected now two days. Formerly they were always regular to a day.

17. The catamenia have taken place without any return of the fits.

Continue.

25. She has had no fits: is quite well.

Continue the aperient medicines.

I heard no more of her.

Observations. — It is very remarkable that the evacuant measures adopted in this case were so soon effectual in interrupting, *at least*, the return of the epileptic fits, which had previously accompanied, in so unvarying a manner, the periods of the catamenia.

CASE XI.

Mary Ford, admitted out-patient, June 10, 1819.

A few weeks ago, at the time when she expected the catamenia, they did not make their appearance. She was then, for the first time in her life, seized with an epileptic fit. Similar fits have since occurred frequently.

V. S. et fluant sang. ℥xvj.
Pil. Cath. o. n.
Mist. Aperiens.

I have no notes of her case (except that she was again bled on June 16) until June 26. The fits now occur almost every day.

Repet. Venæ Sect.
Abrad. Capilli.
Empl. Lyttæ Nuch.
Pulv. Cath. o. n.
Mist. Cath. 4ta quâque horâ.

30. She has had no fits since she adopted the remedies last prescribed. Complains of vertigo and headache. Pulse 120, and full.

Repet. Venæ Sect.
Repet. Pulv. Cath.
Mist. Cath. ter indies.

July 8. She has had three fits since she was here last: coughs and spits blood.

Ven. Sect.
Pulv. Cath. o. n.
M. Lax. Ant. cum T. Scill. 4. qq. h.
Empl. Lyttæ Stern.

16. Had one short attack just after she was here the last time. Her head is relieved. The catamenia took place soon after the bleeding, without any morbid symptom. Since then she has had no symptom of epilepsy. Pulse still full and frequent. On this account she was directed to lose twelve ounces of blood. The cathartic pills and saline mixture, with Tinct. Scil., were ordered to be repeated.

She came not again to the Infirmary; and I conclude that no recurrence of her complaint took place.

Observations.—This is a recent case of epilepsy, produced by a suppression of the catamenia; and the history of the treatment illustrates the method to be pursued in order to remove such a disease. No impression seems to have been produced on the disorder, until the severe measures, ordered on June 26, which immediately arrested its course; but the function of the uterus not being restored, the fits recurred. Soon afterwards hæmoptysis took place, probably from a new effort of the system, which occasioned a second morbid determination. The artificial evacuation was again repeated, and the fifth bleeding was followed almost immediately by the healthy return of the catamenia; the absence of which had been the exciting cause of the disease.

CASE XII.

Mary Mitchell, admitted out-patient, June 11, 1819.

A girl of stout make, dark complexion, black hair and eyes, aged twenty-five.

Ten days ago, when the catamenia were beginning to

appear, she was seized with an epileptic fit. She has had fifteen fits since that time.

Venæ Sect. et fluant sang. ℥xvj.
Pulv. Cath. o. n.
Mist. Cath. ter die.

The bleeding was repeated on the 17th.

27. She has been free from fits during six days, until last night, when she had, what she terms, "only a fainting fit."

July 8. Since she was here she has had three attacks, which resembled fainting fits.

Ven. Sec. et fluant sang. ℥xvj.
Pulv. Cath. o. n. Mist. Cath. bis indies.

15. She has had no fits; complains of headache and tremor.

V. S.
Pil. Hyd. laxant. 2. ter indies.
Mist. Cath. ter indies.

22. It is now the period of the catamenia, and she is troubled with fits again.

Episp. Nuch.
Pil. Cath. 3. o. n.
Emuls. Terebinth. 4ta. quâque horâ.

29. No fits since she was last here: has vertigo and tremor.

V. Sect.
Pil. Cath. o. n.
Mist. Cath. ter indies.

Aug. 5. She has had no fits for several weeks until to-day, when she had one: the catamenia are not affecting her at present. The fit begins with a coldness in the feet; the sense of coldness rises towards the head, when she is seized. Has pain in her back: neither pain in her head nor vertigo. Pulse natural. Bowels open.

Emplast. Cantharid. ad lumbos.
Pil. Cath. 3. o. n.
Pil. Argent. Nitrat. ter indies.

12. A fit to-day and yesterday: has vertigo and pain in her side.

Empl. Lyttæ Nuchæ.
Ven. Sect.
Pulv. Feb. p. x. 6ta. quâque horâ.

19. She was better after the bleeding. The fits are frequent, but slight, and of shorter duration.

Ven. Sect. fluant sang. ℥xij.
Keep open the blister with Ung. Sabin.
Repet. Pulv. Feb.
Mist. Cath. manè quotidie.

26. Two slight fits.

Emuls. Terebinth. ter die.

Sept. 2. Has had no fits since she was here. Complains only of pain in her head. Repeat the emulsion.

9. Repeat the emulsion.

16. She has lately had a fit. She has several times had fits of tremor, which hold for a long time. Vertigo.

Arteria Temporis sec. et fluant sang.
Repeat the Turpentine.

19. Was much relieved by the bleeding, but had a slight fit last night.

V. S. fluant sang. ℥xij.
Empl. Lytt. Nuchæ.

30. Had two fits yesterday evening: has headache. With these exceptions she has been free from ailment since the last report.

Art. Temp. sec. et fluant ℥xij.
Pil. Cath. 3. o. n.
Mist. Cath. ter indies.

Oct. 7. She is much better: has had no fits. Her pulse is harder than natural.

V. S. et fluant ℥xij.
Repet. Med.

24. She has had no fit during the last three weeks. Vertigo and headache troublesome. Bowels constipated.

Ex Arter. Temp. extr. sang. ℥xij.
Repet. Med. Cathart.
Setac. in Nuchâ.

31. She had a violent fit when the seton was inserted. Has been very well since that time, and is free from headache and vertigo. The catamenia, which had been absent for two months, have taken place naturally.

Pil. Cath. o. n.
Mist. Aper.

Nov. 21. On the day preceding that on which the catamenia were expected, she had several fits. The catamenia occurred. The fits have happened almost every day until to-day, when she has been free from them. The catamenia have ceased.

Sect. Art. Temp.
Pulv. Cath. o. n.
Mist. Cath. ter indies.

25. Had lately a fit, preceded by a rigor, with nausea and vomiting.

Zinc. Sulphat. ℈j. alt. dieb. manè.
Pil. Cath. o. n.
Mist. Cath.
Mist. Menth. c. Rheo. et Magnes. part. æq. ter indies.

Dec. 5. She has had no fits; vertigo sometimes troubles her: has pain in the region of the navel when she dilates the chest: stomach relieved by the emetics; but they agitate her much.

Ven. Sec. et fluant sang. ℥x.
Empl. Canth. ad latus sinistrum.
Hydrarg. Submur. gr. v. ter indies.
Pulv. Ipecac. gr. xxv. altern. dieb. manè.

9. Says she has taken cold; has lost her voice.

Pulv. Feb. o. n.
Emplast. Lytt. Sterno.

16. She has had a fit of short duration, followed by amentia: has now tremor.

Emuls. Tereb. ter indie.

26. She has had no fit for three weeks. The catamenia have returned naturally, without any recurrence of the fits. Thinks herself well, and wishes to be discharged.

She was discharged, under the condition of attending again if any recurrence of her fits took place.

Observations.—The most remarkable circumstances in the history of this case are,—

1. The strongly marked and obstinate connexion of the epileptic attacks with the catamenia.

2. The uniform relief experienced by evacuations, particularly by bleeding.

This patient's attendance was at such distant intervals,

and so interrupted, that an opportunity was not afforded of following up the advantage obtained for the time by such measures.

Those attacks, which she termed fainting fits, were probably paroxysms of leipothymia.

CASE XIII.

Elizabeth Hoken, admitted out-patient, March 17, 1817.

A girl of stout make, pale unhealthy aspect, twenty-four years old, who has been subject about twelve months to epileptic fits, which attack her at the periods of the catamenia. She has two or three fits with almost every return of menstruation. The catamenia are very scanty. The fits occur in the day-time. She attributes the first attack, which took place a year ago, to a fright. Her general health has gradually become bad. Her pulse is full: she complains of pain in her left side, and shortness of breath when she walks up hill. Urine scanty. Much troubled with flatulence and diarrhœa.

Ven. Sec. et fluant sang. ℥xvj.
Empl. Lyttæ ampl. lat. sinistr.
Pil. Cath. 3. o. n.
Mist. Salin. c. Tinct. Scill. ʒj.
4ta. quâque horâ.

22. Is better. Sleep undisturbed: bowels not very open.

Pulv. Cath. o. n.
Mist. Cath. ter indies.

29. Feels herself well. She has been well purged, and her gums are inflamed.

Ven. Sect.
Mist. Cath. c. Antim. Tart.

April 23. Seven days ago she had a fit. She had left off her medicines some time before, and her bowels had become constipated. Complains now of disordered stomach and bowels.

Pil. Cath. o. n.
Mist. Cath. ter indies.

27. Symptoms continue. Pulse full. Has had three or four fits.

Ven. Sect.
Empl. Lyttæ ampl. ad epigast.
Pulv. Feb. gr. x. o. n.
Pil. Hyd. laxant. 2. ter indies.

Much relieved by the bleeding. Pulse 72, still full.

May 3. Complaints of her stomach, &c. entirely removed. Has no complaint in her head, or fits.

Repeat the last prescription, with the exception of the blister.

17. Says she is now in perfect health.

Discharged; with an injunction to return if she should have any more fits.

Observations.—In this case epilepsy was connected with scanty menstruation. The defect in the uterine function was conjoined, and, perhaps, connected with the weak and disordered condition of the system, which resulted from the state of the alimentary canal.

The general health of this patient was restored by the remedies employed, chiefly by bleeding and mercurial purgatives; and, from the improvement produced in other respects, there seemed to be a good prospect of her getting rid of the epileptic attacks. Her attendance at the Infirmary was not long enough continued to ascertain the event.

CASE XIV.

Elizabeth Cole, a girl of slender habit, fair sanguine complexion, brown hair, aged sixteen years, who has been about two years subject to epileptic fits, was admitted an out-patient at the Infirmary on the 10th of June, 1819.

The fits were said to trouble her very frequently, sometimes occurring repeatedly in the course of a day: at others, she passed some days without any attack, and she supposes she has been free from them as long as a fortnight. She thinks that the fits are more troublesome about the period of the catamenia; which flow, as she

says, sparingly, and are accompanied with much pain. Her aspect is imbecile.

Fiat Ven. Sec. et fluant sang. ℥xvj.
Pil. Cath. omni nocte.—Mist. Aperiens.

16. Several fits in a day. Pulse strong and quick.

Fiat V. S. fluant sang. ℥xij.
Warm Bath, or Pediluvium.
Repeat the Cathartic Pills at night.
℞ Pulv. Antim. gr. v.
Opii, gr. ¼. Quartâ qq. horâ.

30. Several fits in a day. No headache.

V. S.
Fiat Setac. in Nuchâ.
Pulv. Cath. o. n.
Mist. Cath. ter die.

July 8. No relief. Pulse full and quick. Fits returned twice about three days ago, and to-day four times.

Emuls. Tereb. ℥j. ter indies.

14. No fits for ten days. Nausea. Rejects her food.

On the 27th of September she was admitted an in-patient. The fits now occurred frequently; generally in three days.

She was ordered to go into the shower bath every morning; and to take every third hour a draught of Camphor. Julep, with Sp. Ammoniæ Fœt. On the next day her head was shaved, and she took a cathartic powder.

29. She has had several fits to-day; her pulse is in general frequent and rather full. I resolved now to try the effect of the evacuating system. Frequent venesections were prescribed, with purging, blisters to the neck, &c. The disease sometimes appeared mitigated by bleeding, but the fits continued to recur every third or fourth day, although this plan was pursued as far as it seemed safe and expedient. In the following month she seemed to derive some temporary benefit from a seton in her neck and a shower bath. She took the Oil of Turpentine and the Ammoniated Tincture of Valerian; topical bleeding was ordered from time to time. Blisters were of service to her in so far that they relieved the pains in her head.

As blisters seemed to relieve her, I determined to try more

effectual drains, and ordered a part of the scalp, over the vertex, to be rubbed with a dry caustic.

Feb. 3. Seems to be a little relieved since the discharge from the issue on the head.

12. Fits as violent and frequent as formerly.

Apply cupping glasses to the shoulders, and draw blood.

16. A severe fit last night. Pulse frequent; not affected by the Tinct. of Digitalis, lately administered.

Try the Infusion of digitalis, giving ℥ss. every sixth hour.

24 She has again been delirious, during which time the fits did not trouble her.

29. Under the full effect of digitalis. Pulse intermitting: stomach rejects every thing. Fits as before. It is evident that neither the drain nor the digitalis relieve her.

Dry up the issue. Omit the present medicines.

Solut. Arsen. Dris. Fowler.

No material alteration took place until the 7th of March, when she expired under a fit of the usual character.

Appearances observed on Dissection.— On the left side of the head, between the membranes of the encephalon, a slight effusion of amber-coloured fluid was observed. In the vessels of the pia mater, on the same side, a number of small globules of air were seen, resembling a string of beads: these were clearly proved to be contained in the blood-vessels.

In the ventricles of the brain about ʒj of fluid was discovered, and a considerable quantity between the medulla oblongata and its coverings. An effusion, which was much more copious than that which was proper to the brain, appeared to extend down the spinal column.

The cineritious part of the cerebellum was preternaturally soft.

But the observation, that is probably the most important with respect to the pathology of this case, is the following:—

The left lateral sinus, through its whole length, was filled up by a substance, very different in its nature from a

recent coagulum, and apparently consisting of a deposition of lymph, which had become organized. It appeared so completely to occupy the calibre of the sinus as to have entirely impeded the transit of blood through it.

In the thorax were found, in each cavity, about four ounces of fluid: in the pericardium six ounces. In the abdomen, the villous coat of the stomach, about mid-way between its extremities, was disposed in folds, from the contraction of the muscular fibres; giving it internally the shape of an hour-glass. On the interior surface a number of small red patches, of various hues, apparently occasioned by exudations of blood from the villi of the internal coat. The liver was rather pallid, but not otherwise of diseased appearance.

Remarks. — The morbid appearance found in the lateral sinus, seems to be adequate to account for a great part of the distress this poor woman had suffered in her head, and for the most severe of her symptoms. The impeded circulation accounts for the deposition of serum on the surface of the brain.

The history of the case leads to the same conclusion. Although a variety of measures were adopted in the long course of this case, the patient never experienced any, even temporary relief, except from measures calculated to deplete the vessels of the head. Such were general and particularly topical bleedings; blisters; drains of various descriptions; the shower bath, and most of the means of reducing general and local plethora.

When we consider that she became affected with this disease about the time when menstruation commences, it seems probable that the effort of the constitution in establishing this function, or the irritation of the sanguiferous system, which accompanied its first appearance, gave rise to the primary disease: and this conjecture is strengthened by the remark, that the fits were more frequent about the menstrual period. Probably that degree

of disorganization was soon produced which prevented the assistance of any remedies in restraining the epileptic fits.

CASE XV.

Mrs. ——, a married lady, aged about thirty-five years, of melancholic temperament, a native of one of the most southern countries of Europe, had been for several years subject to slight fits of leipothymia, which occurred during her sleep, and generally attacked her about the period of the catamenia. After she had resided some time in England the catamenia became more scanty, especially in the winter, and her complaint increased; and she began to find her memory impaired. By the assistance of the warm bath, small bleedings, and a relaxing regimen, the uterine secretion was rendered more copious, and the fits relieved so far that she sometimes passed two or three months without any attack. During the warm weather of summer the disorder was generally less troublesome.

About four or five years after the period above alluded to, she was doomed to experience a sudden stroke of affliction, which she was unable to sustain. She did not, however, give way immediately, but for some weeks appeared less depressed than she was expected to be. However, after passing some days in a state of mind, which appeared unnaturally cheerful, she was suddenly seized with a very severe and long continued epileptic fit; under which she was much convulsed. On her recovery from this paroxysm she gradually sunk into a state of incurable despondency, which has assumed all the characters of melancholy derangement; and from this state, when I last heard of her, she had not recovered.

P. S. Since the foregoing cases were prepared for the press, four other strongly marked examples of uterine epilepsy have come under my observation; all of which coincide with my ideas respecting the nature of this disease. In all of them the disorder was connected with a very rare, or with a very scanty flow of the catamenia.

SECTION IV.

Of the Treatment of Uterine Epilepsy.

In the observations I now propose to offer on the treatment of uterine epilepsy, I shall occasionally make allusion to the pathological remarks contained in a former section, with the view of illustrating my observations, and connecting them with some general principle; but I shall rest no conclusion of importance on any other foundation than that of practical certainty and actual experience. If, indeed, my readers will take the pains to examine and compare the foregoing histories of cases, they will find a sufficient countenance and authority for most of the positions I shall venture to lay down.

The measures to be adopted in cases of uterine epilepsy, differ according to the circumstances of the uterine function under which the disease takes place. On this account my observations will be arranged under different heads.

I propose to consider, in the first instance, the measures which are to be adopted in cases of total suppression; when epilepsy has supervened on a sudden disappearance of the catamenia, the consequence of exposure to cold, or of other noxious causes, applied during the period of the orgasm; or when the catamenia, after having taken place, cease to recur at their regular times, and the patient becomes subject to epileptic fits at uncertain intervals; or, lastly, when menstruation fails to occur at the usual age, and

paroxysms of this disease appear in its stead: in short, whenever epilepsy is connected with amenorrhœa. In all these instances, if there is any foundation for the pathological principles before laid down, these paroxysms indicate an attempt of the constitution to restore or set up the uterine function. All these cases are therefore analogous in essential particulars; they must be considered as denoting an effort of the system to establish a natural determination; which being diverted from its proper course, gives rise to morbid congestion in the brain, and to the obvious consequences of that state. The practical rules to be observed in all these cases are similar.

A second division of cases of uterine epilepsy consists of those which are connected with dysmenorrhœa. The catamenia in these instances appear, but are, for the most part, scantily and laboriously produced, and the orgasm is productive of epileptic fits. Of this form of the disease I shall proceed to treat, after considering the methods to be pursued in cases of the former description.

I. The first, second, third, fourth, and eleventh cases, in the foregoing section, afford tolerably characteristic examples of epilepsy of amenorrhœa; and the results of the measures adopted are sufficient to point out the most important conclusions with respect to practice.

The practical indications are, first, to relieve the morbid determination to the head; secondly, to restore the natural determination to the uterine system: or, thirdly, if that cannot be done, to bring the constitution into a state in which the injurious effects of amenorrhœa are felt in a less degree.

One of the most important resources we possess for fulfilling the first indications is the abstraction of blood. The immediate effect of bleeding, in such cases, is generally a relief of the pain and oppression in the head, and a subsidence of the pulsation in the carotid and temporal arteries. Sometimes the use of the lancet is speedily followed by a restoration of the catamenia.

Of the quantities of blood which it may be requisite to draw in cases of this description, some opinion may be formed by comparing cases 2, 3, 4, in the last section. But, perhaps, some light may be thrown upon this subject by taking into consideration the principle on which the efficacy of bleeding, in the relief of these disorders, appears to depend.

If a person labouring under an attack of pneumonia, hepatitis, or other inflammatory disease, is freely bled, so that either absolute syncope, or a degree of relaxation approaching to syncope, be induced, one of the following effects will commonly ensue: — First, The morbid determination to the inflamed part, or the particular state of the vessels in which the disease consisted, is entirely overcome, and the disease will be found to be removed: this event ensues most frequently when venesection has been employed within a few hours after the commencement of an inflammatory disease: or, secondly, the pain, and other signs of local inflammation, still remain in the part affected, and require other efforts to remove them: or, thirdly, when the patient recovers from his fainting state, and the pulse regains its force; or sometimes, after an interval of sleep or collapse, the disorder of the part

originally affected is found to have entirely subsided, but a new morbid determination to some other part of the system is discovered, sometimes of less importance, at other times endangering life in a greater degree than the original affection: and this new disease often requires a repetition of bleeding, which, in its turn, ushers in a fresh attack in some other organ.

It is needless to adduce particular facts as exemplifications of the last assertion, as every medical practitioner must repeatedly have witnessed such phænomena. They occur most frequently in cases of inflammation of the external parts, particularly of the joints; such as are denominated rheumatic: but they are also frequent in inflammatory disorders of a different description. If a patient recently attacked by pleurisy, which is confined to one side of the thorax, is bled until syncope supervenes, the disorder often shifts to the other side. After inflammation of the peritonæum has been suddenly relieved by bleeding, the head is often attacked. In short, the migratory tendency of many inflammatory disorders is a trait extremely well known; and it is equally well known that the change of determination is very often an immediate consequence of bleeding.

It must therefore be allowed that evacuations of blood, sufficient, with respect to quantity, to reduce the action of the heart and the circulation, have not only this immediate effect, but have also a secondary effect, viz. they give rise to a change in the distribution of blood to various parts of the vascular system. In other words, they excite new determinations, which in general show themselves immediately

after the collapse, induced by the evacuation, ceases. Now the new determinations which arise after bleeding are sometimes morbid phænomena; sometimes the restoration of natural and healthy processes. Instances of both kinds occur in the recitals of the foregoing cases. In some instances the natural determination to the uterine system, and a flow of the catamenia, followed: in others, an attack of phlegmasia or painful affections of the joints. Either event was salutary in cases of uterine epilepsy.

In order more effectually to obtain by means of venesection the proposed objects, the operation should be conducted in that way in which it may be most likely to produce a powerful impression on the system. It should be performed while the patient is sitting up, and a nearly erect position of the trunk should be maintained until syncope begins to take place. If it is to be repeated, its effect should be promoted by other antiphlogistic measures.

With respect to the number of bleedings which may be required, or the quantity of blood to be drawn at each operation, it is impossible to lay down any general rule. The practitioner must be guided by the strength of the patient. As long as this will bear further reduction, he must not be deterred from persevering in the plan commenced upon by the disappointment of his expectation of relief in the first instances. Of this remark a proof is to be found in several of the foregoing cases, particularly in the second case, in which an epilepsy of long duration was eventually cured, although the recurrence of the fits was not interrupted until after repeated bleedings.

The beneficial effect of bleeding is much promoted by immersing the body, or, at least, the lower part of it, in a warm bath. The influence of heat, thus equally applied to the skin, through the medium of water warmed to the degree of 96 or 98 of Fahr. produces a general relaxation, expands or diminishes the constriction of the extreme vessels on the surface of the body, and thereby occasions a determination of blood into the cutaneous and superficial arteries. When this effect takes place suddenly, and in a debilitated body, it is alone sufficient to induce syncope. Conjoined with the abstraction of blood, it is particularly adapted to overcome any impediment that may exist to the free transmission of blood through the capillaries, and to promote the action of the exhalant vessels on all the surfaces; and no function connected with the circulation is more subject to its influence than the determination of blood into the vessels of the uterus, and the flow of the catamenia. Among the foregoing cases there are several instances which point out the efficacy of a warm bath in promoting this function*.

While the patient is in the warm bath, friction should be employed with flannels, to the back, loins, and abdomen. The patient should remain in the bath until she begins to be fatigued and exhausted; and after she is taken out and put into bed, the effect of the bath may be promoted and maintained by

* There is one case, indeed, in which a hot bath, used incautiously, gave rise to a suppression. This was just at the commencement of the flow, and under peculiar circumstances. This instance, however, should induce caution.

fomentations to the feet and to the lower part of the abdomen, and by encouraging a circulation through the extreme vessels by the means of moderate warmth, and by frequent draughts of warm diluent fluids.

The same indication will be promoted by stimulating clysters; which at the same time relieve the system, by evacuating the bowels, and by powerfully exciting the vessels in the vicinity of the uterus, tend to determine blood into the right channel. An ounce of Oleum Terebinth. with an ounce of Oleum Ricini, makes an enema sufficiently powerful.

Blisters applied to the sacrum and over the pubes are thought, by some, to be powerful in determining to the uterine vessels. I have had no experience of their efficacy.

The medicines indicated in these circumstances are those termed emmenagogues. The most powerful of these is the Oil of Turpentine, which is one of the most diffusible stimulants in the whole materia medica. In a variety of instances this medicine has induced hæmaturia, and it is not, *à priori*, unlikely to promote the flow of the catamenia. I have not found it so efficacious in uterine epilepsy as I could wish; but, in fact, I have never been driven to rely chiefly upon it. In cases of maniacal affection, connected with defect of the catamenia, it has very considerable powers, as I have ascertained by a sufficient number of experiments. In epileptic cases it ought not to be neglected. The form in which it can best be given, in this view, is in an emulsion, each draught containing from half a dram to two drams of the oil, to be taken three times

in a day; or the oil may be given in the dose of two drams every night.

The Tincture of Melampodium, and the Pulvis Sabinæ, possess emmenagogue powers, but are not so effectual as Turpentine.

If these measures succeed in producing a free and copious flow of the catamenia, the head becomes quickly relieved, the fits cease, and the health of the patient is, for the present, restored. But if they fail of exciting the action of the uterine system, they generally relieve, and often remove the epileptic tendency, by diminishing plethora, and giving rise to some new determination.

Should the efforts made to restore the uterine function prove abortive, all that remains to be attempted is to fulfil the third indication; which is, to bring the constitution into a state in which the defect of this function may be productive of less injury, and particularly may not give rise to epileptic fits.

First; With this view it is important, in the first place, to avoid the return of a plethoric state of the system, after it has been already reduced by the measures above mentioned. This purpose is to be attained by observing an antiphlogistic and attenuating regimen.

The following are the particulars that require to be chiefly attended to with a view to this indication.

1. The diet should be as sparing as is consistent with a due regard to the preservation of constitutional vigour.

2. Exercise in the country, and frequent changes of air, should be recommended.

3. Some laxative medicines should be used regularly, with the intention of keeping the bowels in a state more relaxed than is natural in health.

Secondly; The effect of artificial drains, by issues or setons, in reducing plethora, is considerable; but they appear to have a further efficacy than this in instances of uterine epilepsy. In several of the foregoing cases it may be remarked, that a new morbid determination taking place in the system, suspended or removed epilepsy in cases in which no other remedies succeeded. In some instances, as after bleeding, a disease took place in the lower extremities, resembling phlegmasia dolens; in some rheumatic affections; in others cutaneous diseases, occasioned a mitigation of the epilepsy. In all these instances the new disease is vicarious, and suspends the fits of epilepsy, according to a principle well known in pathology. This consideration, as well as the result of actual experiment, indicates the propriety of establishing by art a supplementary disease or drain; which, in some degree, will probably answer the purpose of the natural one. This may be done by setons in the nape of the neck: perhaps more favourably by issues or setons on the sacrum, or above the knees. If these applications are too troublesome, an issue in one or in each arm will have a similar effect, in a certain degree. If there are any constitutional disorders which may act as drains or diversions, they should be encouraged. Of this nature

are cutaneous diseases, discharges from the legs, and other local maladies*.

Thirdly; Before I conclude this chapter I must observe, that Nature has yet a resource in reserve for relieving this, and many other forms of disease, which depend on a want of the catamenia. These disorders are almost peculiar to unmarried women. Pregnancy generally removes the disorders connected with defects of the catamenia. But even if pregnancy should not take place, I am very much disposed to believe that diseases of this kind would generally be removed by marriage, and that even a complete amenorrhœa would, in general, be eventually cured by it†.

* On the subject of the beneficial effect of drains I shall enter more at large in a following chapter on a form of this disease, in which they are a still more important resource.

† Hoffmann has related a well marked case of uterine epilepsy, brought on by a suppression of the catamenia; the consequence of violent mental agitation, and continuing to recur at the periods of menstruation, which was cured in the way alluded to above. I shall cite his own statement.

" Fœmina 30 annorum, constitutionis valde sensibilis, affectibus animi, præsertim iracundiæ dedita, à parentibus morbo melancholico affectis progenita, hactenus sterilis, ex inopinato mariti morbo insigni oppressa fuit mœrore. Quo tempore, *cum ipsi menses fluerent, et sub eo fluore* nuntius de ipsa mariti morte accederet tristissimus; illa vehementi terrore perculsa, in *mensium suppressionem protinus incidit.* Hinc anxia, inquieta, insomnis reddita, nullum assumpsit cibum; sed verba sine ordine loqui cæpit. Tum spasmodica primum faciei torturâ, quam cynicam vocant correpta, denique graves, atrocesque toleravit convulsiones; quibus nec sanguinis missiones, nec ulla remedia opem ferre volebant. Tandem purpura rubra malum quidem mitigavit; illud autem

II. In cases of epilepsy of dysmenorrhœa, the practice to be pursued must be somewhat different from that recommended in the foregoing pages. Where there is a scanty and defective, or a laborious flow of the catamenia, accompanied by attacks of epilepsy, a disease of which examples occur in the foregoing section, particularly in the second, sixth, and eleventh cases, the practice to be pursued is to adopt the measures which are most beneficial in cases of dysmenorrhœa in general. Moderate bleedings, and those means which promote relaxation of the system, and a determination towards the uterus, are principally

minimè remisit penitus; *sed circa tempus menstruum pertinaciter recruduit*, cum tantâ mentis perturbatione, ut a multis furori vicina haberetur. Hinc in usum vocavit thermas ac acidulas, cœlum sæpius mutavit, multorumque medicorum consilia imploravit; sed rediit nihilo minus malum licet minori atrociâ. VERUM CUM DENIQUE SECUNDAS SUBIRET NUPTIAS, AB AFFECTU SUO PRORSUS FUIT LIBERATA."

In commenting upon this case, the facts of which are very decisive, the author adds some good pathological observations. He says, " Nostra quidem ægrotans ab erumpente purpura omnino mali sui aliquale percepit levamen. Hæc enim — et puerperis etiam, si lochia haud rite fluunt, familiaris esse solet: ita quoque eâdem ad corporis superficiem prorumpente,—pabulum malo epileptico subtrahitur. Optimum autem auxilium ex matrimonio redundavit; quippe quo libido extinguitur, *menses suppressi revocantur*, ærumnæ atque sollicitudines depelluntur, et toti corpori ingens accedit mutatio."

The author has related another case of uterine epilepsy, p. 18 of the same volume, which had a similar termination, described as follows: — " Tandem subiit ægra conjugii leges, et tum melius habere cæpit: cibum appetiit, vires collegit, *menses ordinem servarunt ac paroxysmi epileptici penitus remiserunt*."

FRID. HOFFMANN. *Oper.* tom. iii. p. 21.

See Case VII., in the foregoing section.

to be relied upon. A vein should be immediately opened, and a quantity of blood drawn, which must be determined by circumstances. If there is any flow, though scanty, actually subsisting, it is desirable to avoid syncope, which is sometimes followed by a total cessation of the discharge. In this case the bleeding should be so conducted as to produce a perceptible degree of relaxation in the pulse; and if this is not obtained by a single operation, it should be repeated. The immediate effect of this measure is generally a relief of the pain and oppression of the head, and a lessening of the pulsation in the carotid and temporal arteries. The constriction of the uterine vessels is often removed at the same time; the pain in the back and loins, indicating a difficult and imperfect effort, subsides, and the flow of the catamenia becomes free and natural.

At the same time the other measures, described under the former head of this section, for promoting a free discharge, should be adopted.

In those instances in which epileptic fits occur about the period of the catamenia, the patient not being aware of any obstruction or particular deficiency, the same practice must be pursued. In such cases the relief obtained by the system at the periodical orgasm is probably insufficient: the determination to the uterus, and consequent flow, though not remarkably scanty in proportion to what is observed in other individuals, appears to be deficient with respect to the particular habit of the patient, or takes place too slowly, and with a greater effort and irritation of the system than it ought. Whether this notion is

well founded, or not, experience sufficiently establishes the propriety of adopting the practice I have recommended. I wish to refer the reader to the seventh, eighth, and ninth cases, which are of the character just described.

If the scanty and laborious production of the catamenia should continue, and the fits should obstinately recur at the periodical returns, similar methods must be repeated at the commencement of the constitutional orgasm. A moderate bleeding, together with the use of the warm bath and relaxing medicines, such as saline purgatives combined with antimony and other diaphoretics, will often give rise to a more copious and effectual discharge, and the attacks of epilepsy will be kept off. The use of enemas, such as I have before described, and sometimes a few doses of the oil of turpentine, from half a dram to two drams in a draught, mixed with cinnamon water, or some other aromatic fluid, will contribute powerfully to the same end.

If the dysmenorrhœa should be invincible, much may be done to obviate its injurious effects on the habit by constant exercise, purgatives, and artificial drains. In proof of these positions I beg to refer the reader to what I have noted in the case of Elizabeth Sutton, in the foregoing section.

SECTION V.

Of Maniacal Affections, connected with States of the Uterine Function.

MANIACAL affections are connected, in a variety of modes, with the states of the uterine function. There is even a greater diversity in the complaints that may be referred to this head than in the phænomena of uterine epilepsy.

A sudden suppression of the catamenia, produced by exposure to cold, by over excitement, or by any powerful mental emotion which disturbs the system, is occasionally the prelude to an attack of mania. Such attacks are sometimes of short duration, and subside as soon as the catamenia are restored. In other instances the disease induced is more permanent than the exciting cause, and will even remain obstinately fixed in the system, although the periodical function of the uterus becomes re-established: but this is not the usual course of the disease. When arising from the cause above mentioned, disorders of this class are generally subdued, or very much mitigated, by its removal.

Maniacal affections in young women are not unfrequently conjoined with a great degree of irregularity in the returns and circumstances of the catamenia. In such instances we may, with probability, conclude this to be the cause of the disease; considering the variety of disorders which we continually observe to arise from morbid conditions of the uterine system.

In such cases we also obtain much relief with respect to the affection of the nervous system, if the catamenia can be restored to their regular periods and natural condition.

Many women who experience no interruption to the regular periodical return of the catamenia, display a degree of excitement and irritation in the system at the period of menstruation: these are chiefly females of very irritable habits; a condition of body which generally accompanies the highly sanguine complexion. The greatest degree of excitement generally happens in cases of dysmenorrhœa, or when the flow of the catamenia is slow, scanty, and difficult. In such instances there is often much of what is termed nervous disorder, or affection of the animal spirits: this often assumes a character resembling that of hysteria, and is attended with fits of crying and laughing: in other instances maniacal impressions take hold of the mind: an unusual vehemence of feeling and expression is observed, depending on unnaturally vivid impressions on the fancy: or there is torpor and dejection of mind, with a despondent disposition, and often with some melancholy hallucination.

These symptoms often disappear with the temporary circumstances which had given rise to them, but they are important as marking the tendency of the constitution, and are sometimes the harbingers of a more permanent disorder.

The following cases of madness occurred chiefly in persons of plethoric habit and sanguine complexion. They afford specimens of maniacal disease connected

with dysmenorrhœa, or with suppression of the catamenia.

CASE I.

Rebecca James, admitted June 5, 1820.

A plethoric young woman, of sanguine temperament, aged about thirty. In August, 1819, she was in this house, with the same disease she now labours under. She talks incessantly; is sometimes very boisterous; extremely irritable; subject to sudden flushings of the face. When the state of excitement subsides she remains in a sullen mood, or cries and laughs. Her eyes appear suffused.

Her bowels are rather torpid. Pulse very rapid. Catamenia irregular; often wanting for a time, and always scanty when they do appear.

Sang. ℥xxiv — ex Nuchâ extrahantur ope Cruent. Cucurb.
Episp. Nuch. postea.
Mist. Emetic statim.
Pil. et Mist. Cathart.

June 6. Slept last night; bowels freely purged. She is noisy. Pulse rapid and firm. Skin hot; tongue a little furred.

Fiat Venæ Sectio.
Pulv. Antim. Opii et Jalapii.

15. Cold shower bath was ordered.

July 21. Is very noisy; sent to the pens. No febrile symptoms.

27. In the state of collapse; cries and laughs, or is sullen. Bowels open.

Pil. Confect. Hydr. cum Aloë.

Aug. 19. Convalescent. She went out soon afterwards, apparently well.

She applied in March, 1821, as an out-patient; in great fear that she shall have a relapse. Pain in her head and in her chest. Bowels rather costive. She has had no appearance of the catamenia now for six weeks.

She was ordered to lose sixteen ounces of blood, and take some opening pills. The Turpentine Emulsion was prescribed for her three times in the day, with the Tinct. of Black Hellebore.

In a few days after this medicine was administered the catamenia flowed: she had previously been relieved by bleeding. I saw her soon afterwards completely relieved, and in as good health as usual.

In the following June she came again into the Hospital, in a state of derangement, and was restored by evacuants.

CASE II.

ANNE MARSH, aged thirty-five, admitted May 25, 1816.

An unmarried woman, of middle stature, full robust habit, short neck; face generally flushed; sanguine complexion, viz. light blue eyes, light brown hair. She complains of being extremely nervous: says she has been subject to giddiness from her infancy. She has been for some years a cook, and fancies that her present complaints were brought on by standing near the fire.

Her complaint is not hereditary; it has been gradually coming on for some months. She would frequently start from bed and walk about the room. But it is within the last nine days that the disorder has assumed its present form.

At present her countenance is extremely wild: the pupils of her eyes are contracted, her bowels costive, and her breath offensive. She is very unmanageable, and at times utters a loud dismal shriek, which is always the forerunner of a violent struggle; she kicks and tears every thing near her until she gets into a profuse perspiration.

State of the natural functions.—Bowels costive; breath offensive; appetite keen; catamenia irregular; whenever they are in the least checked, (that is, when they fail to appear at the due time,) the disorder flies to the head: latterly, if any thing vexes her, her head is affected. She says, that if she can cry well her head will not be so much

distressed. When at the best, she talks incessantly. She is very irritable, and cannot bear stimuli of any kind.

Treatment. — Shave the head, and keep open a perpetual blister.

Cathartic Powder, ʒss. every morning.

27. Although the blister has discharged freely and the bowels have been purged, she is not relieved.

Laxative Saline Antimonial Mixture, in Mint Water, every 4th hour.

June 5. Febrile symptoms abated; skin moist; bowels and urine natural.

Repeat the medicines.

12. Complains that the pain in her head is most excruciating; particularly about the forehead.

Twenty ounces of blood were taken from the temporal artery, and she was ordered to continue her medicines.

15. Is considerably calmer: takes her medicines regularly.

20. Is much better; sits up in bed; at times talks rather incoherently.

July 2. Continues to improve gradually.

Nov. 15. Is much better, and is employed as a servant in the house; but still says that her head is troublesome, particularly in the evening.

Dec. 12. Had a slight relapse.

A blister to the head.

Jan. 12, 1817. Has recovered. Employed as a servant in the house, and goes out whenever she pleases.

In March, 1819, she had another attack. She was suddenly seized with darting pain across her forehead; her countenance was flushed; her eyes suffused; her skin is hot; pulse in the arm quick and feeble; the carotid and temporal arteries beat with considerable force; the bowels are open, and the tongue clean.

Capilli abrad.
Sec. Art. Temporis, et fluant sanguinis ℥xvj.
Haust. Cath. 6ta qq. horâ. Low diet.

This single bleeding, with the other measures prescribed, restored her.

Aug. 20. She was subsequently again attacked, and relieved by the same means. Since then she has been free from the disorder.

Nov. 19, 1819. She lives now as a servant in the city, and has suffered no relapse of her complaint. She is still irritable; and if spoken to hastily, will become flushed in the face: if not interfered with, she does very well. She is talkative. If she takes any beer, or the least quantity of spirits, her head becomes affected. She was advised to have an issue, but would not submit to its application.

CASE III.

Susan Lewis, a woman of full habit, fair complexion, aged thirty-five, admitted Sept. 13, 1820.

The mother of fifteen children. About four years ago she complained that she was unwell, and said she was sure she should be deranged at some time or another. About November last she bore her last child: during gestation she complained of what she called rheumatic pains in her head.

From the period of her last delivery she has never been regular: the catamenia have been, for the most part, wanting; and when at long intervals they have appeared, have been very scanty. Since that time she has been in a state of melancholy: displays general dejection of mind, indolence, and is disposed to suicide. Her bowels are irregular; appetite good. She has had a scrofulous affection of the hip for eighteen years: when it heals she is troubled with increase of her headache, and is more uneasy.

Some mercurial alteratives and bitter infusion were ordered.

15. To-day she has the catamenia.

30. She is much improved in her condition.

Continue the medicines.

Soon after this date she became an out-patient, with comparatively trifling ailments.

CASE IV.

Mrs. ——, aged about forty, of strongly marked sanguine temperament, who had borne several children, had evinced, after the birth of the last, an unusual degree of mental excitement. She talked in a loud voice, and in a more vehement manner than was natural to her; she was highly excited by every trifling circumstance, and even by imaginary causes; and with difficulty restrained without absolute coercion: her sleep was disturbed, and she had scarcely any intervals of tranquillity. These symptoms abated as she recovered strength, but they recurred in a greater or less degree about the periods of the catamenia; at which times she displayed symptoms of mental alienation. These disorders appeared with increased violence a few days after the birth of her last child, when she became very unmanageable. At the same time she laboured under intolerance of light, pain, and strong pulsation in the head and flushing of the face. After undergoing some depletion by bleeding and purging, she was gradually restored nearly to her usual degree of tranquillity, though still subject to returns of excitement at the periods of the catamenia. Some months afterwards, in consequence of a sudden alarm, she became suddenly frantic, and fell into a state of raving and incoherent insanity. In this state she refused all sustenance, passed her evacuations involuntarily, and, in spite of all efforts, sunk under her disease, after lying for some time in a state of coma. I was not permitted to examine the body.

SECTION VI.

Of the Nature and Treatment of Cases of Uterine Mania.

I SUPPOSE it will be readily allowed that the theory of maniacal affections, occasioned by suppression of the catamenia, as well as of the more chronic forms, connected with dysmenorrhœa and irregular menstruation, is analogous to that of epileptic attacks occurring under similar circumstances.

Besides the argument for this conclusion, arising from the analogy of the circumstances under which the two diseases appear, there is an additional one in the fact before alluded to, that a large majority of cases, of either description, take place in women of strongly marked sanguine temperament. The changes induced in the functions of any peculiar constitution by similar causes are likely to be analogous.

But, independently of all these considerations, the phænomena of the disease, and experience of the effect of remedies, sufficiently point out what course ought to be pursued in the treatment of uterine mania.

One observation which I have made respecting the treatment of these disorders is the following. In uterine mania, more may be expected from the effect of stimulating emmenagogues than in analogous instances of epilepsy; and frequent and copious bleedings are not, in general, so necessary or so safe in the former disease as in the latter. Yet there are instances of maniacal affections brought on by suppression of

the catamenia, in which the immediate abstraction of blood to a considerable amount, joined to the use of the warm bath, will presently restore the natural function and remove the disease. These are cases of an acute kind, in which the marks of determination to the brain are strongly marked*.

The most efficacious emmenagogues in cases of this class are the Tincture of Melampodium and the Oil of Turpentine. The former may be given in doses of thirty to sixty drops three times in a day. I have repeatedly prescribed this medicine in cases of amenorrhœa; and the flow of the catamenia has so frequently ensued, that I am persuaded of its possessing some power of promoting this discharge. But the Oil of Turpentine is generally more efficacious. This medicine is a most powerful and diffusible stimulant; it acts on several of the secretions, particularly on that of the kidney, and often occasions even hæmaturia. There is no other substance more likely, from its known properties, to exert an influence on the secretive action of the uterus. With this view I have prescribed it in the form of an emulsion, each dose containing from half a dram to a dram of the rectified oil, to be taken three times in a day. Sometimes I have preferred to give two drams of the oil at night, or a double quantity during the day, together with some brisk purgative. Clysters of Ol. Ricini and Ol. Terebinth., of each an ounce, are often successful in bringing the same result. The use of the warm bath should be ordered at the same

* See Cases I. and II.

time. Other stimulants, such as the balsams, and the preparations of cantharides, have probably similar powers; but I have not made enough experiments upon them to enable me to decide as to their efficacy. Chalybeates I have seldom or never prescribed, being persuaded of the impropriety of giving them in cases of this description.

Exercise by walking, if the patient can bear it, is of great assistance in all cases of defective menstruation.

In other respects the treatment of uterine mania must be conducted on the same plan as that of uterine epilepsy; and I refer the reader to what has been said on the regimen to be adopted in the obstinate and protracted cases of that disease: particularly to the observations on the use of issues, and the management of the intestinal and gastric functions. I have reason to believe that disorders of the primæ viæ are often contributing causes to maniacal affections, of which the state of the catamenia is the principal cause*; and that much may be done towards mitigating the disease by attention to the state of the stomach and bowels.

SECTION VII.

On Puerperal Mania.

I HAVE already remarked that the phænomena of puerperal mania appear to me to depend upon the

* See the case of Anne Marsh.

same principle in pathology, to which I have referred those of maniacal affections connected with dysmenorrhœa, or the suppression of the uterine function*.

Puerperal mania chiefly occurs in females of the sanguine temperament; a circumstance in which it coincides with the disorder before described.

In the following case of puerperal mania, the disease was immediately removed by measures which unexpectedly gave rise to a flow of the catamenia.

MARTHA COOK, admitted Feb. 1, 1816.

A married woman, aged thirty-eight years, who has followed the trade of a milliner; of sanguine temperament, light brown hair, blue eyes, fresh complexion, disposition gentle, habits temperate and domestic. She has had six children. After the birth of the two last she was attacked by a disorder, which is said to have been puerperal fever, and became maniacal.

* Since I wrote the substance of the above observations on puerperal mania, the following remark of Dr. Ferriar has occurred to me, which proves that he regarded this disease in the same light in which I have considered it.

" I am inclined to consider the puerperal mania as a case of conversion. During gestation, and after delivery, when the milk begins to flow, the balance of the circulation is so greatly disturbed as to be liable to much disorder from the application of any exciting cause. If, therefore, cold, affecting the head, violent noises, want of sleep, or uneasy thoughts, distress a puerperal patient, before the determination of blood to the breasts is regularly made, the impetus may be readily converted to the head, and produce either hysteria or insanity, according to its force, and the nature of the occasional cause." (I should say, according to the constitutional predisposition of the individual). See Dr. FERRIAR's *Medical Histories and Reflections*, vol. ii. " On the Conversion of Diseases," p. 48.

During the first fortnight after the last delivery she appeared to be doing well. At that period the maniacal symptoms showed themselves.

Feb. 2. Head to be shaved; twelve leeches to be applied to the temples.

Ol. Ricini, ℥ss. manè quotidie.

8. Continues nearly in the same state; is very noisy: sometimes shrieks out violently, as if suddenly hurt.

Emplast. Lyttæ ad Caput.
Repet. Ol. Ricini.

15. No perceptible alteration in the maniacal state. Bowels open. Thirst considerable.

Baln. Calid. hâc vespere.

16. The use of the hot bath has occasioned a profuse flooding. Her head is relieved, and she talks more rationally.

Large pads, wetted with vinegar and water, applied over the pubes.

18. The discharge continues, but is less in quantity. The mental derangement is relieved.

Mist. Aperiens Acida. 4ta qq. h.

22. Is able to sit up in bed; is extremely languid. Pulse 64, and small. Discharge considerably abated. Appetite better. She talks rationally.

Bitter Tonic Mixture.
Repeat the Aperient Mixture if the bowels are constipated.

March 2. Able to walk about the ward without any assistance. Has meat and a pint of porter daily.

Continue the Mixture.

24. Discharged quite recovered.

Observations.—In this case the maniacal affection continued undiminished until a flow of the catamenia was occasioned by the use of the hot bath; after which it immediately subsided, and sanity was soon restored. This fact leads to the inference that, in similar cases, the way to attempt a cure is to endeavour to restore the natural determination to the uterus, by which the whole system obtains its habitual and periodical relief: and if this cannot be

done, to supply the place of the natural determination by the measures which, in other instances, we have ascertained to be the best supplements for it.

The following case may be considered as an instance of puerperal mania, although it came on some time before delivery.

ANNE BRYANT, admitted March 8, 1816.

A married woman, aged twenty-six years, of low stature, meagre habit, pale complexion, smooth skin, light blue eyes, brown hair, low forehead, high occiput.

History of her case.—She is pregnant with her sixth child; in the seventh month; has been indisposed three months: is melancholy; continually crying.

Present state.—Skin hot; pulse quick, full and strong; bowels very relaxed; urine scanty and high-coloured.

Treatment.—She was ordered to be kept in as tranquil a state as possible, and to take half an ounce of Ol. Ricini occasionally.

June 12. She was delivered last night: her mental derangement has continued without alteration.

28. No secretion of milk; takes no notice of the child; child weak.

July 3. Her health is improved; the mental disease as before; the child is dead.

June 30, 1817. Her melancholy continues; it is with the greatest difficulty that she can be got to take food. Her bowels are regular, but the stools are deficient in the quantity of bile; abdomen tumid. Pulse 120, small. Urine scanty and pale. Catamenia have never appeared since she has been in the house. Her skin is moist. She sleeps well.

Haust. Laxans manè quotidie.
Pil. Hydrarg. g. x. bis indies.
Warm bath twice a week.

Her mouth was made sore; the remedies were discontinued. She was still obstinate in refusing food, and no amendment followed. When she had recovered from the effect of the mercury, a cold shower bath was ordered, but she fainted.

A mild nourishing diet was ordered for her, and laxatives as occasion might require.

Jan. 21, 1818. No amendment has taken place.

Pil. Hyd. bis indies.

30. Warm bath of 110 F.

Feb. 9. Mouth affected; appetite improved; takes her food at the table without forcing; sleeps well.

April 23. She has been reduced by mercurials, without much benefit. Seldom speaks. Skin always cold: sits in a fixed posture, and cries if disturbed.

Laxatives occasionally. Omit the mercurials, &c.

May 1. Dec. Cinchonæ ℥ij. cum Acid. Nitrici gutt. 30 ter indies.

July 14. Takes a draught of the Infusion of Rhubarb and Quassia, with Carbonate of Soda, three times in the day.

Aug. 30. She had menstruated, though sparingly, for the first time since she came into the house.

Preparations of iron were prescribed for her, and continued for some time with occasional laxatives, with some benefit.

May 11, 1819. She has become dropsical. Various diuretics were given, among which were Calomel and Squill, but in vain.

June 18. A vein was opened, but syncope followed. Incessant vomiting came on, with febrile symptoms, and it was impossible to ascertain where she was in pain. Effervescing draughts were prescribed.

Aug. 16. After vomiting for some hours, she expired.

Dissection. — Skull very thin. Effusion of bloody serum between the dura and pia mater. A considerable quantity of fluid in the cavities of the brain.

Chest. — Considerable adhesions of the pleura to the sternum; a small quantity of serum in each thoracic cavity.

Abdomen. — Effusion into the cavity: adhesions of the liver to the parietes. The substance of that organ was soft, and the colour pale. The gall bladder was full of bile. The ileum exhibited traces of recent inflammation; gangrenous spots. Spleen soft, like grumous blood.

Observations. — It has been observed that puerperal

mania sometimes makes its appearance before delivery. This would seem to have been an instance of that description.

From the puny stamina of the offspring, it may be conjectured that the due determination to the uterine system had failed at a certain period of gestation; viz. at the time when the disease commenced.

It may be remarked, that subsequently to delivery the natural determination to the uterine system was never restored.

The appearances discovered in the brain display the effects of the morbid determination to the head.

It is not my intention to enter further into the treatment of this form of disease, which depends on the same principles before laid down, modified by the peculiar circumstances of the puerperal state. The public are already in possession of all the information that can be given on this subject.

SECTION VIII.

Of Maniacal Affections occurring at the Period of Life when the Catamenia cease.

I HAVE already remarked that the period of life when the catamenia cease is a time when the constitution is particularly obnoxious to morbid affections depending on irregular distributions of blood. It would be a needless repetition to account for this fact on the principles to which I have so often adverted: for the truth of the observation, I believe every old

woman in England will vouch: at least I hear it appealed to every day by dames of the lower class.

Women who are naturally predisposed to maniacal complaints, (and I presume that no individual can become the victim of insanity, unless he has a constitutional tendency to it, either derived from his forefathers, or springing up anew in his original conformation*,) are very liable to these attacks about the period when the catamenia disappear; or rather soon after they have ceased. This predisposition is greatly promoted in females who lead at this time an inactive, sedentary life, indulge in too stimulating a diet, and are careless of the state of their bowels. A similar effect is produced occasionally by causes of almost an opposite description: women of the lower orders, who labour hard, and exert themselves beyond their strength, particularly in hot weather, (circumstances which stimulate the vascular system,) are liable to this disorder. Solitary and contemplative habits, superstitious apprehensions, the effect of false representations of religion; all mental habits which render the impressions of reverie vivid, and withdraw the attention from objects of sensation and perception, tend to foster this predisposition. All the latter are to be regarded as concurring causes; they have often existed many years, without producing a morbid effect; and would continue to be harmless, if the habitual resource, by which the constitution has relieved itself of

* I have treated on the doctrine of natural predisposition in my Researches into the Physical History of Man.

a burdensome plethora, or of accumulating irritability, had not ceased to avail it.

I shall here add notes of three cases, which I look upon, in the point of view now explained, as instances of uterine mania. The phænomena in all these cases would have obtained for them the term of religious madness, if the circumstances which prove that they had their origin in a physical cause were not sufficiently manifest.

SARAH A——, æt. fifty-eight. Jan. 4, 1819.

A very fat short woman, of melancholic complexion, strongly marked features. Her brother and sister died maniacal: the former cut his throat.

She has, for several years, led a very solitary inactive life; kept a huckster's shop; used to read a great deal, and spend all her time alone. It seems that she was in the habit of indulging herself in eating and drinking.

Pulse full. Bowels regular at the present time. Appetite good; rather voracious. She appears always cheerful, and struts about the ward.

Pil. Cath. Mist. Cath. Low diet.

Oct. 22. No material alteration. Seems to have been relieved by the shower bath, which she has used. Sleeps little; is garrulous. Pulse natural. Begs for a full diet.

Let a full diet be tried.
Affus. Frigida.
Cathartic draught twice in a week.

Dec. 28. The full diet rendered her more noisy and troublesome.

Pil. Cath. o. n.
Dec. Aloes. Co et
Aq. Menth. āā ℥iv.
Magnes. Sulphat. ℥j. M.
Capt. cochl. vj. manè quot.

No remedy produced any material alleviation of her disease, but she was worse on full diet, and more tranquil when kept low.

October 14, 1820. After taking a very full meal of broth, she was attacked by symptoms of fever. Her tongue became brown and dry; her head affected with stupor. She was bled and purged. These symptoms were reduced, and she seemed recovering. She was allowed porter, and some other stimulants.

18. She expired. There had been no increase or alteration in the symptoms which refer to the head. She was clear in her perceptions.

Dissection.—Calvaria heavy: vessels of the dura mater turgid: considerable adhesions of the dura mater to the skull.

A large piece of bony substance at the inner margin of the falx, near its origin.

Vessels of the pia mater turgid: that membrane was thickened, and opake in patches, particularly about the situation of the glandulæ pacchioni.

Effusion of serous fluid beneath the pia mater, entering between the convolutions. Substance of the cerebrum firm and hard. Vessels of the medullary texture minutely injected.

Lateral ventricles considerably distended with fluid; they contained about ʒij of serous fluid.

Plexus choroides pale.

Very small piece of gritty substance in the pineal gland.

Vessels of the cerebellum loaded with blood.

Abdomen.—Great quantity of fat over the parietes. Liver small; not diseased.

Observations.—In the case of this patient there was a predisposition, which was encreased subsequently to the cessation of the catamenia. The circumstances which chiefly excited the disease were a plethoric state, induced by her habits of life, which were calculated to give rise to intestinal torpor and scanty secretions in general, and a full diet, in which she was very prone to indulge. In addition

to these circumstances, her disposition to reverie and abstraction probably contributed to determine the form of her disease.

SARAH RINGSTONE, admitted July 22, 1820.

A woman of melancholic temperament, who has ceased to have the catamenia for two years. About a year ago she began to be desponding; fancied that her soul was lost.

Present state.—Scalp hot; feels a great weight in the course of the great longitudinal sinus, and across the forehead. Carotids beat with considerable force. Pulse in the wrist small and feeble; skin cold and shrivelled; tongue somewhat furred; bowels constipated; sleepless nights. She answers questions very rationally; is conscious of her deranged state.

Treatment.—Head shaved, and covered with cold wet cloths.

Calomel. gr. v. statim sumend.
Haust. Cath. 4tâ quâque horâ donec purgaverint alvum.
Pediluvium. o. n.

These medicines were continued; and a day or two afterwards leeches were applied to the head, and a blister to the nape of the neck.

25. Pain and sense of weight removed: pulse quickened: tongue clean: bowels purged.

Aug. 2. Complains of great heaviness across the forehead; eyes affected by light; giddiness; tongue a little furred; bowels purged; stools watry, black, and fetid; pulse full, intermitting about one in five.

Purgatives were continued, and soon after a bitter infusion, with carbonate of ammonia and aromatic confection, was prescribed.

September 4. She is in an improving state. Allowed to go into the country, under the care of her friends, for change of air.

ANNE HOWELL, aged about fifty-three, of dark complexion, melancholic temperament; an exquisite example

of what is termed religious madness; viz. melancholy, with hallucinations turning on religious subjects: yet the history of the case proves that her disease had its origin entirely in a physical cause.

She lies in bed: has the most gloomy and dejected aspect: moans and complains in a tone of unvarying despair: sometimes utters the most frightful shrieks and yells, so that it is necessary to confine her in a solitary apartment. When interrogated, she gives a most pitiable account of her miseries, which she solemnly avers to be realities, and not the effect of derangement. She believes that she is the object of the eternal wrath of an offended God, on account of her sins. At night she looks out of the window, and sees the gulf of hell yawning to receive her, and myriads of devils in the midst of fire and brimstone. Being told that God is merciful to those who repent of their sins, she replies, that his clemency extends only to those who have a broken and contrite spirit, and that her heart is hardened and dried up within her. She is as fully persuaded that she is eternally damned as she is of her existence.

The disease made its first attack about the period when the catamenia cease; and in consequence, as it appears, of hard labour, exposure, and over exertion at that period. She was working in the open air, carrying bark, in a large tan-yard. After suddenly stooping, to raise a heavy burden, she cried out that she was seized with severe pain in the back of her head and neck. When taken home, and confined to her bed, her senses were confused, and she complained of undefined feelings of distress. Her apprehensions were directed at first to the state of her body; but being desired to pray and read the bible, on opening it she immediately felt that the wrath of God was denounced against her.

Her health was in many respects out of order; digestive function deranged; bowels, &c. irregular. Pulse rather

full. When she first came into the hospital she underwent topical depletion and purging; and became so much relieved that her husband thought it unnecessary to leave her longer in the house, and removed her. She was readmitted in November, 1819.

From this time every method of practice that could be thought likely to relieve her, has been tried, with little success. She has undergone purging, topical bleeding, warm bathing, slight doses of mercury, tonics, bitter and mercurial laxatives; alkalines and absorbents, &c. At one time dark coloured patches appeared on her thighs, and subsequently on different parts of her body; and she was at that time sane. At another period she experienced a slight return of the catamenia; but these appearances were of short duration. In general bitter laxatives, such as the Dec. Aloes, and antispasmodics, agree best with her.

March, 1821. Her bowels are kept regular by the medicines above mentioned. She is greatly emaciated; a very strong pulsation is perceptible on pressing the lower part of the abdomen; viz. that of the descending aorta. She complains much of this beating, and says that there is something alive within her.

CHAPTER VI.

OF EPILEPTIC AND MANIACAL CASES, ARISING FROM METASTASIS; OR THE TRANSLATION OF MORBID ACTION FROM OTHER STRUCTURES TO THE BRAIN.

SECTION I.

Preliminary Remarks.

MORBID affections of the nervous system, arising from the translation of disease from other structures to the brain, bear an analogy in many particulars to that class of disorders in the same system, which originate from an irregular state of the uterine functions. On that account it seems proper to proceed, in this place, to the consideration of the phænomena presented by the former.

The pathological fact, on which the theory of these cases principally depends, has been recognised by medical authors in all ages. Hippocrates was aware of a certain relation between external disorders, such as cutaneous eruptions and ulcerations, and several internal diseases; among which he particularly mentions epilepsy*. He remarked the fact, that these

* Hippocrates supposed this disorder to be occasioned by a cold phlegm. If the peccant humour expend itself in ulcerations behind the ears, or efflorescences on the head, or other external parts, it produces no injurious effect; but if it flow upon the internal viscera, it occasions asthmas, dyspnœas, diar-

diseases are vicarious of each other; and adopted the obvious hypothesis of peccant humours to account for it. A great number of writers have followed him in this supposition; and a multitude of cases, which have a reference to it, are to be found recorded in their works.

The phænomena which occur in consequence of the metastasis of disordered action, from other structures to the brain and nervous system, differ according to the nature and situation of the preceding disease. I shall adopt this principle of arrangement in the following remarks.

SECTION II.

Metastasis to the Brain on the healing of old Ulcers, and Recession of Exanthemata.

ONE of the most frequent and most striking examples of metastasis to the head, is that which ensues on the healing of old ulcers, or the disappearance of eruptive disorders. Accordingly, this is one of the phænomena most frequently observed and recorded. Hoffmann has collected a number of facts of this

rhœas; or, if it cannot pass off by any natural vent, gives rise to epilepsy. His words are: — "Οκόσοισι μὲν παιδιοῖσιν ἐουσιν ἐξανθέει ἕλκεα ἐς τὴν κεφαλὴν καὶ ἐς τὰ οὐατα καὶ ἐς τὸν ἀλλὸν χρῶτα, καὶ σιαλώδεα γένηται καὶ μιξόῤῥοα, ταῦτα μὲν ῥηΐστα διάγει προιούσης τῆς ἡλικιῆς· ἐνταυθα γὰρ ἀφίει καὶ καθαιρέται τὸ φλεγμα· ὁκόσα δὲ καθαρὰ ἐστὶ καὶ μηθ' ἕλκος μηδὲν. κ. τ. λ. τοῖσι τοιούτοισι ἐπικινδυνόν ἐστιν ἁλίσκεσθαι ὑπὸ ταύτης τῆς· νούσου· κ. τ. λ." — HIPPOCRATES *de Morbo Sacro*, cap. iv.

description from the works of Tulpius, Hildanus, and other writers*; and Sauvages, among the forms of epilepsy, reckons one which he terms exanthematic; and among those of mania a corresponding species, which he denominates metastatic†. The votaries of the humoral pathology were led by their theory to be more observant of phænomena of this description than recent authors have been, but similar instances have been frequently noticed by writers of the present day‡.

I have met with repeated instances of disorders in the head, attended with a variety of symptoms, which could be clearly traced to the healing of old ulcers, or the suppression of artificial drains. A remarkable case of this description occurred to me in the instance of a woman, considerably upwards of ninety years old, who, notwithstanding her advanced age, had enjoyed very good health until a short time before she applied to me for relief. She had long been subject to ulceration of her legs, and had seldom been without some drain of this sort during thirty years. At length happening to fall into the hands of a surgeon who was skilful in curing ulcerated legs, she got rid of all her old sores, and was presently afterwards troubled with an affection of the head. When I saw her she complained of vertigo, attended with great debility and anorexia. She would not submit to

* Hoffmann de Morborum Transmutatione.

† Sauvages, Opera, tom. i. p. 585. tom. ii. p. 267.

‡ See, for example, Dr. Ferriar's valuable essay on the Conversion of Diseases.

have an artificial drain formed in her leg, which she was advised to undergo, and in a short time died*.

The relation between convulsive affections and eruptive diseases, is well marked by what occurs in the acute exanthemata. I allude to the convulsion fits, which not unfrequently occur in children as a prelude to the eruption of small-pox; and sometimes as consequences of the recession of the rash in measles, and scarlatina. But attacks of epilepsy are by no means rare as consequences of the disappearance of the chronic or non-febrile disorders of the skin. Dr. Ferriar has mentioned the case of a gentleman who became subject to epileptic fits in consequence of the disappearance of scabies, after the use of some external application, and who was suddenly cured of them, after a variety of remedies had been tried, by reproduction of the itch. Hoffmann has reported a similar instance. In this case epilepsy made its attack after the skin had been twice rubbed with an ointment prepared for extinguishing the cutaneous complaint. It is well known that the repulsion or cure of porrigo purulenta in children is often followed by convulsive fits.

* Dr. Parry has recorded a case parallel to this. An old man, who had lived freely, had a chronic inflammation of one of his legs, accompanied by œdema. Both these affections were greatly relieved by the application of a tight bandage. In a few days he was, for the first time in his life, seized with violent epilepsy. — *See* Dr. PARRY's *Elements of Pathology and Therapeutics.*

In other instances the brain and nervous system become affected in a different way; viz. by the disturbance of the intellectual faculties; and this affection is various, according to the nature of the external disorder that preceded. Acute eruptive diseases produce, in general, when repelled, stupor and delirium; while the disappearance of more chronic eruptions gives rise to degrees of mania. Delirium from the recession of erysipelas is a phænomenon of the former class: it often finishes its course in a few hours; the inflammation which takes place in the brain, as well as in other internal parts, in consequence of the translation of this disease, being more prone to pass into effusion than that which ensues on other inflammatory disorders.

In the following case a recession of the eruption of rubeola was immediately followed by an attack of delirium.

Mary Hamlet, admitted at the Hospital April 21, 1818, in the evening.

A woman of sanguine temperament, aged twenty-five years, recently delivered. She was attacked a few days ago by measles. The eruption was suppressed, and delirium followed. She was brought into the hospital under a phrenzy warrant.

The vessels of the tunica conjunctiva are slightly reddened; the eyes suffused; the scalp and the skin generally hot; the pulse quick and soft; the bowels regular. She is very unmanageable.

The head was ordered to be shaved, and kept covered with wet cloths: this was to be done after the application of twelve leeches.

Pulv. Cath. statim.

22d, morning. Slept a little in the night: at times her body was much agitated: her countenance now lively. She continues

incoherent: at times has the appearance of suffering, and says she is in pain all over: complains when the epigastrium is pressed. Bowels freely purged. Skin cool. Pulse irregular. Secretion of milk suppressed.

She was ordered to take, every third hour, a powder, consisting of Nitrate of Potass, Tartarized Antimony, and Jalap, in small doses, and to be put into a warm bath.

Six ounces of blood were taken from her arm in the course of the day, which formed a firm crassament, covered with a buffy coat.

In the evening a powerful reaction was found to have taken place. The pulse was 120, full and strong; the skin was warm and moist: the secretion of milk restored, and the breasts distended. Cough; hurried respiration: weight in the head. She is quite rational.

V. S. in brachio—fluant ℥xxiv.
Hirud. vj. ad pectus et Emp. Lyttæ.
Continue the medicine. Breasts drawn.

23. Very restless: skin cool: pulse quick: easily compressed. Tongue red and glossy. The temporal and carotid arteries pulsate strongly.

V. S. fluant ℥viij. Hirud. 12. ad tempora.
Haust. Cath. statim.

9 P. M. She has passed a worm from the stomach. Much relieved: but the delirium continues.

Emp. Lyttæ ad caput.

24. She has passed a restless night. Is noisy. Her bowels have been freely evacuated; the stools offensive. The skin cool; the tongue somewhat furred.

Pulv. Cath. statim.
Opiate draught at night.

25. She slept during the night; is drowsy; her tongue dry; some appearance of sordes about the teeth. Skin hot. Pulse 130, easily compressed. Bowels relaxed; stools dark-coloured and offensive. Urine scanty. The pupil of the eye dilates and contracts occasionally. Secretion of milk continues scanty.

A cathartic powder was ordered to be given immediately, and mercurials to be repeated at short intervals, with diaphoretics, until the mouth should become affected. She was again bled.

On the 27th ptyalism came on. From that time she continually improved, and was discharged, cured, on the 22d of May following.

In this case the immediate exciting cause was the suppression of an exanthema, or the metastasis of inflammatory action from the cutaneous texture to the brain, or, most probably, its membranes; but the circumstances of the case prove that there were other concurring causes, which probably contributed to the effect. I mean, in the first place, that condition of the system which exists after delivery; this is well known to predispose strongly to attacks of maniacal disease; and, secondly, the disordered state of the intestinal canal, as evinced by the discharge of worms, and by the appearance of the evacuations.

This woman was bled to a considerable extent; but this was not done until reaction had taken place, and had ushered in symptoms of oppression in the chest. Until this state had supervened, great caution was observed in the use of the lancet. Local applications to the head, which was shaved, a warm bath, with antimonial doses determining to the skin, and evacuating the bowels, were the means which were resorted to; and which so far relieved the head that she was, as it was observed, rational on the following day. But the disorder continued to recur until the constitution became under the influence of mercury.

SECTION III.

Of Metastasis to the Head, producing Maniacal and Convulsive Diseases, in Cases of Gout and Rheumatism, and of the Inflammation of Serous Membranes.

It is well known that severe affections of the brain occasionally take place after the sudden disappearance

of gouty or rheumatic inflammation of the joints, and of the inflammation of serous membranes, as of the pleura and peritoneum*. The consequences of this metastasis are sometimes epileptic fits; in other instances, delirium of the raving kind, which often terminates in a state of coma, the harbinger of death†.

Among the cases of epilepsy detailed in the foregoing pages, there are some instances in which the disease was suspended or removed by the supervention of an inflammatory disorder of the joints. Several cases have occurred, within my knowledge, in which rheumatic affections of the joints seemed to alternate with, and to alleviate, and, for the time, overcome diseases of the brain. The following is a brief outline of a case in which an inveterate epilepsy seemed to be suspended by inflammatory rheumatism. The fits never recurred; but, on the subsidence of the rheumatic pain, the disease of the brain destroyed the patient. The encephalon bore the clearest vestiges of inflammatory affection.

Mary Jenkins, an old inhabitant of St. Peter's Hospital. The first note I have of her case is dated Aug. 15, 1811. A woman of short stature, spare habit, about fifty years old, who has long been an epileptic. During the last four months she has experienced no attack of her

* Dr. Parry observes, that he has witnessed, in a variety of cases, the mutual succession of gout, mania, and epilepsy. "I have seen," he says, "in several instances, fits of epilepsy wholly superseded by those of gout." — *Elements of Pathology, &c.* p. 376.

† Apoplexy is sometimes the immediate effect of this translation, but the consideration of this disease belongs to a future part of this work.

disease. She labours under rheumatic pains in her limbs, with a cough and diarrhœa, and still complains of vertigo. She took medicines some time ago, to which she attributes, without reason, as I imagine, the cessation of the epileptic paroxysms.

A small dose of rhubarb and calomel was ordered for her every night, with a view to the state of the bowels.

Aug. 20. Diarrhœa somewhat relieved. She is troubled with severe pains in her head, attended with giddiness.

Shave the head: apply a blister to the occiput.
Pulv. Cath. gr. xxv.
Cold shower bath afterwards.

23. Her pains are extremely severe in the limbs.

Calomel—Pulv. Antim. āā gr. ij. o. n.
Pulv. Opii, gr. j. o. n.

The rheumatic disorder became mitigated, but the affection of the head increased, and she gradually sunk into a comatose state; under which she expired on the 4th of September.

The vessels of the pia mater and of the brain were found highly injected with blood, and the lateral ventricles distended with a large quantity of serous fluid*.

Observations. —In this instance the morbid appearances were, perhaps, in great part the effects of the previous disease, which had subsisted so many years; but which, being subsequently aggravated, put a period to existence. When the brain is affected for the first time, in consequence of similar metastasis, the vestiges of inflammation are sometimes comparatively slight. About six years ago I attended a boy who laboured under a slight inflammatory affection of the chest. This disease was removed by the appli-

* I have before me the outline of a case of chorea, which alternated in a most distinct manner with inflammatory rheumatism. The circumstances of this case will be mentioned when I proceed to consider the pathology of chorea.

cation of leeches; but after having passed two days, apparently in a convalescent state, the patient was suddenly attacked by violent delirium, and died comatose in somewhat more than twelve hours. The vessels of the membranes surrounding the brain were found injected with blood, and the whole encephalon appeared somewhat redder than usual, but there was no effusion of any kind; nor, unless my recollection fails, any species of disorganization. Mr. Abernethy mentions that he has seen three instances of affection of the head supervening on the metastasis of rheumatism, in which the patients died comatose; yet, on dissection, no other morbid appearance was discovered than slight marks of inflammation in the pia mater. The inference which results from these cases, compared with other analogous phænomena, is, unless I am greatly mistaken, not that the disease which has attacked the brain is not of the nature of inflammation, but that acute inflammation of the encephalon, coming on under such circumstances, is capable of destroying life during its first stage, and before any of those changes of structure have supervened which are often so strongly marked in cases of cerebral affection, and while the disease is of that kind which leaves but comparatively slight vestiges; such as mere discoloration of membranes, and increased turgescency of blood-vessels.

With respect to the practice to be followed in cases of this description, it certainly ought not to be founded on any theoretical ideas respecting the nature of the disease, but chiefly on experience of the effect of remedies, and the state and circumstances of the

patient in each particular case. The result of my own observation would not induce me to venture on copious bleedings with great confidence. Unless the excitement of the circulation is excessive, I should prefer to afford relief by cold applications to the head and topical bleeding, or by shaving the head, and covering it with a blister, according to the degree of heat and circulation in the scalp, using at the same time a hot bath, or fomentations, with stimulating applications to the lower extremities, and administering frequent doses of calomel with diaphoretics, and opening the bowels by means of enemas, containing oil of turpentine and castor oil.

With this department of cases may be connected those instances in which phthisis has been converted into mania; a fact which has been repeatedly mentioned by practical writers.

SECTION IV.

Of the Metastasis of Dropsical Inflammation to the Brain, giving rise to Convulsive or Maniacal Affections.

A THIRD example of metastasis to the encephalon occurs in dropsical complaints. Several cases of epilepsy have been recorded which supervened on the disappearance or diminution of anasarcous effusion*.

* Dr. Ferriar, in the essay above alluded to, has given an account of a case of this description, from Lieutaud.

Mania has also occurred under similar circumstances*.

On the dissection of the head, in some cases of this description, a considerable quantity of serous fluid has been found in the cavities of the encephalon; and from this fact, compared with the circumstances under which the disorder has occurred, it has been supposed that these affections depend simply on an absorption of the fluid effused into the cellular membrane, and a new deposition of it in the brain. A translation of inflammatory action, or vascular determination from one structure to the other, has not, as far as I know, been suspected. That such, however, is, at least in some instances, the real nature of the case, will, I think, be proved by the following case: —

George Coles, aged thirty-four, was admitted an in-patient at the Infirmary, labouring under anasarca, on Sept. 20, 1820. He had been ill of that disease six months. He was bled, took purgatives and diuretics, and seemed to be getting rather better, until the night of the 28th, when he was attacked by diarrhœa, and pain in his bowels.

On the morning of the 29th he was seized with a convulsive fit, which lasted about half an hour.

About an hour after the fit he was lying comatose, but

* Dr. Mead has mentioned a case in which the patient, a young lady, who was in the last stage of dropsy, was attacked by mania. The case terminated in recovery. Dr. Mead attributed the cure of the dropsy to the effect of hydragogue medicines. Analogy and experience indicate that the translation of disease was the real cause.

very restless, turning constantly about. Pulse about 95, and full. Pupils natural.

V. S. et fl. ℥xvj.
Epispast. ad Nucham, Capillis Abrasis.

He had several fits during the day. In one of these, which took place about four o'clock, he was much convulsed, foamed at the mouth, respired with a deep sound.

About ℥xx of blood were taken from the temporal artery, and a sinapism applied to the nucha, the blister not producing any effect, and he was ordered two gr. of elaterium every fourth hour.

30. He has taken five of the powders. His bowels have been opened three or four times, and once or twice involuntarily. He has partially recovered his consciousness and perception; but, when left undisturbed, lies asleep, breathing sonorously. Pulse 88, strong.

He is under an almost constant tremor, resembling rigor of ague, but so strong as to shake the bed.

Hirud. xxx. Capiti.
Vesic. ampl. Nuchæ.
Sinapism. ad pedes.
℞ Calomel. gr. vj.
Elater. gr. ij.
Pulv. Digital. gr. j.
4tâ. quâque horâ.

Oct. 1. Much purged all last night. Took five or six of the powders: he had no more fits, and seemed to be more sensible, but, about eleven o'clock, P. M., gradually sunk and expired.

He was never before subject to fits. On the day of their appearance his head seemed swelled; the dropsical effusion appearing to be determined towards it.

Dissection. — Six hours after death. A great quantity of blood flowed from the incision in the scalp; and when the skull-cap was removed, and an opening made into the longitudinal sinus, fully half a pound of blood flowed out; which, after standing some time, coagulated. The veins of the brain were rather turgid, and would, doubtless, have been more so if the sinuses had not been opened first.

There was a slight effusion of serum under the arachnoid membrane, and in the ventricles.

At the basis of the brain, at the posterior part of the middle lobe, on each side, was a coagulum of blood, in quantity about half an ounce. A small surrounding portion of the pia mater, on the right side, near the effused coagulum, was evidently inflamed; but its texture was unusually firm, and a considerable quantity of serum was found at the basis.

The pericardium was full of fluid. The left ventricle of the heart much thickened. The cavity of the thorax contained fluid, and the lungs were anasarcous.

Fluid was also found in the abdomen, but there was no appearance of disease of structure in any of the abdominal viscera.

The foregoing case is the only instance I have seen of hydropic metastasis producing convulsive or comatose disease; but I have now a patient at St. Peter's Hospital who has long laboured under ascites, and is also troubled with vertigo and pain, evidently depending on determination of blood towards the head. The remarkable circumstance in her case is, that the affection of the head, and the abdominal disease, alternate with each other. When the dropsical effusion, which is evidently in this case an effect of inflammatory action, increases, the disease of the head is diminished. When the exhalant arteries emit a greater quantity of fluid into the abdominal cavity, the determination to the head is, for the time, subdued. Both of these disorders are relieved by bleeding, topical or general, and the dropsy by saline purgatives and diuretics.

With respect to the pathology of cases which fall under this description, it is scarcely possible to draw any conclusion from a few instances; yet, I confess that I feel a persuasion, from the facts which have fallen under my notice, that in the metastasis of hydropic inflammation to the head, a much more decidedly marked determination of blood to the brain will be found to have taken place than in that class of cases which were considered in the last section. Should this prove to be the fact in general, as it was in the two cases I have just related, our reliance must be placed more upon the abstraction of blood. We must, however, at present be guided in practice by the phænomena of particular cases, rather than by any general presumption respecting the pathology of the whole class.

SECTION V.

Of Metastatic Disorders of the Brain, consequent on the Removal of Tumours.

TUMOURS, formed on any part of the body, require a particular determination of the fluids towards them, for the maintenance of an extraneous growth. This, if the disease has not arisen in the first place in consequence of some constitutional disorder, gives rise, by its continuance, to a particular state of the habit; with which it becomes so connected, that, on the removal of the tumour, the system suffers from the want of an accustomed drain. A person who has recently lost a tumour under such circumstances, is in

a situation not unlike that of a woman recently delivered. The consequence is the diseases of plethora, and of a nature bordering on inflammatory diathesis.

The effects of this metastasis are various: sometimes epileptic fits ensue; at others, mania is the result. The subject will be best illustrated by inserting a case of each description.

SARAH HARRIS, aged twenty-four years. Jan. 24, 1820.

A healthy looking girl, of sanguineo-melancholic temperament.

She complains of severe pain under the left parietal bone. On the opposite side of the head she has a cicatrix, on a spot whence a tumour was removed when she was five years of age. From that period she has been more or less subject to epileptic fits. She used to have them at uncertain periods, once in a month or two, and sometimes several occurred in a day. About three or four years ago she got nearly rid of them: they never troubled her, as she says, for a year together. About the latter end of last December she scalded herself, and the fits then returned: she has now been for some time troubled with great giddiness and pain in her head.

Abrad. capilli et vesicat. ad caput admoveatur.

27. The blister and shaving of the head have entirely removed the pain. She now feels well in her head. Has had no fits since she was admitted.

31. Has taken constantly the Mist. Lax. Ant. Has no ailment.

Feb. 3. Head well: has pain in the back. Catamenia now flowing. Pulse slow, soft, natural. Tongue white.

7. Pain in the back to-day abated. House diet.

12. Tongue furred. An attack of vertigo seized her yesterday evening, with headache, and has much troubled her to-day.

V. S. fl. ℥xvj. Afterwards Pulv. Ipec. ʒss.

M. Aper.—Haust. Efferves.

16. Vomited, after the emetic, a large quantity of black matter, of bitter taste. Head relieved by the bleeding.

Pil. Cath. o. n.—Mist. Aper.

25. A good deal purged. Is now well.

She was soon afterwards discharged.

Observations.—The proximate cause of epilepsy was here evidently of the nature of inflammation, or increased action. The disease first occurred after the removal of a tumour, which acted as a drain. In consequence of an accident, which produced a new irritation in the system, the fits had been renewed, with continued pains in the head, and vertigo. These disorders were relieved by evacuations, general and local, and entirely subsided after the return of the catamenia.

Mary-Anne Humphries, aged forty, admitted March 6, 1818.

A woman of sanguine temperament, who has lately undergone an operation for the removal of a large tumour from the neck of the uterus. Previously to the operation some slight aberrations of mind had been noticed, in consequence of her receiving information that her husband had suffered shipwreck. The removal of the tumour was followed by an attack of complete insanity.

Horâ 8. P. M. She has undergone large evacuations, and is much exhausted; her countenance pale; skin cool: pulse at the wrist scarcely perceptible; it was counted in the temporal artery, and was found to be 110. Her tongue is dry: there is no remarkable heat of the scalp. She is persuaded that the devil has possession of her.

Haust. Opiat. c. Vin. Antim. T. h. s.
Hirudines xiv. ad tempora.
Empl. Lyttæ ad Nucham.
Head ordered to be shaved and kept covered with wet cloths.

March 7. She was relieved by the leeches, and slept well.

Urine copious and high-coloured. Skin cool. Pulse at the wrist encreased.

Haust. Cathart. 6tâ quâq. horâ donec alvus soluta sit.
Postea Pilula ex Calomelan. gr. iij. et Opii, gr. j. 6tâ qq. h.
Mist. Salin. cum Sp. Æther. Nitros. et Liq. Antimonii. T. 3tiâ quâq. horâ.
Baln. Calid. vesp. Milk diet.

8. Pulse at the wrist rapid; easily compressed. Temporal arteries beating with considerable force. She slept well last night, but is delirious this morning. Skin cool: tongue moist: bowels purged: stools offensive; not very dark-coloured.

Hirud. 12. ad tempora.
Empl. Lyttæ capiti.
Repet. Haust. Cath. pro effectu.

9. Pulse at the wrist fuller and less frequent. She was much purged last night. Her countenance has lost its expression of anxiety, and she is perfectly rational. Says she has appetite.

℞ Infus. Rosæ. ℥viij. Magnes. S. ℥ij. M.
Capt. ℥ij. 4tâ qq. h.
℞ Pulv. Ipec. Comp. ʒss. Calomel. gr. iij. M.
Ft. Pulv. Sumend. bis indies.

11. Sleep disturbed. Aberration of mind. Pulse small and quick. Bowels griped and purged.

Omitt. Calomel. et Pul. Dover.
Repet. Haust. lax. et habt. Haust. Anodyn. ter indies.

She has a severe inflammation in one of her knee joints.

Cold Lotion to the knee.

17. Is perfectly rational: bowels open: appetite natural. Pulse soft, regular, easily compressed. She sleeps well. Knee continues inflamed.

Anodyne Draught at night.
Laxatives in the day.

25. Again slight aberration of mind. Pulse small, feeble, 130. Scalp hot: pulsation in the carotids powerful.

Haust. Cath. statim.
Hirud. xij. ad Temp.
Emp. Lyttæ Nuchæ.

26. Relieved. From this time she had no further symptom of maniacal disease. A large abscess was formed in her knee: she became exhausted by the great discharge; a profuse diarrhœa came on, and, in spite of the use of cordials and astringents, carried her off on the 11th of August. The body was not suffered to be examined.

Observations. — The origin and termination of this case of mania are remarkable, and tend to illustrate its pathology. The disorder came on after the removal of a tumour, the growth of which had previously determined, in a different direction, the vascular energy of the system, and thereby relieved the head. The disorder of the head continued, with some intervals, which were obtained by the efficacy of purgatives, and the evacuant means applied to the head itself, until a new cause of local determination had been supplied in the abscess which formed in the knee. As soon as the suppurative inflammation took place in this part the disorder of the brain ceased. If the discharge had not been so profuse, or if the woman's strength could have been supported under it, it is probable that the local disease, which destroyed her, might have been the means of restoring her to health and sanity.

SECTION VI.

Other Facts illustrative of the Pathology of these Cases.

Other examples of metastasis might be found, in which disorders of distant parts suddenly subside, and are followed by affection of the head. But I believe they may all be shown to be analogous to some of the above mentioned cases; and it would be useless to enter into a more particular enumeration of varieties,

which lead to no important conclusions in pathology or practice.

In order to render my account of this subject as complete with respect to pathology as possible, I shall now insert some notes of cases which are the converse of those hitherto related; viz. in which maniacal affections were cured by the substitution of another diseased action. In these instances the origin of the maniacal disorder was various, but the disease was in all cured by the supervention of contagious fever.

John Lewis, admitted June 26, 1816.

A shopman, of honest and decent character, aged twenty-eight. Temperament melancholic, hair and eyes dark, habit thin, forehead high.

History.—He has been deranged five weeks. No cause can be assigned except a disappointment in love.

Present state.—Talks very incoherently, but is not violent. Countenance wild: pupils contracted: head hot: tongue white.

Treatment.—Head shaved and blistered.

Magnes. Sulphat. ℥j. manè quotidie.

July 6. In the same state.

Cupping glasses to the neck. Sixteen ounces flowed.

18. Head much cooler. Appetite improved. Bowels regular.

Shower bath every morning.

June 1, 1817. Remedies of the same description have been continued up to this time with little decided benefit. He has been rather worse during the last fortnight.

Ven. Sec. fluant ℥xij.

Pulv. Cath. bis in septimana.

In the month of August this man was attacked with contagious fever*, which was then prevalent. When he

* It must be observed, that the arrangement of St. Peter's Hospital is such that male lunatics are placed in the same ward

became convalescent his insanity left him, and he has continued well. (Note of Mr. Kift's, dated Nov. 29, 1819.) He is now employed as a wood-cutter in the neighbourhood of Chepstow.

Observations.—This case is not otherwise remarkable than as affording an instance of an obstinate disease cured by the supervention of fever. The same remark applies to the following case:—

MARY GUEST, Aug. 9, 1818.

A married woman, aged thirty-six, of sanguineo-melancholic temperament. No account can be obtained of her case. She is emaciated: under considerable debility. Mutters to herself: is occupied with superstitious apprehensions: if roused, she is irritable.

Warm bath twice in a week.
Full diet.
Purgatives as occasion may require.

May 1. Considerably improved.
Continue as before.

July 28. Has a return of her symptoms.
Pulv. Ipecac. ℈j. statim.
Haust. Cath. cras manè.

Aug. 4. She was attacked by pains in the limbs, and other symptoms of fever: her head became considerably affected. It was shaved; she was bled and purged.

12. The symptoms of fever have subsided. Her mouth is much affected by calomel.

℞ Infus. Amar. cum Acid. Sulph.

From this time she had no return of mental derangement. She was employed about the house for some time, and then left Bristol for Ireland.

with persons labouring under contagious fever. We have thus an opportunity of frequently witnessing the effects of fever communicated to maniacs.

ANNE JAUNCEY, admitted June 17, 1817.

Description. — A married woman, aged twenty-eight years, the mother of three children. She is of tall and slender make, has brown hair, dark grey eyes, a low forehead, sharp features. Her natural disposition is irascible.

History. — She has never been before affected with maniacal symptoms: this attack is supposed to have been brought on by intemperance. Her husband is insane, and is confined in this house: his disorder is attributed to vexation, in consequence of the loss of property.

Present state. — She is extremely irritable: talks incessantly on different subjects. Frowns and closes her eyes, as if intolerant of light.

Treatment. — Shave the head.

Haust. Cath. manè et nocte.
House diet.

July 20. The purging has been continued. Little or no amendment.

Cold shower bath. Continue the purgatives.

Aug. 17. No improvement has taken place. Pulse full, not quickened. Complains of weight and pain in the head: is drowsy. She has had an interview with her husband; neither of them appeared to be aware of their situation.

V. S. et fluant sang. ℥xvj.

Syncope followed; blood of loose consistence.

The bleeding relieved her. From this time she continued to be troubled occasionally with pain in her head, attended with increased pulsation of the carotid and temporal arteries, and a renewal of her restlessness and maniacal symptoms; which were generally relieved, for the time, by the application of leeches to the head, blisters to the nape of the neck: her bowels were constantly kept open, and she generally used the shower bath.

About the 2d of January, 1818, she had a slight attack of contagious fever, which subsided in about a week. From that time she gradually recovered, and was discharged, cured, on the 26th of the following June. Full

diet was allowed her from the time of her becoming convalescent from fever.

Observations.—This was evidently a case of inflammatory congestion in the head. It was excited by dram drinking, and relieved by local depletion; but not cured until a new disease took place, which altered the determination of the vascular system, and overcame the tendency to congestion in the head.

A similar excitement to disease of the brain is occasioned by the suppression or cessation of habitual hæmorrhages.

SECTION VII.

On the Treatment of Maniacal and Epileptic Cases, arising from Metastasis.

ALTHOUGH, with a view to comparison and to pathological arrangement, I have brought under one head a variety of cases depending on metastasis, I have no design to infer that these disorders are all to be treated exactly in the same manner: but the diversities of practice which are called for, as well as the general principles to be laid down, will be best illustrated by this arrangement.

I have before observed that the pathology of these disorders is similar, in some respects, to that of uterine cases. We are thence led to inquire how far they are to be treated in a similar manner. The principal indications are very analogous, but they are not always to be attained by similar means.

1. In the first place, venesection is not so generally applicable in metastatic as in uterine cases.

In such examples of metastasis to the brain, as are consequent on the stopping of any habitual hæmorrhage, as of hæmorrhois or epistaxis, especially if occurring in vigorous and plethoric persons, the abstraction of blood may be ventured upon as freely as in those cases in which it has been recommended in the foregoing chapter. The same observation may be made when it supervenes on the healing of old ulcers which have been attended with a considerable discharge.

The same rule, unless I am deceived, may be observed in cases of hydropic metastasis. The determination which takes place towards the brain in cases of this description, appears to be considerable, and scarcely less powerful than that which is the sequel to hæmorrhages.

In cases of metastasis, when the primary disease has been situated in serous membranes, the disease of the encephalon probably differs considerably from that which occurs in the forms of disease above mentioned: the marks of increased vascular action, or arterial plethora, are less decided. The theory of these cases is not so well understood as to afford a safe guidance to practice; but, as far as I can venture to draw an inference from the *facts* of which I am in possession, I believe that topical bleeding, by cupping glasses or leeches, is preferable, in such instances, to venesection in the arm: the strength of vascular action in the head and neck, and the degree of heat of the scalp, as well as in the extremities, are circum-

stances which must be considered in directing these measures.

When the disease arises from the recession of the exanthemata, the same observations may be applied. On the disappearance of measles, for example, large general bleeding would be improper. The circulation is in such cases weak and irregular. In the metastasis of erysipelas producing mania, I have seen it employed without any relief. It is only when the general circulation is strong, and the skin generally hot, that it promises advantage.

I may remark, that in general the abstraction of blood seems more to be indicated in instances of epilepsy than in those of maniacal affection.

2. Purging is a remedy which may safely be employed in cases of this description; and it often answers in a great measure the purpose of bleeding. If there is any general febrile action, it should be employed vigorously; but with some caution in cases of exhaustion, or when the pulse is feeble and variable.

3. The most important indication is to produce a new determination; or, if possible, to restore that which existed previously to the metastasis. A hot bath should be used to determine to the skin, especially after the recession of exanthemata. In some cases a pediluvium, or fomentations, may be preferable. Heat of the surface should be maintained by friction and warm clothing, or wrapping in flannels. Blisters may be applied to any previously affected part; or, in other cases, to the nape of the neck. Irritating ointments and liniments, as one containing tartarized antimony, or liquor ammoniæ and oil, may

be used in many cases*. Sinapisms to the soles of the feet or legs, and all the corresponding parts of this regimen, may be adopted.

Among the cases related in the foregoing sections of this chapter, there are several in which a decided relief was obtained from some discharge, which, in general, took place spontaneously; and this confirms the propriety, on other accounts sufficiently manifest, of establishing issues or setons in some part of the body. In cases which are not likely to terminate too speedily, a seton or issue should be inserted without delay. But on the advantage to be derived from drains I shall express myself more fully when I proceed to consider the cases of epilepsy, or maniacal affection, arising from causes which primarily act upon the brain and nervous system.

4. Another remedy which I have found efficacious in this class of disorders is mercury; so administered

* I met, some years ago, with a remarkable instance of the benefit accruing from this measure in a case of phthisis, which appeared to have taken its rise from the repulsion of an eruptive disorder. The patient, who was a young man, laboured several months under all the symptoms of genuine phthisis. He expectorated purulent matter, had hectic fever, with debilitating perspirations, and had become extremely emaciated. On discovering that he had formerly been subject to a cutaneous disorder of the legs, which had discharged freely, and the suppression of which had preceded the attack of pectoral disease, I ordered him to rub his legs with an ointment, containing tartarized antimony. While he was using this application the disease of the legs re-appeared, and became very considerable. From that time he gradually recovered; and I have not heard of his suffering any recurrence of the complaint in his chest.

as to bring on ptyalism. In the first case reported in this chapter, the patient recovered as soon as the constitution became affected by this remedy; and I have witnessed an equally decisive effect in other instances. I am by no means disposed to approve of the frequent, much less of the indiscriminate use of mercury, in disorders of the brain and nervous system: but in cases of the description I am now referring to, I am persuaded, by experience, that it has a peculiar efficacy.

We have seen, in the last section, that a new febrile disease supervening has often the effect of removing, or suspending, the disease of the brain. It is probably on this principle that mercury is efficacious in relieving patients who labour under maniacal disorders; and it seems most likely to afford benefit in those cases of mania which arise from metastasis. In metastatic epilepsy it does not appear to be so decidedly useful.

CHAPTER VII.

OF EPILEPTIC AND MANIACAL CASES, DEPENDING ON A DISORDERED STATE OF THE INTESTINAL CANAL.

SECTION I.

Introductory Remarks.

MEDICAL practitioners have long been aware that a variety of diseases in the nervous system arise from a morbid state of the stomach and intestinal canal. But the ideas commonly entertained respecting the nature of these affections are not very defined or consistent.

I believe the notion which most generally prevails respecting the supervention of nervous affections on disorders in the intestinal canal, is, that they arise by what is termed sympathy, and without any other disease of the brain than what is implied by the expression that the whole nervous system sympathises, in some unknown way, with the irritated portion of the stomach or intestines. It is not commonly imagined that any inflammatory process is set up within the cranium, in consequence of the disordered state of the digestive organs; or that organic disease of any part of the nervous system is an intermediate step between the original malady in the abdomen,

and the subsequent manifestation of its effects in the state of the animal functions.

I am persuaded, however, after a long continued attention to this subject, that the general progress of disease, where morbid affections of the intestinal canal are followed by disorder of the nervous functions, involves an intermediate affection of the cerebral and nervous fabric itself. The proofs of this opinion I cannot bring into one connected statement: they will result from the accounts of particular cases, of dissections, and from other observations, which are to be comprised in this chapter. The disease which I suppose to be produced in the brain, and other parts of the nervous system, is a state of morbid plethora in the blood-vessels belonging to that fabric. I shall not pretend to determine whether this always constitutes a degree of inflammatory affection, or sometimes amounts only to simple congestion. I have indeed before observed, that I do not know in what consists the difference between these states.

By what train or connexion this disorder supervenes on the idiopathic or primary affection of the alimentary canal, I do not pretend to conjecture. It is, however, by a different process from that which subsists in the case of metastasis: in that instance a disorder of a new part takes the place of the old one, which subsides; in the case we are now considering, on the contrary, disease supervenes in the nervous structure, without in any degree diminishing the morbid affection which previously existed in the intestinal canal.

I have reason to believe that the disorder of the intestinal canal itself is much more frequently of an inflammatory nature than it has generally been suspected to be. In that state of the canal which gives rise to costiveness, alternating with diarrhœa, and accompanied with indigestion, flatulence, and eructations, anorexia, and nausea, transient but often acute pains in the hypochondria, livid and yellow suffusions of the skin, viscid secretions in the mouth, white furred tongue, redness of the fauces and palate, the whole train of symptoms often depend upon a low degree of chronic inflammation in the mucous membrane of the intestinal canal*: and this is, perhaps, a

* The symptoms of this diseased state are admirably described by Dr. Ferriar, who experienced them in his own person. He says, "Another symptom of dyspepsia frequently deceives even experienced practitioners: this is a pain in the right side, in the region of the liver; commonly fixed, but sometimes shooting back towards the spine. With this there is often a slight, but permanent, yellow suffusion of the eyes and countenance, great anxiety, frequent distention of the abdomen, and, before the returns or exacerbations of pain, the urine is of a bright green colour. The tongue and lips grow dry, and are divided by fissures; the former is covered by a rough bilious crust, and the legs swell slightly in the evening. The pain in the side is sometimes very severe, and is then attended with pain on the top of the right shoulder. These symptoms altogether give such a strong suspicion of an hepatic affection, that it is not to be wondered if we find cases of this kind too readily treated as such. From careful observation, however, particularly in my own case, when I suffered this complaint several years ago, I have no doubt that all these symptoms may be produced by acidity in the stomach, and a spasmodic affection of the duodenum, without any organic

frequent, if not an ordinary state, in cases where severe nervous disorders supervene on complaints of the stomach and bowels. In some of the following cases this was certainly the condition of the disordered parts.

In this chapter I propose first to describe some examples of maniacal disease connected with disorder of the alimentary canal, and then to proceed to cases of epilepsy arising from a similar cause. I wish to follow this order, because the examples of the former description, which I have to adduce, display more distinctly and decisively the relation of disorders in the nervous system to distempered states of the intestinal functions*.

lesion of the liver. The distinction is, that the pain may be felt to change its place a little on the expulsion of wind. The pulse likewise is soft, though very irregular. The secretion of mucus from the Schneiderian membrane is interrupted, and sometimes nearly ceases, though the patient feels a frequent inclination to discharge it. He is generally, but not obstinately, costive, and subject to torpor (of mind) and nervous oppression. A slight inflammation of the fauces also attends this disorder, returning once in eight or ten days."—FERRIAR'S *Med. Hist. and Reflect.* vol. ii. p. 27.

* In order to avoid a frequent repetition of many words, I shall distinguish the cases which belong to this department by the epithet "enteric."

SECTION II.

Description and Pathology of Enteric Mania.

THIS is one of the most frequent forms under which maniacal disorders present themselves to our notice*.

There is nothing peculiar in the character of the mental disorder which occurs in enteric mania. It most frequently takes place in constitutions approaching to the sanguine, and in persons between the ages of twenty-five and forty years. It is in many cases periodical or recurrent: the attacks most frequently commencing about the beginning of summer. The first attack often makes its appearance after the patient has been subjected to circumstances which occasion irregularities in the functions of the stomach and intestines. I have notes of a variety of cases which occurred immediately after a long voyage; during which the patient has been fed upon salt provisions, and has suffered his bowels to become constipated. Irregular diet, and the habitual use of

* For a complete and truly graphical description of this disease we are indebted to the late Dr. Edward Percival. (*See Dublin Hospital Reports*, vol. i.) The only point in which I am disposed to differ from the excellent author is the following. He seems to regard the depraved state of the intestinal canal as a common feature of maniacal disorders in general: and gives it a prominent place in his general description of the disease. The opinions I have been led to adopt by the comparison of various forms of nervous disease, induce me to consider this as a particular, rather than an universal character.

ardent spirits, are among the most frequent of the previous circumstances. Great anxiety of mind, unusual exertions in business, and especially an effort to grasp at a greater variety of objects, or to engage in a greater diversity of pursuits than the mental powers of the individual qualify him for, will often be found to precede the attacks of this disease; the patient having neglected the state of the natural functions, which an unusual excitement of the nervous system had contributed to throw into disorder. A trifling degree of incoherence, a hurry and confusion of thought; sometimes an absurd degree of energy, manifested in the pursuit of some trifling object, is the first symptom which betrays the actual condition of the patient. In an attempt to reason with him, or resist him, he commonly becomes violent: he has often very early a lurking suspicion of his deranged state: at least this would appear to be the case from the frequent and positive assurances he makes to the contrary, even at times when no suspicion has been hinted*.

The diseased state of the alimentary canal is, in general, very strongly marked. The whole of the functions of this system are more or less disturbed: all the secretions belonging to it are in a depraved state: the phænomena of the disease are such as

* I have sometimes observed a maniac, after saying something extremely absurd, (although I have taken care that nothing in my countenance or manner of conversing betrayed my impression of his insanity,) as if suddenly struck himself with the apparent incongruity of what he had been saying, break off and protest that he was in his right senses.

suggest the existence of a chronic inflammatory action, having its seat in the mucous membrane, through a great portion of the canal: of which there are, in many instances, unequivocal proofs.

I shall enumerate the most prominent circumstances of this disorder under a few principal heads.

1. *State of the alvine evacuation.* — Obstinate constipation is, if I may use the expression, the natural character of this disease. It often prevails to a great extent, and we are told, on inquiry, that the patient has passed six, seven, or eight days, without an evacuation of the bowels. If cathartics are administered under this state of disease, a large quantity of excrement is discharged, the appearance of which is unnatural: the fæces are often of a dark brown colour, resembling coffee grounds; or they are like chopped straw; but very often they are of a dirty green colour, consisting, for the most part, of indurated bile; they are generally extremely fœtid.

We are often told, on inquiry, that the patient's bowels are open, more loose than natural. On further examination it appears that a long continued torpor has recently given way to a diarrhœa; which, for the most part, augments the evil instead of lessening it. The abdomen, which was previously distended by the indurated fæces, is now more swelled than before, flatulence being superadded to the load of solid contents, which are in a very partial degree discharged. The evacuations are generally thin and watery; or contain mucus, mixed with vitiated bile, and the recent aliment in an undigested state. Sharp and transient pains are experienced in various parts of the

abdomen; a quantity of wind is discharged, from time to time, or rattles about in the bowels; at length dysentery, with tormina, supervenes, and frequently carries off the patient, or reduces him to extreme emaciation.

2. The mouth and fauces, if examined, generally present a diseased aspect. The fauces and velum pendulum are red, the vessels injected, covered in patches with mucus. The tongue is often red; sometimes red with white streaks: more generally, especially when there is diarrhœa, covered partially with a brownish fur. The mouth is viscid, and the patient generally spits out a frothy slime in all directions. There is an ardent thirst, and a peculiar fetor of the breath, which indeed extends to the whole person, and would induce a suspicion that the secretions are loaded with absorbed excrementitious matter.

3. The appetite is in an unhealthy state. In many cases the patient has an aversion to all food, and cannot be induced, without force, to take enough for the bare support of life. In other instances he has a keen and voracious desire for it, and greedily devours, without selection, every thing eatable that falls in his way.

4. The skin is clammy and cold; there is often a remarkable coldness of the extremities, resulting from the damp state of the skin, and a want of energy in the extreme vessels. In some cases of long duration there are papular or scaly eruptions; and in exhausted and debilitated subjects, furunculi appear in various parts of the body, which are much disposed to become sloughy.

5. The complexion is often flushed; the eyes wild, glossy, with a superabundant lachrymal secretion; the tunica conjunctiva is not unfrequently injected with blood; the patient is scarcely tolerant of light, and the pupils are more than naturally contracted.

6. The urine is scanty and high-coloured: it contains matters which should naturally pass by the alvine evacuation.

7. The pulse is rapid and irritable: in general neither full nor strong. The carotid beats with greater force than proportional.

8. The patient often passes many sleepless nights in succession: is irritable, tremulous. In these, and other particulars connected with the state of the animal functions, there is little or no peculiarity in this species of mania.

The progress and continuance of this condition of the system are very various. Sometimes a diarrhœa affords relief, and the disease either continues in a mitigated form, or the patient recovers: in the latter case the disorder is frequently recurrent. In other instances the diarrhœa carries off the patient.

In more protracted cases, the diseased state of the mucous membrane of the intestinal canal gives rise to glandular obstructions in the mesentery: at least it is a fact that disorganizations of this description are often discovered after death. Hectic fever, with great emaciation, follows, and the patient sinks under a general cachexia, or effusion takes place into the abdomen, and he dies dropsical.

Remarks on the Pathology of this Disease.

On the *ratio symptomatum* I shall add little to what has already been suggested.

I shall not attempt to explain the manner in which disease of the brain, producing mania, is excited by the morbid state of the intestinal canal above described. That the former train of symptoms is connected with the latter, as an effect with its cause, I infer from the analogy of other nervous diseases, which are found to be dependent on morbid states of the enteric functions; and from the fact, that in the particular instance of mania, agents which produce a change in the state of the intestinal canal, relieve, or aggravate, or modify, the character of the cerebral disorder.

Before I attempt to lay down any general indications for medical treatment, I shall proceed to some other topics which belong to the subject of this chapter.

SECTION III.

Description of Enteric Epilepsy.

The appearance of epileptic fits is sometimes connected, in so obvious a manner, with the presence of irritating matters in the stomach and intestines, that the occasional origin of that disease, from this circumstance, could not remain unknown to medical practitioners. Accordingly this modification of epilepsy

has been long recognised by medical authors, and it holds a place in most or all of the nosological arrangements. But epileptic fits, arising from irritation in the bowels, as well as those which take their origin from other obvious causes, have been regarded as accidental and transient phænomena; and it has never occurred, as far as I know, to any one, to consider whether this disease is, in the majority of instances, symptomatic of disorder in the natural functions, or of ailments in which the brain only participates in a secondary way. When epilepsy has become a permanent complaint, it has been taken for an idiopathic affection; and too little attention has been bestowed on what has been termed sympathic epilepsy. This circumstance, if I am not mistaken, has often led to a very erroneous practice. I am convinced that I have seen many cases of inveterate epilepsy which were of that description which is generally termed sympathic. The disease had its origin in a disorder of the intestinal canal, or in some other of the natural functions, and could only be cured by removing the primary complaint, and not by the exhibition of a set of medicines supposed to be possessed of certain anti-epileptic powers: yet it is to this mode of treatment that cases, such as I describe, have generally been subjected.

Epilepsy, which arises from enteric disorder, becomes a permanent malady when it is impossible to remove the exciting cause; a circumstance which occasionally happens; or when the disease induced in the brain, or in other parts of the nervous fabric, though at first the result of gastric or intestinal irrita-

tion, has taken a firm hold in the system, through the influence of habit, or by the effect of disorganization, occasioned by long continued morbid action. In other instances this disease may be cured by a plan of treatment directed to the removal of the morbific circumstances which occasion it. The longer the duration of the disease has been, the less prospect is there of entirely overcoming it: still, if the disorder in the abdominal functions is within the reach of medicine, the case is not, after any period of time, altogether desperate. Nature sometimes effects a cure after a patient has been many years subject to the recurrence of fits, and even after the brain has manifestly sustained much injury. Similar changes in the state of the constitution to those which take place spontaneously, may be expected sometimes to follow the efforts of art: and some cases will be adduced in the sequel which prove that although enteric epilepsy is occasionally a deplorably obstinate disease, yet there are other instances, even of long standing, which may be much relieved, if not entirely overcome.

Epileptic fits often occur in connexion with the presence of worms in the intestinal canal. This is more frequently the case in children than in adult persons, because children are more subject to worms than adults. I shall, however, mention some instances of this kind which have occurred in patients of the latter description. In either case it may be doubted whether the fits are occasioned by the irritation of worms, or by the noxious effect arising from vitiated secretions, and from the accumulated sordes in the canal which are co-existent with worms. It is

certain that equally severe effects often arise from this cause, when there are no worms; or, at least, when none can be discovered by the most careful examination.

From this remark I must make one exception, which applies to the tape worm. I have reason to believe that the irritation arising from the existence of this animal in the intestinal canal is in itself a sole cause of epilepsy, as well as of many other disorders. The whole system is disturbed by it, and a considerable febrile excitement is often produced. The tape worm is not always enveloped in a nidus of retained sordes, or excrementitious matter, which is the case with lumbrici, and generally with ascarides.

Enteric epilepsy takes place at every period of life. The convulsive attacks, to which young infants are liable, generally proceed from irritation in the primæ viæ. During the period of dentition, when the constitution is generally disturbed, the bowels often fall into an irregular state; and this circumstance is sometimes the precursor of convulsive paroxysms. In such cases there are often other indications of disorder in the brain besides the fits of convulsion, such as drowsiness; sometimes a degree of stupor, almost amounting to coma; grinding of the teeth during sleep, and frequent startings; a hot and dry skin, with a full, strong, and rapid pulse. The abdomen is, at the same time, tumid and hard, and distended with flatus. It is discovered, on inquiry, that the bowels have been for some time constipated or in an irregular state, or that the stomach has been recently loaded with indigestible food. On examining the alvine eva-

cuations, it is generally found that the aliment passes off in an undigested state. In many instances there is a deficiency of bile, but this is not a constant or essential feature in the disease: the whole quantity of matter discharged is often greater than is natural to the age of the child. The breath is offensive; the tongue white; and the child picks his nose. In short, there are nearly all the phænomena which are supposed to denote the presence of worms in the intestinal canal; though it often appears, on examination, that none exist.

These disorders quickly subside under a proper regimen, but they are liable to recur when the primæ viæ are suffered again to fall into a distempered state. Like other infantile ailments, they generally subside after a period. The instances are very rare in which this complaint continues from the period of dentition.

When enteric epilepsy makes its first appearance in children between the eighth and fourteenth year, it is frequently much more obstinate. The first attack is in these cases often attributed to a fright; but subsequent inquiry indicates the principal morbific cause to be in the state of the intestinal canal. In these cases, as in others, there is often an affection of the head, which, though secondary, is real, and requires vascular depletion.

In adult persons enteric epilepsy occurs at every age, and it is liable, at every period, to become a protracted and habitual disease. Like other forms of epilepsy, it is not so incident to the old as to the young. If there is any predisposition to this malady

in the system, it is generally called into action in early life.

There is nothing very peculiar in the character of the fits which occur in this form of the disease; they are sometimes accompanied with severe convulsions; at others they have the characters of leipothymic paroxysms. Sometimes they commence with the aura epileptica; at others without any premonitory symptom, or with only a previous complaint of vertigo and headache: they happen sometimes during sleep; at others in the waking hours.

The symptoms of disorder in the functions of the stomach and intestinal canal, are not so strongly marked in this disease as in enteric mania: there is, however, a very manifest deviation from the state of health.

The bowels are constipated. Sometimes this is a permanent state, only alleviated, from time to time, by purgative medicines, which are required in frequent and enormous doses. In other cases constipation alternates with diarrhœa. The evacuations are generally of an unhealthy appearance, and display a diseased state of the secretions of the intestinal canal, and of the liver, and an imperfect action of the digestive structure. The appetite is variable: sometimes there is anorexia; at others, a craving and unnatural appetite, approaching to pica, or to that morbid inclination for various unwholesome substances which is often fancied to arise from worms; and, perhaps, indicates an unusual acrimony in the secreted fluids. This unnaturally craving appetite

may be considered as a characteristic of enteric epilepsy, as well as of enteric mania. The tongue is, at the same time, furred; and sometimes the skin is beset with eruptions*.

I apprehend that the pathology of this disease is very similar to that of enteric mania. The distempered state of the intestinal canal is the same in both disorders: according to the different morbid predispositions of the nervous system, the same exciting cause or irritation in a remote part of the constitution, gives rise in the brain of one person to a disease which manifests itself in maniacal impressions; and in another individual occasions a differently modified disorder in the state of the same organs, the symptoms of which are attacks of epilepsy.

SECTION IV.

Treatment of Enteric Epilepsy.

THE principal indications which refer to the treatment of epilepsy arising from disorder of the intestinal canal, are different from those on which we rely in uterine and metastatic epilepsy. In one of these cases our principal endeavours are directed to the relief of the sanguiferous system, and the re-establishment of a healthy and natural determination; in another, to restore a morbid determination to some less important

* See Case I. below.

organ than the brain, or to give a new direction to the efforts of the vascular system. In the instance we have now to consider, our chief indication will evidently be to remove the disorder of the alimentary canal, which is the fundamental cause of the disease in the brain, or in the functions of the nervous structure.

But besides this principal indication, on the fulfilment of which all hope of ultimately curing the disease rests, a more immediate one often occurs, which is to relieve the secondary, but more urgent, affection of the brain.

If the patient is subject to frequent and severe paroxysms, it will be proper to afford him a present relief by measures directed immediately to the state of the brain, which is often manifestly loaded with blood. It is still more evident that we ought to pursue this course when there is a constant stupor, drowsiness, headache, dilatation of the pupils, vertigo; when the patient is subject to starting in his sleep, or to be disturbed by agitating dreams.

If the habit of the patient is rather full, and such as will bear the loss of blood, it will be proper, under these circumstances, to open a vein, and take sixteen or twenty ounces from an adult of middle age. In some instances this operation will require to be repeated, in order to produce an effect; but if, as it will generally happen, a relief has been obtained of the most urgent symptoms by one venesection, it will be preferable to use cupping glasses, applied to the nape of the neck, for any further abstraction that may be necessary.

If there is much heat in the scalp, attended with strong action of the temporal arteries, redness of the tunica conjunctiva and of the palate, intolerance of light, tinnitus aurium, the head should be shaved, and covered with cloths dipped frequently in water, cooled down to thirty-two degrees. A blister should, in this instance, be applied to the nape of the neck, and leeches to the head, after the more effectual means of depletion above mentioned have been resorted to.

By measures of this description, varied according to circumstances, the violence of the symptoms will be commonly reduced in a few days: the more evident marks of determination to the head will be lessened, and the frequent return of the epileptic paroxysms put off for the present.

Similar measures are still more clearly called for in cases of epileptic delirium. The whole of the plan just mentioned should be adopted in instances of this description; blood should be immediately taken from the jugular vein or temporal artery.

In cases, the symptoms of which render the foregoing measures necessary, the state of the intestinal canal must not be neglected: but, in a great many cases, our sole attention may be directed at once to this object.

If the stomach and bowels are loaded with undigested substances, or retained feculent matter, which can be ascertained, by inquiry into previous circumstances, by the presence of flatulence, acid eructations, tension and fulness of the abdomen, and by other indications, immediate relief should be sought by

emetics and purgatives. There are some cases in which strong vascular action in the head may render emetics dangerous; but these instances are not numerous. It is often proper to begin by prescribing five or six grains of Calomel, with one, two, or three, of Tartarized Antimony. This mixture will often excite vomiting and purging at the same time. If necessary, it may be followed by a dose of Ipecacuanha, to promote the former action. If it fails to act on the bowels, a cathartic powder, or a dose of cathartic pills may be given, succeeded by cathartic draughts every fourth or sixth hour*.

If the bowels are obstinately constipated, and do not speedily yield to cathartic doses, clysters of the same kind should be used. I have succeeded in obtaining relief by injections of an ounce or two of Ol. Terebinth. with as much of Ol. Ricini, mixed with gruel, in cases which appeared to be very obstinate.

The use of a warm bath promotes the relaxation of the bowels, and contributes to relieve the system in other respects: it may be used as a general remedy in cases of this kind.

After the intestinal canal has been thoroughly evacuated by such means, and the acute symptoms of cerebral affection reduced, by the measures before noticed, what remains to be done falls under the

* The combination of Calomel and Tartarized Antimony acts more easily and speedily on the stomach than the latter salt given alone.

second division of practice. I mean the more continued treatment required in this disease, considered as a chronic affection.

In protracted cases of enteric disease we often find little to be done by cathartic medicines. A long continued diarrhœa has, in many instances, exhausted the strength of the patient, and evacuated the intestinal canal of its more solid contents. At the same time a morbid secretion keeps up the irritation in the system, which the previous circumstances had excited: a depraved appetite, a feeling of emptiness, or sinking, as it is vulgarly termed, with a perpetual craving, induce the patient to fill his stomach, from time to time, with unwholesome substances. Flatulence, acid eructations, a sallow countenance, a foul tongue, reddened fauces, are indications of this second and often very obstinate stage of the disease.

Under these circumstances it is still better to evacuate the intestinal canal of its contents, the products of disease, by a few doses of Calomel, followed by draughts of Rhubarb and Magnesia, in some aromatic water. If the stomach is not unloaded by this process, emetics of Ipecacuanha, with a grain or two of Tartarized Antimony, should be given, and vomiting encouraged by means of warm fluids.

After the use of these measures, a moderate action should be kept up in the alimentary canal by means of somewhat stimulating laxatives. The compound decoction of Aloes may be given three times in the day, with half a dram of Carbonate of Soda: in this case the patient may take at night pills composed of the Mercurial and Compound Aloetic Pills;

or if the bowels are loose, a scruple of Hydrargyrus cum Creta, with some Aromatic powder.

In some instances of a similar description the following formulæ will agree better with the state of the patient.

℞ Pil. Hydrarg.
Gumm. Asafœtidæ,
Extr. Coloc. Comp. āā gr. v.
Bis vel ter indies sumend.

This medicine may be alternated with the following:—

℞ Infus. Sennæ,
Infus. Calumbæ,
Aquæ Piment. āā ʒv.
Sodæ Carbonat. ℈j. M.
Ft. Haust. ter indies sumend.

The beneficial effect resulting from any medicines of this class is very much promoted by evacuating the stomach occasionally by means of emetics of Ipecacuanha, and the bowels by strong purgatives.

Of all the remedies I have ever tried in that state of the intestinal canal I am now considering, I have found none so frequently useful as the Oil of Turpentine*. The efficacy of this medicine is exempli-

* I was first induced to make a trial of this remedy in consequence of reading an account of its efficacy by the late Dr. E. Percival, then of Dublin. This account was delivered with so much accuracy and candour, that it made a strong impression upon me, and I immediately began to adopt the practice recommended by the author. The trials I made were followed by results which exceeded my expectations. I have since that time prescribed the same medicine in a great number of cases, and have ascertained that it is most serviceable when given in pretty large doses, as to that of ʒss to ʒj, or even ʒij, three times in a day. Even the latter quantity can be very well borne by the

fied in some of the cases in the following section, particularly No. I. II. III. and V. The precise manner in which the Oil of Turpentine acts I am unable to explain; but the fact is, according to my experience, (and I have prescribed it in a great number, probably in many hundreds of cases, and attentively observed its effects,) that it very soon changes materially the state of the intestinal canal. It occasions moderate and regular evacuations, corrects the tendency to a frequent repetition of griping and irritating stools, and relieves, or completely removes flatulence. At the same time the Oil of Turpentine exerts a peculiar sedative or tranquillizing power on the nervous system. It lessens irritability, the disposition to starting and convulsive twitching of the muscular fibres, and promotes sleep.

The best way of administering the Oil of Turpentine is in an emulsion, of which a dose is to be given three times in a day. If it occasions a troublesome vertigo or nausea, when taken in the day, a double dose of the emulsion may be given at bed-time. In some instances twenty or thirty drops of the oil can be taken more easily undissolved. The best vehicle for the emulsion is milk. I generally order half an ounce* of it to be taken three times in a day in a tea-cup-ful of milk.

stomach in many instances, when given in the form of an emulsion carefully prepared; of which half an ounce, containing half a dram of the oil, may be taken in a cup of milk. The emulsion should be prepared by diffusing the oil, by means of honey, or mucilage, in some strong aromatic water, such as Aqua Carui or Cinnamomi.

* Half an ounce of the emulsion contains half a dram of the oil.

By a continued and persevering employment of this medicine, combined with some auxiliary measures to be afterwards mentioned, I have frequently observed disorders of the class now under consideration, which seemed at first likely to baffle every effort, relieved, and sometimes removed.

I believe that the cases of epilepsy, in which Drs. Latham, Percival, and others, have found the Oil of Turpentine so useful, were instances of enteric disease. In a great number of such cases I have found it efficacious, and can well understand the probability of its being useful in instances of this description. In cases of idiopathic disease of the brain I believe it to be nearly useless.

I apprehend also that the nitrate of silver has been found useful chiefly in cases of enteric epilepsy. This medicine, as well as several other metallic salts, such as the sulphate and oxyde of zinc, and various salts of copper and iron, have a certain efficacy, in many disorders of the stomach, connected with pains in the head. My own experience has not led me to place any considerable reliance on this remedy, or upon any others of the same class in cases of epilepsy, though it has appeared to mitigate the disease in some instances, or to render the fits less frequent. In chorea the metallic salts are more useful, and the nitrate of silver has been in the trials I have made of their powers certainly the most efficacious.

It is principally in enteric epilepsy that all that class of medicines, termed nervines or antispasmodics, have acquired their reputation. In disorders of this description there is commonly a troublesome degree of flatu-

lence; a great variety of internal feelings: such cases are more frequently combined with symptoms of hysteria, with variableness of the temper and animal spirits, with fancied sensations, than any other. Patients who labour under these distempers often experience, or fancy that they derive, great relief from Camphor, Asafœtida, Valerian, and other drugs of the same description*.

I believe that the reputation of drugs of this class is now as much below what it ought to be, as it was formerly above their real merits. I am sure that they are at present too much neglected.

In case of enteric disorder, in which there is a troublesome diarrhœa, some of the foregoing remedies may be combined with absorbents, or Hydrargyrus cum Creta may be given at night with Aromatic powder, and an infusion of Rhubarb and Cloves, or Carui, in the day. I have been told that pills of Cayenne Pepper have been given with advantage in some instances, and that this stimulant is particularly useful, combined with the Carbonate of Iron; but I have had no experience of the efficacy of either.

Combinations, according to circumstances, of the above mentioned remedies, will do much towards

* The best forms in which these medicines can be given, are the Spiritus Ammoniæ Fœtidus in Camphor Julep; Pills of Asafœtida, with Oxyd of Zinc; Tincture of Asafœtida, Ammoniated Tincture of Valerian, Camphor made into Pills, with Extract of Henbane; Compound Galbanum Pill. In whatever form such medicines are administered, the doses should be frequently repeated. Sometimes clysters of Asafœtida, with Oil of Turpentine, have a good effect.

restoring a healthy state of the intestinal and gastric secretions. But whatever class of alteratives we may resolve to use, their efficacy will be greatly promoted by occasionally evacuating the canal. A brisk purgative every third or fourth day, consisting of a dose of cathartic pills, followed by a cathartic draught, will contribute much advantage. Occasional emetics are almost indispensable. For this purpose I generally order a scruple or half a dram of Ipecacuanha, when there is any suspicion of the stomach being loaded either with alimentary matter or mucus. I have sometimes prescribed, with advantage, five grains of Ipecacuanha every morning, and at others an alterative dose, one or two grains three times in a day, with a little Aloetic powder, or some other purgative, in small doses.

The efficacy of most of these medicines is promoted by warm clothing, by the occasional use of the warm bath, with frictions of the abdomen.

The diet, in the mean time, should be carefully restricted. All vinous and fermented liquors should generally be proscribed. Animal food should be taken in small quantities: indeed the whole quantity of ingesta should be small, and of such kinds as are most easy of assimilation, and least likely to run into fermentation, or oppress the digestive organs.

There are some cases of enteric disease, productive of epileptic fits, which differ from the instances already alluded to. The disorder of the intestinal canal consists in an obstinate and almost invincible torpor. Very strong doses of cathartic medicine only produce an inconsiderable and altogether tem-

porary effect. If they are discontinued the bowels are never fully evacuated, and the scanty relief which the natural degree of action in the canal allows, takes place once after an interval of several days. This state of torpor and insensibility is permanent, and does not give way to alternations of diarrhœa.

The practical indication is, in these cases, to provide the most effectual means of relieving the bowels, without encreasing their insensibility by excessive doses, and by the constant use of powerful cathartics.

One of the principal resources we have under these circumstances is the constant use of mild enemas, which act rather as diluents than as stimulants. A large quantity of water should be injected into the rectum every day, or twice in the day, viz. every morning and evening. Many persons prefer warm water, and obtain from the use of it a sufficient relief. In other instances cold water has been found more effectual. I attended a man about two years ago who had a variety of troublesome disorders, the effect of habitual costiveness. This person now enjoys good health, and a greater degree of vigour than he has experienced for many years. His remedy is an enema of water, which he injects always as cold as he can procure it every morning, by means of a leather bag. He first injects two quarts, which speedily excite his bowels to evacuate their contents, and he then immediately repeats the operation.

Saline purgatives, taken in a very dilute state, are among the best remedies for cases of this description. Many persons are sufficiently relieved by taking half

an ounce of Epsom Salt in half a pint of water every morning. When this regimen is necessary, the patient should rise early, and, after taking his habitual dose, should walk or ride for some time before his breakfast*.

Some persons find a more easy relief from the use of Oleum Ricini, of which they take a dose every night†.

It would answer no purpose to go through a catalogue of purgative medicines, with the properties of which every medical practitioner is well acquainted. It may be laid down as a general rule, that the stronger, or more drastic cathartics, should never be used when a sufficient effect can be produced by the milder class. If the disorder is merely intestinal torpor, the frequent use of mercurials should be avoided. When they are given with a view of promoting a flow of bile, they should be followed by doses of neutral salt, or some active purgative. The

* The late Dr. Craufuird, of Clifton, mentioned to me a case of epilepsy occurring in a woman of middle age, which, after remaining obstinate under a great variety of treatment, was at length speedily cured by a dose of Epsom Salts, taken every night at bed-time.

† Some persons find a dose of olive oil, taken every night, sufficiently purgative. One of the best purgative mixtures for habitual use is the following form. I know some persons who have had recourse to it daily for years, without inconvenience.

℞ Infus. Sennæ, ℥j. ad ℥ij.
Aquæ Menth. P. ℥iv.
Infus. Calumbæ, (vel Infus. Cortic. Aurant.) ℥ij.
Magnes. Sulphat. ℥j. M.
Capiat cochl. iij. manè quotidie.

chief art by which, in the constant use of purgative medicines, we can prevent the loss of their activity, and the necessity of constantly encreasing the doses, is by frequent changes, or by giving a variety of medicines in succession.

There are cases of enteric epilepsy, in which the morbid tendency is so strong, that whatever means may be adopted to maintain the action of the intestinal canal, a renewed determination to the head will sometimes occur.

Number VII., among the following cases, affords a strong instance of this description. In such cases, although the bowels are kept open, a sense of fulness in the head, with vertigo, strong pulsation of the carotids, and other symptoms, threatening a return of the fits, sometimes take place. Under such circumstances it becomes absolutely necessary to resort, from time to time, to some means of relieving the vascular plethora of the brain. The best and most effectual relief is generally obtained by the occasional application of cupping glasses to the nape of the neck. Twelve, sixteen, or eighteen ounces of blood, may be taken in this way from an adult, and the operation may be repeated as often as it is necessary: but the use of this measure should not be resorted to unless it is required. In very urgent cases it is better to open the temporal artery or jugular vein. In children the application of leeches is the best method of relieving the head, unless the severity of the symptoms requires a more speedy evacuation.

SECTION V.

Cases of Enteric Epilepsy.

THE four following cases were accompanied with some of the most characteristic symptoms of enteric epilepsy, viz. diarrhœa, voracious appetite, depending on morbid secretion; and, in two instances, there was much emaciation. In three of these cases the oil of turpentine was given with remarkable effect. The fourth was not long enough under medical treatment to admit of any satisfactory conclusion, and the disorder had been, in this instance, very inveterate.

CASE I.

HENRY PARKER, æt. 18. St. Peter's Hosp. Jan. 1, 1818.

An idiot, subject to epileptic fits from infancy. He has sometimes three or four attacks in a day: at other times they occur once in a day: occasionally he escapes them for a week. He is insensible of their approach.

He labours now under diarrhœa; his food passes off in an undigested state; his appetite is voracious: he goes about the house and yard, picking up any thing that can be eaten, and devouring it: he has been seen eating a cabbage leaf from the ash-pit. He is emaciated, and his skin has a yellow tinge.

He was sent to the medical ward. A warm bath twice a week, and a nutritious diet, were ordered for him.

There is an eruption on his skin, of the character of psoriasis: it occasionally subsides in the course of a night; the diarrhœa then becomes more troublesome, and, when the eruption again appears, the diarrhœa is relieved.

Jan. 8. Ol. Terebinth. ℥j. statim.

9. The dose purged him, and brought away undigested matter, but nothing like worms.

Habeat Ol. Terebinth. ʒij. ter indies.
Et ℞ Pulv. Rhei.
Hydrarg. cum Creta Sing. gr. v.
Pulv. Aromat. gr. ij M.
ft. Pulv. post singul. dos. Terebinth. Sumend.

April 10. He took twelve of the powders; they relieved the stomach from the unpleasant sensation of heat produced by the turpentine.

The turpentine has been given regularly, and he has been allowed full diet.

The fits return now once in about seven days; they are not so violent as formerly, and last but a short time. The voracious state of his appetite continues. The yellowness of his skin is considerably diminished, and his general appearance much improved. The bowels are regular; the eruption disappeared gradually. The tongue is a little furred. He appears aware of the improved state of his health, and grateful to his attendants.

℞ Magnes. Carbonat. ℥j.
Pulv. Rhei, ʒij.
Syrup. Papav. Albi, ℥j.
Aquæ Puræ, ℥vj. M.
ft. Mist.——Sumat. cochl. iv. ter die.

He took this mixture for some days, but it produced no improvement in the state of his appetite. The oil of turpentine was then resumed, and was given twice in the day.

June 13. Twenty-one days have now elapsed without any return of the fits. He complains of headache; the pain is confined to the forehead.

Leeches were ordered to be applied to the temples about once in seven days, and the head to be kept shaved.

September. The fits have gradually ceased. The paroxysms have been latterly much more slight: they lasted but a few minutes, and he was rendered aware of their approach by languor and headache. He is still in a state of idiotism.

Jan. 1, 1819. He has experienced no return of the fits: he complains occasionally of headache, which is relieved by a purgative. He was discharged from the medical ward and put upon

the common diet of the house. Till this time he had been allowed meat every day.

Nov. 3, 1819. He continues in a much improved state, though no medical care is taken of his health, and though he fares upon the common diet of the paupers in the house. He has had no returns of his complaint except once, when he had some very slight fits.

Sept. 1, 1821. He has long been free from the symptoms of epilepsy.

CASE II.

WILLIAM HIGGS. June 28, 1819.

A boy, nine years old, of dark hair, dark eyes, large pupils, upper ridge of the forehead strongly projecting. He became subject to epileptic fits during infancy, in consequence, as it is said, of a fright. The fits return at uncertain periods, but, for the most part, trouble him about twice in the course of a week. He has a very idiotic aspect, and sleeps much.

He complains of headache; the pain being confined to the forehead. Is troubled with diarrhœa; is emaciated, and seems almost starved: has a voracious appetite. Pulse feeble.

℞ Magnes. Sulphat. ʒij. secundâ quaque horâ donec alvus soluta fuerit.
℞ Pulv. Ipecac. gr. iij.
Sodæ Borat. gr. viij. M.
ft. Pulv. Sumend. 4ta. quâque horâ post effectum med. purgantis.
Light nourishing diet.

July 10. Bowels completely relieved. Not so drowsy; in other respects in the same state.

℞ Ol. Tereb. ℥ss. manè bis in 7ana.

Aug. 13. Improved. Appetite continues voracious.

℞ Ol. Terebinth. ʒij. in aqua manè quotidie.
℞ Magnes. Calcinat. ʒss.
Pulv. Calumbæ,
Pulv. Rhei, āā g. v. M.
ft. Pulv. Sumend. omni nocte.
Let him have half a pound of mutton daily, and a pint of milk.

Sept. 3. Sumat pulv. ut antea bis in septimanâ, et Ol. Terebinth. ut antehâc.

Nov. 3. Omit the Spirit of Turpentine.

11. Has had no fits for many months. Is apparently in perfectly good health. Has a natural appetite.

CASE III.

WILLIAM WILLIAMS. April 29, 1818.

A robust man, aged forty-three years, who has served eleven years as a soldier. From his ninth year he was subject to epileptic fits, which continued to trouble him until his sixteenth year, when they ceased: he had no return of them until about four years ago, when they again recurred, and continued to trouble him at uncertain intervals. Sometimes he has had them every week; at others has escaped a month without them. He attributes the return of his disorder to a blow on the top of the head, which he received when at Gibraltar: the immediate effect of it was a fit. He has no premonitory symptom, except an attack of giddiness. He has a voracious appetite.

Present state.—The fits have lately been very frequent; they attack him every second or third day, and sometimes are renewed several times in a day. His faculties are much impaired.

℞. Ol. Terebinth. Rect. ʒij. bis indies ex haust. Aq. Menth. Pip.

May 11. He has had a fit to-day, the first that has occurred since he began to take the Ol. Tereb.

Continue.

June 20. The fits return about once in a fortnight.

Aug. 5. The voracious appetite continues, and is a troublesome symptom: he complains of headache. The Turpentine discontinued.

℞ Pulv. Emet. alt. dieb. manè.

Pil. Argent. Nitrat. j. ter indies.

The scalp was ordered to be scarified on the vertex, and a seton to be applied in the nape of the neck.

Sept. 7. Has had three fits since the seton was inserted; the last occurred four days ago.

Argent. Nitrat. gr. iss. ter indies.

Oct. 28. Of late the fits have been more frequent than they used to be.

It is evident that he receives no benefit from the Nitrate of Silver.

Omitt. Argent. Nitr.
Capt. Ol. Terebinth. ʒij. ter die in haustu Aq. Menth. Pip.

Nov. 13. He has had one fit since the 28th of the last month. Complains of an unpleasant sense of heat after taking the Turpentine.

Continue the Turpentine draught three times in a day, with the addition of Tinc. Rhei, ʒiss. to each draught.

18. Attacked by a slight rigor, attended with a feeble pulse. Since the fits have become less frequent has been subject to occasional rigors, resembling the first stage of an intermittent.

℞ Ammoniæ Carbonat. gr. x.
Confect. Aromat. ℈j.
Mistur. Camphor. ℥ij. M.
ft. Haustus statim inter rigores sumend.
The seton discharges but little; let it be withdrawn.

Jan. 1, 1819. He has had no fits since the 4th of December.

Omit the Turpentine.

Nov. 3, 1819. This man is still in the house as a pauper; he had a fit about six weeks ago; it was so slight that he did not think it worth while to speak about it: he states that he cannot recollect when he had a fit before. He attributes the relief he has experienced to the Turpentine.

Dec. 4, 1820. Williams has been discharged from the house some time, cured of his fits. He had taken no medicine, except an occasional cathartic, since the omission of the turpentine, on Jan. 1, 1819.

Observations.—This account is defective in some particulars. Of the symptoms which accompanied the attack of the disease during his youth, no statement could be obtained. The man's memory was so defective, that it was only through the accident of his father's being a patient in the ward at the same time that he was known to have been subject to fits in his childhood. The voracious appetite mentioned among his symptoms I consider as

characteristic of enteric epilepsy; and the benefit he derived from the use of Turpentine, and other remedies, which tend to relieve disorder of the alimentary canal, sufficiently indicate that there was the seat of the primary disease.

CASE IV.

SARAH TREGANNY, æt. 24. Sept. 27, 1818.

A girl of sanguine temperament, who was very healthy until she reached her tenth year. She was then attacked by fits, on witnessing the execution of two women. At first the fits were ushered in by something like the globus hystericus, and they wanted the peculiar character of epilepsy. After about two years they altered their appearance, and have now the genuine form of that disease. She is subject to headache; occasionally seized with vertigo and dimness of sight: her bowels are always costive; sometimes she has passed a week without any evacuation, and requires repeated purgatives to produce any. She has never menstruated regularly.

She now seldom passes a night without one or more fits. Some years ago she often escaped them for a week.

She was four years, as her friends say, a patient at the Bristol Infirmary, where she received some relief from a seton and purgative medicines. During the last two years she has been subjected to no medical treatment, except purgative doses occasionally, given at the discretion of her friends.

She is now idiotic and quite helpless. Her appetite voracious; has diarrhœa; is emaciated; has a pallid countenance. Pulse feeble: at times she squints. Screams violently if moved.

Ordered to have animal diet.

Ol. Terebinth. ʒij. ter die in Aq. Menthæ.

Oct. 4. No fits for the last seven days. Stools very offensive. The medicine purges her.

℞ Pulv. Rhei,
Sodæ Carbonat. āā. gr. x.
ft. Pulv. Sumend. manè alternis dieb.
Ol. Tereb. ut adhuc.

7. Has fits of rigor*.

℞ Mist. Camphorat. ℥vij.
Æther. Sulph.,
Sp. Ammon. Aromat. āā. ʒij. M.
ft. Mist. Capt. Cochl. iij. statim et repet. p. r. n.

9. Bowels costive.

Pulv. Laxans pro re natâ.

13. Has had one fit; appears more sensible: complains of headache.

Emp. Lyttæ Nuchæ admov.

26. Bowels costive. Omit the Turpentine.

℞ Pulv. Aloes, gr. ij.
Calomel. gr. iij.
Pulv. Antim. gr. v. M.
ft. Pulv. Sumend. o. n.
Haust. Cath. o. m.

27. One fit; very violent: after which her bowels were opened.

28. Repet. Terebinth. Warm bath.

Nov. 5. Two fits.

7. One fit yesterday, and two this morning.

She has hitherto been on full diet. This is now omitted.

14. Has fits daily. Omit the Turpentine.

℞ Argent. Nitrat. gr. iij. ter indies.

19. One slight fit.

20. Another fit. She is considerably better in many respects. Is able to walk up and down the ward with help.

Warm bath, and continue Pills of Nit. Argent.

* See Williams's Case.

Dec. 4. No fit since the 20th of November. Appetite not so voracious. Bowels regular. Is much more sensible.

Jan. 1, 1819. Fits frequent. Omit the Nit. of Silver.

℞ Tereb. Chiæ. gr. x.
Oxyd. Zinci, gr. vj. M.
ft. Pil. Sumend. ter indies.

8. Fits more frequent. Head aches.

Hirud. ad tempora omni septimana.
Ol. Tereb. bis indies.

19. Her mother took her out of the house. She was certainly much improved.

The two following cases were, in some respects, different from the preceding; but in others correspond with them. In both of these instances there were other symptoms of disorder of the alimentary canal besides constipation of the bowels. In both of them benefit was obtained by remedies similar to those which were administered in the foregoing cases.

CASE V.

Margaret Becher, admitted into the Infirmary Oct. 28, 1819.

A girl of pallid complexion, dark eyes and hair, aged eleven years, who, about ten weeks ago, was first seized by fits, which still continue to trouble her. They occur in the daytime, and chiefly in the morning; and generally happen several times in a day. They continue about ten minutes, and she complains of a severe pain in the head after they cease. Her mother says that when the disorder first assailed her she was convulsed during the fits; but that is not the case at present. They have now the character of leipothymia.

Her pulse is natural; rather full. Abdomen somewhat

tumid; functions of the bowels irregular. A fortnight ago she was admitted a patient in this Infirmary; she then took cathartic medicines and Ol. Terebinth. Rect. ʒj. every night. These remedies immediately put a stop to the fits, and she went out, supposing herself cured; but the disorder returned.

Venæ Sect.——fluant sang. ℥vj.
Pil. Cath. 2. o. n.
Mist. Cathart. ℥iss. ter indies.

29. She has been well purged; the fits continue: to-day she had one which lasted nearly an hour: she lay in a state of insensibility, and looked as if she was asleep the whole of the time: she is not subject to any convulsive attacks.

Continue the purgatives.

Nov. 3. She has had a fit every day since her admission.

Omitt. Med. antea prescript.
℞ Ol. Terebinth. Rect. ʒss.
Sumat ter indies in Emulsione, cum Aquâ Menth. P.
Affusio frigida manè quotid.

From this period the fits immediately ceased, and did not recur. The Ol. Tereb. disagreed with her stomach, and the dose was diminished to twenty drops, and again increased to twenty-five; which she continued to take until nearly the end of November, when she was discharged.

On December the 4th she attended as an out-patient. She had left off her medicine, and her bowels had consequently become again constipated: her abdomen was hard and tumid: she had pain in her head and in her left hypochondre: the last symptom appeared to depend on flatulence.

Leeches were ordered to the head; a cathartic powder; and the Emulsion of Turpentine was resumed.

These remedies relieved her. She afterwards got a pain in her side, and cough, the effects of exposure to cold; for which symptoms she continued to attend at the Infirmary until the following March.

Feb. 7, 1821. I have seen Margaret Becher to-day. She

has had no symptoms of her complaint since November, 1819, but attends at the Infirmary to carry medicines for another patient.

Observations.—This case requires no comment: the facts are sufficient to prove that the oil of turpentine has some specific effect in cases of fits depending on enteric irritation. It may be observed that other purgatives were tried nearly a week before the turpentine was ordered, but without any beneficial result, and that the fits immediately ceased after the use of this remedy was commenced.

CASE VI.

MARY CHADWICK. Hospital, Jan. 30, 1817.

A young woman of sanguineo-melancholic temperament, who, during the last five years, has been troubled with epileptic fits: they attack her every week, and sometimes two or three times in a day: the least agitation of mind brings them on: her life is a source of misery to her through the frequency of these attacks.

Natural functions.—Habit full; bowels constipated; abdomen tumid; appetite good; rather voracious; tongue clean; extremities œdematous; urine scanty, high coloured; sometimes pale. Early in the morning she is troubled with vomiting of clear fluid, followed by spasmodic action of the stomach: at night her rest is disturbed by dreams, which sometimes are followed by a fit.

For two years she has been subject to a pain in the left side, near the region of the heart; has a slight cough; no expectoration. Catamenia somewhat irregular.

Remedies ordered:—

Purgatives twice a week.
Argent. Nitrat. gr. j. bis indies.
Opiates at night.

April 15. No alteration of any consequence in the frequency of the fits: vomiting of water in the mornings troublesome. Bowels more regular. Abdomen swelled as before. Slight pain in the right side.

Omitt. Argent. Nitr.
℞ Calomel. gr. ¼.
Pulv. Ipecac. Comp. gr. x. M.
ft. Pulv. o. noctè sumend.
℞ Tinct. Cinchonæ, ʒiij.
Acid. Nitr. dilut. ʒiv. M.
Capt. cochl. min. ter indies ex aquâ.

May 6. Somewhat improved: on some mornings she vomits hardly any fluid, yet nausea troubles her: mouth sore. Headache is the most troublesome symptom. Fits as usual.

Continue the Tinct.
Habt. Pil. Terebinth. gr. v. bis indies.

15. Fits not severe; headache: bowels open. Pulse 120, firm.

Venæ Sect. fluant sang. ℥xvj.

Blood-crassament firm; considerable in proportion to the serum.

Continue Pil. Terebinth.
Continue the Tincture.

27. Fits less frequent.

Continue the pills three times in the day, and the acid drops.

June 10. Nausea: sense of weight about the epigastrium.

℞ Pulv. Emet. hac vespere.
Pilulæ Cath. iv. cras manè.
Continue the drops and pills.

The turpentine was continued in the form of a pill until the February of 1818, with evident relief. The fits became less frequent and violent; the general health improved. It was now changed for the Ol. Terebinth. Rect., of which she took ʒij. three times in the day. She was bled at four several times for the pain in her side, and had blisters applied.

July 15, 1818. The fits have now entirely left her: they became at first less frequent, and she used to pass a week or fortnight together without any attack: but when she had them at these distances of time they were very severe.

22. Has pain in her left side: cough; pulse 120, irregular; skin moist; tongue clean; bowels regular: is weak.

Omitt. Pil. Terebinth.
℞ Pulv. Digital. p. gr. ii.
—— Scillæ, gr. j. M. bis indies sumend.

25. Hirud. xx lateri admovend.
Setac. inser. in latus.
Pil. Hydrarg. gr. x. bis indies.

Oct. 7. Pain in the side increased. Mercurials injurious. Cough increased.

℞ Emuls. Cetacei cum T. Scill. et
Syr. Papav. Alb. ter indies.
Pill of Squill, Opium, and Digitalis.

16. Pulse 130. Pain in the side continues: very irritable since the application of the seton.

V. Sectio. fluant sang. ℥xvj.
Repet. Pil. cum Pulv. Antim. gr. iij. in sing.
Repet. Emulsio.

27. Complains of pain in the left side, near the heart; increased by drawing in a full breath. Pain in the top of the head; chiefly troublesome in the night, and before she rises in the morning. Bowels somewhat confined. Catamenia regular. Tongue white. Urine high-coloured, but not scanty. Pulse 90, and full.

Venæ Sect. et fluant ℥xx.
Pil. Cath. omni nocte.
Mist. Salin. Antim.
4tâ. quaque horâ cum Tinct. Diuret. gutt. 30.
Sp. Æther. Sulph. p. r. n.

Crassament of the blood was firm; serum milky.

Nov. 4. Considerably relieved by the bleeding and other remedies. Pulse 100, full.

Continue.

25. She has been in the country several weeks.

Continue the Diuretic draught.

Dec. 4. Has some glandular swellings in her neck.

Jan. 1, 1819. She has been in the country; says she is perfectly well. Discharged cured.

Observations.—This is a well marked case of enteric epilepsy, complicated with disorder of the chest, which threatened to assume a phthisical character. This latter disease, however, subsided.

The epilepsy was cured, as it would appear from the history of the case, by purgatives, combined with turpentine. The turpentine pills appear to have had a considerable share in restoring the healthy state of the intestinal canal.

The disorder in the sanguiferous functions, though secondary, was yet so considerable as to require the abstraction of blood. The effect of this measure, though called for by the symptoms, does not appear to contribute, in this form of the disease, towards the removal of the morbific cause.

The five following cases are of the description mentioned in page 266. They illustrate tolerably well the connexion of epileptic fits with a great degree of torpor in the intestinal canal.

CASE VII.

FRANCES ELLIOT. May 27, 1820.

A girl, aged nineteen years, of robust square make, corpulent, of dark sallow complexion, black eyes and hair. She has been subject occasionally to what she terms fainting; preceded by pain in the bowels and right hypochondrium. The catamenia have been regular for some time past. These particulars were obtained by inquiry afterwards.

On the evening of the 25th instant she was seized with vertigo, nausea, and vomiting of bilious matter, followed by diarrhœa, which was accompanied with severe pain in her bowels. These symptoms distressed her until two o'clock in the morning, when they were followed by an epileptic fit; the first she ever had. An apothecary,

who saw her, bled her to the amount of sixteen ounces, and administered a cathartic dose.

On the next day, May 27, Mr. Kift, apothecary to St. Peter's Hospital, was applied to, and found her labouring under severe epileptic paroxysms. He obtained with difficulty twelve ounces of blood; the abstraction of which was followed by a remission of the fits. She complained of severe pain in her head: her bowels had not been relieved: her abdomen was tense: tongue clean: pulse full and irregular. The following remedies were ordered for her:—

Emplast. Lytt. ad Nucham.
℞ Calomel, gr. v. Aloes, gr. iij. in Pilulis statim.
℞ Haust. Cathart. 3tiâ. quâque horâ.

8 P. M. Since the morning the fits have been incessant: during the fits, and the consequent state of stupor, she has a permanent strabismus. Bowels once moved; stools dark coloured, and very offensive: head hot: carotids beating with considerable force.

Hirud. 10 ad tempora.
Emplast. stimulans ad pedes.
℞ Antim. Tartar.,
Calomel. āā gr. iij. statim. et
Repet. Antimon.
et Haust. Cathart.

12 P. M. Bowels freely purged: the convulsions have ceased for the present.

The fits continued to recur until June 15, when she was admitted into the Hospital.

15. She was this day admitted into the Hospital. Since the 7th she has been taking the Ol. Terebinth. with Fetid Spirit, and the Enema of Opium, &c. The latter has afforded some relief at times.

16. Draughts of camphorated mixture ordered.

Twelve leeches to the temples.
A blister to the nape of the neck.

17. Convulsions and hysterical symptoms troublesome.

Baln. Calid.—Enema fœtid. c. T. Opii.

19. Mist. Rhei et Magnes. in Aquâ Carui fort.
Enema purgans et anodyn. altern. vicibus.

July 4. Pilul. Cathart. o. n.
Haust. Cathart. ter indies.

28. Purgatives continued.

Aug. 16. She has had no fits now for three weeks. Discharged.

21. Attends as an out-patient.

Sept. 11. Bowels much swelled; flatulent; pain in the right side; sick in her stomach, chiefly in the morning. These symptoms have again ushered in the fits; of these she had a recurrence soon after they came on.

Oct. 3. Fits frequent and severe: the cathartic medicines have been neglected; abdomen tense; flatulent; nausea, and sometimes vomiting; appetite has failed: pulse full; menstruation regular.

Ven. Sect.
Empl. Lyttæ ad Nucham.
Pil. Cath. 3. bis indies.
Haust. Cath. ter indies.

27. The fits have changed their character. In the place of epileptic paroxysms she now has hysterical fits every three or four days; sometimes several in a day. She is seized with vertigo, headache, the globus hystericus; she is held up in the bed, and seems to be choked by constriction of the throat: never loses her senses.

State of the bowels improved; abdomen soft, though tumid; feels no pain on pressure; stools still dark-coloured.

Nov. 11. Three days ago she had an epileptic fit: the hysterical attacks have now ceased.

Jan. 12, 1821. Emuls. Tereb. ter indies.
Cucurb. Cruent. ad Nucham, unde
Sanguinis ℥xij exsugantur. et p. r. n. repet.

Feb. 19. Pil. Colocynth. c. Asafœt.

April 6. Cupping has been occasionally repeated. She has had no epileptic fits since it was ordered.

May 18. Is quite free from epilepsy, and seems to have quite recovered. She has obtained relief from purgatives, and general

and topical bleeding. Wishes to be discharged, and will apply again if she should have any return of her complaint.

CASE VIII.

WILLIAM SHERBORNE, admitted March 20, 1817.

A man of short stature, spare habit, dark complexion, dejected aspect, aged about twenty-five years. He has been unwell twelve months. At first he was troubled with costiveness, loss of appetite, and frequent nausea: when these complaints were most urgent he had vertigo. Three months ago he had, for the first time, an epileptic fit. Since that time he has had two fits at irregular intervals, preceded by tremblings and catchings of his limbs.

Present state. — He has vertigo and stupor: pains in his stomach and hypochondria increased on pressure. Pulse natural.

Ven. Sec. et fluant sang. ℥xij.
Emplast. Lyttæ ad epigast.
Pulv. Cath. hâc nocte. Postea
Pil. Hydrarg. gr. x. ter die. et
Mist. Cath. bis quotidie.

21. He feels himself somewhat relieved.

22. Complains of pain in the region of the stomach.

26. Bowels not sufficiently open: mouth not at all affected by the Pil. Hydrarg. Omit it.

℞ Calomel. gr. v. 6tâ. qq. h.
Continue Mist. Cath.

29. He has now the trembling and shaking of his limbs, which used to precede a fit.

Ven. Sec. fl. ℥xvj.
Repeat the Calomel and Mist. Cath.

April 2. Complains of his stomach.

Repet. Emplast. Lyttæ.

5. Is much better in every respect. The shakings have been relieved ever since he was bled and well purged; the pain in the epigastrium was removed by the blister.

9. He makes no complaint; is very desirous of the house diet. Medicines given according to the effect.

Let him have the house diet.

16. Bowels constipated.

Ol. Ricini, ℥j. statim.
Calomel. gr. v. 6tâ quâque horâ.

19. Again his bowels are confined; complains again of the catchings and startings.

Ol. Ricini, ℥j. statim.
Pil. Cath. 3. omni nocte.
— Hydrarg. 2. manè et meridie.

21. Notwithstanding the cathartic pills, he is still costive: has severe headache and giddiness.

Arteria Temporis Sec. et fluant ℥xij.
Ol. Ric. ℥j. statim.
Pulv. Cath. ℥ss. omni nocte.
Mist. Cath. 4tâ. quâq. horâ.

27. Head aches.

Hirud. 10 temp.
Empl. Lytt. Nuchæ.
Continue powder and mixture.

28. It is still extremely difficult to keep his bowels open, and when costive he is troubled with headache. I now ordered him a cathartic powder every night, cathartic pills in the morning, and Magnes. Sulph. ℥ss. o. 4. h., and directed a seton to be inserted in his neck; to this, however, he would not submit.

May 6. Is better, but complains of pains in his limbs.

10. Headache and drowsiness. Pulse full.

V. S. fl. ℥xvj.
Pulv. Feb. 6. qq. h.
Mist. Cath. bis die.

He was relieved by the last prescription: and during the remainder of the month took the Cathartic regularly, with alterations of the dose, according to circumstances, and mercurials, so as to affect his gums slightly.

30. Complains of spectra floating before his eyes.

Hirud. 12. temp.
Pil. Cath. 3. bis indies.

Jan. 1. Is considerably better.

5. Says he is quite well.

He was soon afterwards discharged.

Observations. — The history of this case displays clearly the origin of the disease in the alimentary canal, and the gradual supervention of the disorder in the head, in connection with it.

CASE IX.

JOHN BULLOCK, out-patient at St. Peter's Hospital, Oct. 9, 1820.

A man of meagre habit, short stature, dark complexion, aged thirty years, by trade a tailor, who has been three years subject to epileptic fits, which happen in the day as well as the night, and attack him once or twice in the space of two or three months. His bowels are habitually very torpid; he seldom has an evacuation more frequently than once in three or four days. He is subject to excruciating pains in his bowels, resembling cholic, which suddenly seize him. Abdomen rather swelled and hard. Tongue somewhat white. Pulse natural.

Pulv. Cath. o. n.
Mist. Cath. ter indies.

13. He had a fit on the evening after he was here, (viz. on the 9th,) but none since then. He was seized last night with pain in the muscles of the shoulder. He has palpitation and rapid circulation; pain in his chest when he breathes. Bowels relaxed; discharge from them of a black colour. He complains of pain in his head and dimness of sight.

Ven. Sec. fluant ℥xvj.
Pil. Cath. 3. omni nocte.
Mist. Aper. c. T. Scill. et T. Digitalis.

23. No fits for three weeks. Pulse in the carotid full and strong. Headache; otherwise he is better.

Hirud. tempor.
Pil. Cath. frequenter.

Feb. 16, 1821. He got better, and neglected his attendance at the Hospital. He had no fits for three months. Finding himself tolerably well, he omitted the means necessary for keeping his bowels open. His complaint returned, and he has had three fits

lately. Complains of headache and drowsiness. Bowels very costive; flatulence very troublesome. Pulse quick.

Cupping glasses, and a blister afterwards to the nape of the neck.
Cathartic pills and mixture.

I have heard no more of him.

Observations.—This case is analogous to the preceding; it displays the connexion of disease in the brain with obstinate constipation of the bowels. This state of the intestinal canal, depending on deficient secretions, is more apt to occur in the melancholic temperament. The three last cases are of the description alluded to in page 266.

CASE X.

Richard Durham, in-patient at St. Peter's Hospital, May 3, 1819.

A meagre slender man, aged forty years, by trade a tailor; accustomed to a very sedentary life, to which he was led by his occupation: of irregular habits; used to sit drinking late at night. In consequence of his sedentary occupation his bowels were generally much constipated. He has been troubled with headache for years.

During the last two years he has been subject to epileptic fits. He is first seized with a spasm in the right hand; sometimes in the right foot: his hand feels drawn up towards his head, as he expresses himself: he used to fall down, sometimes, in the street. Says he does not always lose his senses in the fits.

In consequence, as he says, of the fits, he has lost the use of his right arm and leg: his speech is also affected. He has been in the Bristol Infirmary, and was there bled and purged, had a seton in his neck, and used the warm bath. By these means he obtained no relief, and was discharged as incurable.

His appetite is generally good: his bowels are constipated.

Present symptoms.—Partial hemiplegia of the right side: has fits occasionally; does not lose his senses during them,

but is conscious and knows those around him, yet is unable to speak to them.

The functions of the digestive organs are impaired.

Ol. Terebinth. Rect. ʒij. ter indies.

Aug. 4. He has derived no benefit from the use of the turpentine.

℞ Extr. Coloc. Co. gr. x.
Confect. Hydrarg. gr. v.
M. ft. Pil. iij. omni nocte sumend.
℞ Magnes. Sulphat. ʒiv. manè quotidie.

13. Fits not so frequent: has little or no appetite: hemiplegia unrelieved.

℞ Extract. Nucis Vomicæ, gr. iij.
ft. Pil. ter indies sumend.
Habeat Pil. Colocynth. c. Calomelane, p. r. n.

19. Continues the Nux Vomica: feels relieved. Electricity was ordered.

He derived no apparent benefit from electricity. It was discontinued, and he used the shower bath.

Oct. 21, 1820. This man's condition is now very much improved. He has been an inhabitant of the Hospital ever since the first report; and consequently lives regularly, and his diet is very simple. His bowels are now regularly open. He has long lost all symptoms of epilepsy. The last fits he had, more than six months ago, were very slight. His palsy is lessened, and he has now no complaint except a partial hemiplegia, which allows him the use of his limbs. Says he derived more benefit from the shower bath than from any other medical application.

CASE XI.

Daniel Boyle, out-patient at the Infirmary, March 15, 1821.

A man of middle stature, aged seventy-nine years, who, about ten years ago, had, for the first time, an epileptic fit. From that time similar fits have continued to trouble him every fortnight, or every month at furthest. The fit comes on with dizziness, and a sensation of something

rising up to his temples: he then falls down backwards. His bowels are habitually constipated.

Pil. Cath. o. n.
Emuls. Terebinth.

April 7. He has attended, and has taken his medicines regularly. His bowels have been moved two or three times in a day, and the stools have been dark-coloured, or black.

May 2. Similar reports continued from the last. He has persisted in his medicines, with the addition lately of a cathartic draught each morning. His appetite is better than formerly: he has had no symptom of his disease.

Continue.

23. No fits; he has had a catarrhal cough.

Pil. Cath. o. n.
Mist. Sal. Antim. Opiat.

30. No fits; cough well.

Take the pills now twice a day, if he can bear them so often.
Emuls. Terebinth.

Jan. 6. He is now very well, but cannot do without the pills, his bowels becoming obstinately costive.

Pil. Cath. o. n.
Solut. Magnes. Sulph. q. s. manè quotidie.

Aug. Is quite well; except that he requires the constant use of laxative medicines, though not in such large doses as formerly. Has had no fits for five months.

September. He has lately suffered a recurrence of the fits, which came on while he was stooping in his garden. Pulse only 34.

CASE XII.

John Harris, out-patient at the Infirmary, Oct. 26, 1820.

A robust country labourer, aged thirty-two years, who, a week ago, was seized in the night with epilepsy. He had three fits, each of which lasted about an hour, and was affected with headache and stupor the whole of the following day.

On being questioned, he says that about four or five

months ago he voided a worm, (a lumbricus,) at which time he was troubled by pain in his stomach; but since then he has enjoyed good health.

Present state.—Belly hard when pressed, and tender about the right hypochondrium: he is flatulent, and feels pain across the epigastric region when he draws a full breath. Pulse in the arm natural: in the carotid harder and stronger than in proportion.

Ven. Sec. fl. ℥xvj.
Pulv. Cath. o. n.
Mist. Cath. cum Emuls. Tereb. ℥ss. 4tâ qq. h.

28. Bowels relieved about ten times in a day; stools dark-coloured; no worms; pain when pressed on the right hypochondre, at the angle of the ribs; the same part feels tumid; pain in the same situation when he inspires deeply. A pain which he had at the shoulders and neck is removed, and he now coughs without uneasiness. Pulse natural.

Pulv. Feb. 6tâ quaq. horâ.
Mist. Sal. Ant. c. T. Scill.

Nov. 1. Still very unwell: was troubled with much flatulence until the medicines purged him a good deal, when he voided two lumbrici, about eleven inches in length. His gums are sore through the effect of the Calomel. He has had no fits.

Pil. Cath. 3. o. n.
Mist. Cath. 4tâ quâque horâ.

4. Much pain in his head. Pulse strong and full in the carotid. No fits. Bowels opened six or seven times in a day.

Art. Temp. sec.
Ep. Nuchæ.
Continue Cathartics, with Emuls. Tereb., as before.

8. The Turpentine emulsion occasioned a suppression of urine, which, however, went off, though he continued to take it. Urine still turbid; head pained. Pulse full and strong.

Ven. Sec. fl. ℥xvj.
Pil. Cath. o. n.
℞ Infus. Sennæ,
Infus. Calumb., āā ℥iv.
Spir. Æther. Nitros.,
Liquor. Potass. Subcarbon. āā ℥ss. M.
ft. Mist. capt. cochl. iij. ter indies.

A few days after this date he was brought into the Infirmary, labouring under an attack of erysipelas, which was at that time a prevalent disorder. On account of this complaint he was somewhat further evacuated, and went out, quite well, about the 20th of December, the following month, with his abdomen soft and compressible, having experienced no recurrence of his epilepsy.

Observations. — This case would be termed by some epilepsy from worms. I am inclined, on comparing it with other cases, to ascribe the disease to the morbid condition of the intestinal canal, independently of the worms.

The history of the case indicates that the disorder of the brain was consequent on that of the abdominal functions; and shows, likewise, that the former consisted in a morbid plethora of the vessels in the head.

In the following case there was intestinal irritation, connected with the presence of worms.

CASE XIII.

JEMIMA DAVIS. August 13, 1819.

A girl, about eleven years of age, of sanguine temperament, red hair, &c., some time subject to epileptic fits; but we cannot learn how long this has been the case. She has had two fits during the last week, which were brought on by terror: she has been frightened by a ghost. She is emaciated, as it appears, from the want of sufficient nourishment. She picks her nose frequently, grinds her teeth at night, and starts in her sleep. Her appetite is good; bowels tense, and subject to diarrhœa; her tongue clean. She is free from febrile symptoms. Complains chiefly of headache.

℞ Pulv. Stanni, gr. xij. ter indies.
℞ Calomel. gr. iij.
Pulv. Jalap. gr. xij. M.
ft. Pulv. Cath. manè sumend.
Light diet.

30. She discharged a quantity of worms after the powders. Is now well. Discharged, cured.

Nov. 11. Has had no return of her complaint.

I have observed repeated instances of epileptic fits occurring in individuals who had formerly been subject to tape-worm, although there was reason to believe that the worm had been destroyed; or, at least, when no proof of its existence had been discovered for several years. The two following cases exemplify this observation, and are, in some other respects, remarkable.

CASE XIV.

George Hulbert. Sept. 1, 1817.

A stout man, of melancholic temperament, dejected aspect, aged thirty-two years, a schoolmaster by profession. He has, through life, been subject to flatulence and other dyspeptic symptoms. His bowels are habitually constipated: he has frequently had recourse to laxative medicines, finding that they alleviated a complaint of the head, which has troubled him many years. Of this complaint he gives an odd description. He says it used to seize him in the back of his head. It was not so much pain as a sense of vertigo; during the continuance of which he was confused, and scarcely conscious. Whenever this sensation came on he was apprehensive of being seized with a fit: he is full of apprehensions; subject to

tremor and palpitations. He says that he was troubled with tape-worms about twelve years ago, but was cured, four years ago, by taking two ounces of oil of turpentine; since which period he has never had any symptom of them. His other complaints, however, have continued; and about a month ago, when sleeping, early in the morning, he was attacked by an epileptic fit: two days ago, nearly at the same hour, he had a similar attack.

He was ordered to lose blood, and take some cathartic medicines. He did not attend regularly, residing at the distance of several miles from Bristol, and being much engaged by his business.

On Nov. 16 he added the following particulars: —

He has now fits nearly every week. Is subject to palpitations and tremors when he first lies down at night. The fits come on during sleep. Before they occur his inspiration is sonorous; if then awakened, he escapes the fit.

He is hypochondriacal; his bowels loose; subject to flatulence, which is most troublesome before the fits; his appetite is voracious. Pulse quick.

This man attended very irregularly, and after some time desisted entirely from attending. Some cathartic medicines, &c. were ordered for him: he obtained temporary relief from pills, containing Nitrate of Silver, and from Mist. Menth. c. Rheo et Magnesia; he could not be induced to take the Turpentine emulsion.

June, 1821. Hulbert has been recently in the Infirmary, on account of symptoms threatening phthisis. He is still subject to fits. He has had no indication of worms.

CASE XV.

Samuel Tillet, admitted out-patient at the Infirmary, January 15, 1821.

A man of dark complexion, by trade a carpenter, aged thirty-three years, who, about twelve months ago, was ill of a complaint, which he terms a fever. He had then pain at

the bottom of the sternum, and a cough, and lay in a state of delirium, and, as he says, at the point of death several weeks. He had of late improved in his health, so as to be able to work at his trade; when, as he was walking home in the evening, about a month ago, he suddenly found himself unable to articulate. This affection continued about half an hour, and then subsided. Some hours afterwards he was seized with an epileptic fit, which was very long and severe.

Present state. — Since the period above referred to he has had no repetition of fits, but is still troubled with a severe pain in the temple, over the left eye. He has also a pain just above the scrobiculus cordis. Abdomen feels full and tense: this has been the case for several months, particularly after his meals. He has a cough, and a red appearance of the posterior part of the pharynx.

Ven. Sec. — fluant sang. ℥xvj.
Empl. Lyttæ ad Nucham.
Pil. Cath. o. n.
Mist. Cath. ter indies.

20. His morbid feelings have been much relieved. He fancies that he was not benefited by the loss of blood, but very much by the blister. He has passed from his bowels a large quantity of black or dark-coloured stools. Cough relieved.

Pil. Cath. o. n.
Mist. Cath. manè quotidie.
Emuls. Terebinth. ter indies.

24. Stools still of a black colour. Says that he had a tape-worm about six years ago, and fancies that he feels it now moving and irritating his bowels.

Ol. Terebinth. ℥j. cras manè.
Mist. Cath.

27. His stomach rejected the oil. Pulse full. Pain in the temple, over the left eye.

Cucurb. Cruent. ad Nucham. Exsugantur ℥xvj.
Empl. Lytt. ad Nucham.
Pil. Cath. o. n.
Mist. Cath. ter indies.

Feb. 3. Discharged cured.

CASE XVI.

HANNAH VOWLES. April 17, 1817.

A stout fat girl, of a square make, pale complexion, aged eighteen years. About five months ago she was seized with a violent pain in her head and back, attended with other febrile symptoms. The pain in her head continued six weeks, and purple blotches came out over the whole body. While these symptoms were present she was attacked by a convulsive fit. She was bled, and soon afterwards recovered.

About a week ago she was seized with a pain in her right arm and shoulder, which is still very troublesome to her. On the 14th she had two fits; which, except one, were the first she has suffered since the primary attack. The fits seize her suddenly, without any warning of their approach. A pain flies up into her head, and she falls down senseless: she is convulsed, foams at the mouth, and, when she recovers her senses, complains of violent headache. She says that her bowels are regular; appetite is bad: menstruation returns every fortnight. She now labours under headache and stupor.

Ven. Sec. fluant sang. ℥xvj.
Pil. Cath. 3. o. n.
Mist. Cath. ter indies.

23. For several days she has had a fit daily, and yesterday had two.

℞ Mist. Cath. ℥iss.
Antim. Tartar. gr. j. M.
Sumat. 4tâ quâque horâ.
Tinct. Asafœt. gutt. 30. p. r. n.

May 6. She has had no fits since she began to take the last medicine.

Continue, and take Pil. Cath. 3. altern. noct.

27. Nine days ago she had a fit, which was followed by

another on the following morning. Since that time she has been much troubled by vertigo.

Hirud. 12. ad tempora.
Pulv. Cath. gr. 25. o. n.
M. M. c. Rheo. ter indies.
Empl. Lytt. ad Nucham.

June 4. The leeches drew no blood, but her head is better. She has had no fits. Pulse 112, rather full.

Ven. Sect. fluant sang. ℥xvj.
Repet. Med.

She recovered from this time, but ceased to attend at the Infirmary, as convalescent patients often do. I accidentally met with her mother, at the house of a patient, in September 1817, and learnt that she had experienced no return of her fits, and had regained perfect health.

Observations. — This case is not so circumstantially reported as might be wished; but the decided benefit, and ultimate cure, which arose from the use of cathartic medicines, pretty plainly indicate that the primary seat of disease was in the alimentary canal.

CASE XVII.

William Vowles. Feb. 17, 1817. Out-patient at the Infirmary.

A boy, nine years of age: rather short for his age. Three months ago he was seized with epileptic fits, in consequence, as his mother thinks, of a fright. For some time several fits occurred in one day: they were preceded by giddiness and drowsiness: they always happened in the daytime. Of late they have occurred about once in a week. Appetite and bowels reported to be in a natural state.

Pulv. Cath. ℈j. omni noct.

The powder was discontinued after a few days, and a dose of cathartic mixture given instead of it in the morning.

March 12. He has not had one fit since he began to attend.

Repeat the Mixture.

April 30. He has been here repeatedly since the above reports: the mixture always continued: he has had no fits, and is now discharged as cured.

His mother brought him to the Infirmary again on May 15, following.

The fits have recurred; he had an attack two evenings ago, and again on yesterday morning.

Pulv. Cath. ℈j. omni noct.
Mist. Cath. ℥ij. manè quot.

24. Complains of headache and dizziness; he has taken only two of the powders. Had two fits the day before yesterday; each continued about five minutes.

V. S. et fluant ℥x.
Pulv. Cath. o. n.

27. Syncope followed the bleeding. He now seems quite well; has had no fits. Bowels not much purged.

31. His stomach rejects the powders. No fits.

Calomel. gr. iv. omni nocte.
Mist. Cath. ter indies.

June 7. Seems well. Purged eight or nine times in a day.

Continue.

14. Feverish symptoms. The cathartic medicines have acted too much. Pulse full and quick.

V. S. et fluant ℥x.
Take only the Cathartic Mixture.

July 16. Is quite well.

Take a dose of Cathartic Powder twice in a week.

Sept. 24. Has again had an epileptic fit.

Pulv. Cath. alt. noct.

Oct. 1. Had a fit every day for the last three days.

V. S. ℥x.
Repet. Pulv. Cath.
Repet. Mist. Cath.

25. The powders have not been given as prescribed. Had two fits lately.

Pulv. Cath. gr. xv. o. n.
Mist. Cath. ter indies.

Nov. 1. Had one fit in the present week.

Pil. Cath. o. n.
Infus. Sennæ, manè.

8. Two fits yesterday.

Empl. Lytt. ad Nucham.
Keep the part sore with Sabine ointment.
Repeat the Cathartics.

26. Fits yesterday and the day before; continued longer than usual. He was not troubled with them while the blister was open at the nape of the neck.

Continue Cathartic Pills.

Dec. 31. No fits since he was here last.

Calomel. gr. iv. o. n.
M. Menth. c. Rheo.

Jan. 17. He takes the Calomel every night; has had only one fit in the course of the last month, and that a slight one.

Continue.

Feb. 4. He has left off taking the medicines, and his mother sent him to school to learn arithmetic, supposing him cured of his complaint. He had two fits.

Let him persist in taking four grains of Calomel every night, and the Mist. Menth. c. Rheo in the morning. To use exercise in the open air, and not to go to school.

14. Mouth not affected by the Calomel. (I doubt whether it is regularly given).

March 24. He has been attending since the last report; and his mother declares that she has given his medicines regularly. He has had no fits. Discharged.

Returned on April 29 with a recurrence of his complaint. Will not take pills or cathartic mixture.

Calomel, gr. iv. o. n.

May 2. Had a fit yesterday.

V. S. fluant ℥xij.

9. Has had no fits since he was bled. His gums are sore. Pulse full and strong.

V. S. fluant ℥vj.
Mist. Cath. manè quotidie.

16. Has been well since the last report.

Pil. Cath. 3. o. n.
Mist. Cath. p. r. n.

20. Quite well.

Continue Pills.
Mist. Cath. altern. dieb.

June 6. Quite well.

Continue the purgative medicines.

Aug. 8. As before.

Let him have the Pills every other night only.

Sept. 2. Continue. He is now shedding several teeth.

Dec. 30. He has had no fits now for seven months.

Discharged, with an injunction to attend to the state of his bowels.

Observations.—This was a very obstinate case of enteric epilepsy. The event proves that perseverance in the use of purgative medicines, with the occasional assistance of other evacuating remedies, will sometimes cure a disease which appears very unpromising.

The doses which he took were so powerful, and long continued, as to occasion considerable disorder of the system. The remedies seem to have warded off the attacks of his complaint by maintaining an artificial disease; for as such the constant catharsis he underwent must be considered.

I have scarcely a doubt that this boy would have derived benefit from the use of turpentine.

SECTION VI.

Of the Treatment of Enteric Mania.

THE treatment of maniacal cases, connected with disorder of the intestinal canal, must depend on the

same general principles which we have considered in the fifth section. The chief object of our endeavours must be to restore the alimentary canal to a state in which it shall no longer occasion the excitement of disease in the nervous system.

The same preliminary measures are requisite in cases of this description as in the instances of enteric epilepsy. We must endeavour to relieve the secondary and often obstinate disease, which has taken place in the encephalon.

The abstraction of blood has comparatively a small place in the treatment of enteric mania: however, it cannot, with impunity, be omitted under certain circumstances. When the disease commences with symptoms approaching to phrenitis, with raving delirium, a rapid bounding pulse, particularly in the carotids, a flushed countenance, reddened eyes, heated scalp, dry tongue, intense thirst, it would be wrong to omit bleeding either from the arm or jugular vein. It is much safer to attempt to relieve the sanguiferous system in this method than by emetics; to which recourse has often been made, as if they were the specific remedy for violent delirium. The quantity of blood taken should be moderate; it should not often exceed sixteen or eighteen ounces at one operation: in a great many instances the loss of ten, twelve, or fourteen, will be sufficient to effect the purpose, especially when combined with local applications, calculated to assist in bringing about the same result.

These auxiliary means are the same as were mentioned in the fifth section: such as shaving the head, and covering it with cloths wetted with water, at

thirty-two degrees of Fahrenheit: in other instances the cold affusion; the application of leeches to the head, or cupping glasses to the nape of the neck. Blisters applied to the same place, or to the whole occiput, contribute, in a very important manner, on some occasions, to produce a similar effect: in other instances blisters aggravate the disease, by creating an additional irritation. When the head is hot, and the face flushed, blisters on the scalp itself are injurious: when the external parts of the head are cold, while symptoms exist which indicate a determination into the vessels of the encephalon, they may be expected to produce a beneficial effect.

General bleeding will scarcely be required in two cases out of ten of enteric mania; and, when it is necessary, one moderate bleeding will, in the majority of instances, be sufficient; combined with the other antiphlogistic measures I have described.

In the subsequent course of the disease circumstances will in some cases arise which require a repetition of bleeding, or the application of cupping glasses. Some patients experience so much benefit by occasional bleeding, either general or local, that they come, from time to time, to entreat that it may be done. The uneasy sensations to which lunatics are so liable, such as a feeling of fulness and vertigo, are often sensibly mitigated by it.

In the treatment of the alimentary canal, we must be directed by the same rules as in cases of enteric epilepsy.

Emetics may be given when there is no strongly marked fulness and increased action in the carotids

and temporal arteries, or after relief of this symptom has been obtained by bleeding. In many instances a dose of Calomel, with one grain of Tartarized Antimony, as mentioned in page 260, will be sufficient. Sometimes a larger dose of the latter salt, with Ipecacuanha, is necessary. I have known a dose, consisting of eight grains of Tartarized Antimony, given with comparatively little effect.

The bowels ought to be completely purged by powerful cathartic doses, given as frequently as the strength of the patient will admit, until the full effect takes place. If they are slow in their operation, they should be assisted by purgative enemas, containing Oil of Turpentine with Castor Oil. We must not be withheld from the use of purgatives by an assurance that the bowels have been open, or even loose, for some time: even in this case they are often found to contain a great mass of feculent matter.

For the subsequent treatment of the intestinal canal I beg to refer the reader to what has been said in the foregoing section. The disorder of this part of the system is of the same description in enteric mania as in enteric epilepsy, and requires the same treatment. There is no other medicine, on the whole, so valuable in these affections as the rectified Oil of Turpentine. It possesses a particular property of allaying irritation in the nervous system, at the same time that it restores a healthy action in the intestinal canal. When there is a craving appetite, connected with flatulent pains, and those symptoms which are thought to denote the presence of worms, but which more certainly indicate a diseased state of the mucous surface of the canal, I

consider the use of Turpentine as particularly indicated. I generally give it in the form of the emulsion already mentioned; of which from half an ounce to an ounce, containing half a dram or a dram, is to be taken three or four times in the day. If this medicine is given in larger doses it will frequently occasion hæmaturia. Even in smaller quantities it sometimes gives rise to nausea and vertigo. The emulsion above mentioned is, however, less offensive to the stomach than the oil in any other combination, and is generally retained when taken in milk.

The warm bath, by its relaxing effect, contributes to relieve the system when under the influence of intestinal irritation. If diarrhœa with tenesmus occur spontaneously, or follow the use of cathartic medicines, they may be relieved by the use of the warm bath and anodyne enemas.

The diet should not be too low in cases of enteric mania. The disease is generally accompanied with, or gives rise to, great emaciation and debility; and patients under these circumstances sink rapidly under the effect of remedies, unless they are supported by a nutritious diet. Except in those cases which require, for a time, the antiphlogistic regimen to be conjoined with general depletion of the blood-vessels, it is better to allow the patient broths, and as much of milk and farinaceous food as his stomach seems to require. In protracted cases, where there is emaciation, diarrhœa, and a craving appetite, a moderate portion of solid animal food should be given every day. In some instances the irritability of the system is very much allayed by a daily allowance of ale or porter.

When the intestinal canal has been thoroughly evacuated, and its secretions restored to a more healthy state, by the means recommended in this and the preceding section, the recovery of strength in the habit in general, and the removal of disorder in the nervous system, depending on irregular circulation, is much promoted by exercise in the country, and the use of a cold shower bath. The latter remedy has often produced a much greater effect than was anticipated from it.

I must observe, before concluding, that there are cases of mania which appear to have their origin in intestinal irritation, and which, nevertheless, continue unmitigated after the disorder of the alimentary canal has been in a great measure, or, perhaps, entirely subdued, and the whole system of the digestive organs restored to a tolerably healthy state. In these instances the secondary disease has become idiopathic. The pathology and treatment of cases of this class will be considered in a future chapter on encephalic or neurotic mania.

SECTION VII.

Cases of Enteric Mania.

THE following selection of cases will tend to illustrate the preceding remarks on the pathology and treatment of enteric mania.

CASE I.

James Nott, a strong muscular man, of sanguine temperament, aged forty-six, labouring under mania, admitted at the Infirmary, in a frantic state, November 13, 1820. His tongue much furred; mouth and fauces beset with frothy mucus: pupils contracted: his face flushed: eyes wild and glistening: pulse rather slow, and full; not particularly strong in the carotid: complains of pain, when pressed, in the region of the liver. He can give no account of himself. The following particulars were collected from his wife:—She observed that he was not quite well for several days before the attack; was costive; disinclined to take food; restless; complained of occasional headache, with giddiness, and got very little sleep. These symptoms continued four or five days; when he suddenly got out of bed one night, talked very incoherently, and began to break the chairs and tables. This happened about a fortnight before he was brought to the Infirmary. His trade was that of a tiler and plasterer: he had formerly been in the habit of drinking freely, but for the last two or three years was very sober. His bowels were at first much constipated; and when they became freely open, his wife says, the evacuations were very offensive, and looked like rotten flesh.

History subsequent to his Admission.

When admitted his face was flushed; his eyes wild and glistening; he was talking with great energy; chiefly asserting himself to be a man of great fortune, and declaring that he was not mad.

He was bled from the arm and the temporal artery: his head was shaved: he had leeches applied to the head, and a blister to the nape of the neck: was purged: all without diminishing the violence of maniacal excitement.

Three grains of Emetic Tartar produced no effect upon his stomach, and six grains repeated only made him vomit occasionally. When he did vomit, he brought off from his stomach a great quantity of thick viscid mucus.

He was continually restless, and was kept in a straight waistcoat. For five or six days after his admission he took little or no food. His sleep was very much disturbed by raving fits. He constantly passed his evacuations under him in the bed.

After the 23d some stimulants and opiates were tried, but soon discontinued. From that time he gradually sunk into a state of stupor, and expired on the 6th of December.

During the whole of his illness there was a peculiar and strongly fetid smell emanating from him; which was very perceptible in the body previously to dissection.

Dissection Twelve Hours after Death.

Abdomen.—The intestines were distended with flatus, and also contained a considerable quantity of fæces: they were, in many places, more vascular than usual. There was no perceptible mark of inflammation in the external surface of the stomach; but, when slit open, its inner membrane was found to be considerably reddened: this appearance was more strongly marked about the cardiac portion: the inner coat of the duodenum was also more vascular than natural; and this intestine, as well as the stomach, contained much tenacious mucus, which adhered to the coats, and was not easily wiped off. The remainder of the canal was not examined. The liver was firm, but appeared healthy: the gall bladder contracted, and contained but little bile.

In the thorax the right lung firmly adhered to the diaphragm, and the same part contained abscesses; one of which had formed an opening into the right thoracic cavity. This cavity was quite full of purulent matter, mixed with serum. The lung on the same side was quite

collapsed, and the pleura costalis, and pleura pulmonalis, coated with a layer of coagulable lymph. The left lung adhered extensively to the side, but was otherwise healthy.

Head.—Much fluid blood flowed when the longitudinal sinus was cut: the arachnoid membrane was much thickened, and almost opaque: there was effused fluid under it. The brain was firm: all the ventricles were full of serum. There was also serum at the basis of the brain.

Observations.—The state of the inner surface of the stomach and intestines, and the morbid appearances discerned in the brain, are circumstances worthy of attention in this case.

CASE II.

JOHN EATON, out-patient at St. Peter's Hospital, Oct. 17, 1820.

A youth in the seventeenth year of his age, of meagre habit, short stature, melancholic temperament, who labours under maniacal impressions. A few days ago he rose early to go out, and said he was going to meet the Queen in Lord de Clifford's park. This is the third attack of insanity he has experienced, and both the former occurred about the same season of the year.

At the period of each attack of mania he has laboured under the following symptoms, which are now present.

Abdomen distended; pains in the abdomen and in the chest; voracious appetite; titillation of the nostrils; restlessness at night. At the same time he voids worms.

℞ Pil. Hydrarg. Submuriat. gr. v.
Omni nocte sumend.
Haust. Cathart. 4tâ. quâque horâ.

20. Venæ Sec. fluant sang. ℥xij.
Ol. Ricini, manè quotidie, ℥s

24. Remains nearly in the same state.
Pil. Cath. 3. omni nocte.
Ol. Terebinth. Rect. gutt. xxx. ter indies.

31. He has been violently purged; the stools have contained a considerable quantity of blood: the tumor of the abdomen has subsided: his strength is reduced: he seems to have lost all symptoms of mania; complains of pains in his head: carotid arteries pulsate too strongly.

Cucurbit. Cruent. inter Scapulas, admov. ut fluat sanguis ad ℥xij.
Empl. Lyttæ Nuchæ admov.
Ol. Ricini, ℥ss. quotidie.

Nov. 10. Discharged cured.

Dec. 5. He has had no relapse with respect to any of his complaints.

Observations.—This was a well marked case of mania depending on intestinal irritation: chiefly, perhaps, the irritation of worms.

The disorder in the intestinal canal seems to have occasioned a considerable disturbance in the sanguiferous system, and the head became affected with the symptoms of increased determination, which required, and were relieved by, the evacuation of blood. Similar changes probably occur in cases in which we cannot so trace the succession of phænomena.

CASE III.

Stephen Mansell. October 13, 1818.

A slender youth, about eighteen years old, of brown hair and eyes; a sailor, just arrived from North America, of which country he is a native. His elder brother has been insane several years. He became mad on the voyage. The captain bled him twice, and he was relieved for the time; but during the latter part of the voyage he has refused food; has been without sleep; constantly raving, and incoherent.

Is noisy and talkative; sometimes he weeps. Scalp hot, vessels of conjunctive full. Looks as if he had been

drinking hard. Mouth parched. Tongue furred. Pulse quick and feeble. Skin cold.

Warm bath, shave the head, and keep it covered with cold wet cloths.

℞ Calomel. gr. viij. statim.
Haust. Cath. ℥ij. 4tâ. qq. h. donec alvus solut. fuerit.
Low diet.

14. Circulation more general; bowels purged. Pulse has risen in frequency and fulness.

Venæ Sectio. fluant sang. ℥xij.
Pil. Cath. o. n.
Haust. Cath. o. 4. h.

15. Slept four hours; many dark and offensive stools; in other respects his state is little altered. In the blood which was drawn the crassament is lax, and great in quantity in proportion to the serum.

Continue Purgative Draught.
Let him have Tamarind Drink.

16. Slept well; scalp continues hot. Symptoms as before.

Hirud. viij. ad sing. temp.
Continue cold cloths to the head.
Calomel. gr. v. h. s. Postea
Ol. Terebinth. ʒj. ter indies.

He asks for food. Let him have mutton broth, and milk for breakfast.

24. Pil. Cath. iij. 6. qq. h. si opus fuerit.
Haust. Efferves. 4. qq. h.
Omit Turpentine.
Emp. Lyttæ Nuchæ.

On the 27th and the 31st leeches were applied to the head. The reports subsequently are as follow:—

Nov. 1. More tranquil.

2. Noisy as before.

Opii, gr. ij. statim.

3. No sleep procured: stools dark and fetid: head continues hot; tongue foul; face flushed: pulse in the temporal artery exceedingly rapid.

Sectio. Art. Temp. —— fluant sang. ℥xvj.
Repet. Haust. Cath.

Partial collapse occurred after the bleeding: he was much relieved.

7. Shower bath; cold.

8. Stools copious; clay-coloured. Noisy. He was ordered Calomel. gr. iij., with Aloes and Tartarized Antimony, every fourth hour.

On the 15th his mouth became affected by the mercury; he is more tranquil; bowels moved three or four times in the day; stools bilious: he is extremely feeble.

Omit the Calomel and other medicines.

19. Great heat of the scalp. Temporal and carotid arteries beat with considerable force.

Sectio. Art. Temp: et fluant sang. ℥xij.
Haust. Cath.

20. Greatly reduced by the bleeding. He slept last night. Stools pass involuntarily. Pulse hardly perceptible at the wrist; lips livid; skin ulcerated at the sacrum: he seems to be sinking.

Let him have wine according to circumstances.
Æther and Spirit of Ammonia.
Haust. Cretac. o. 4. h.
Decoct. Cinchon. c. Tinct. ejusdem.

24. Night sweats. Diarrhœa continues. Stools dark coloured. Sleeps well. Is tranquil and rational.

Opiate Draught at night. Wine and Arrow Root occasionally.
Dec. Cinchon.

28. Constantly rubs and picks his nose.

Pulv. Rhei, gr. xv. manè sumend.

Dec. 24. Symptoms continue as on the 28th. Lucid intervals, of long duration. Is much improved.

Jan. 6. Ol. Tereb. ʒiij. o. n.
Continues nourishing diet.

He continued to improve from this time. As soon as he gained sufficient strength, he was sent by the apothecary to walk daily along the banks of the canal. This, with cold bathing, greatly assisted his convalescence. He grew remarkably fat, and was taken away by the captain who had left him on August 3, 1819.

Observations.—In this case a considerable relief was obtained by topical bleeding, &c. and by acting on the intestinal canal; but the disease seems to have been cured by the complete relaxation of the system produced by bleeding on the 20th. This occasioned a profuse and long continued discharge from the bowels, which proved in the event salutary.

CASE IV.

Gard Luke, admitted in-patient at the Hospital Oct. 4, 1818.

A man of colour, a native of Jamaica, aged forty years, has been in his Majesty's navy for some years: states that he was in the Tagus frigate, Capt. Dundas, at Malta. An order came from England to discharge all foreigners, and he was sent on shore at Malta. The account of what ensued is stated in his own broken words, which are the most expressive. He had no where to go to. Massa, no friend in the world. "Well," says he, "one day, while sitting on the rocks, and tinking what me should do,—me cried,—holding my head down on my knees. This way, me staid some time—tinking on God Almighty—all at once me heard a voice—me not know him—denn me look up.—Saw God Almighty—said, never fear, massa—me do great tings for you.—Denn me took courage and got home to England."

This hallucination was the leading feature of his disease, as far as relates to the mental symptoms. If he could not obtain from the nurse any thing he asked for, he used to say he would tell his Father of it. If asked, Who is your Father? his reply was, God Almighty. He would point to the ceiling, and say he was there. He was extremely passionate, but easily quelled, if he was allowed to have his own way.

From the date of his admission to the period of his

death, the following were the symptoms under which he laboured, in respect to the natural and vital functions :—

Pyrexia, dyspnœa, hurried circulation. Tension of abdomen, morbidly dry skin, voracious appetite, constipated bowels. After an uncertain period the above symptoms would be changed for the following :— Languor and debility; lowness of spirits; no appetite; tongue more furred than usual; pulse less frequent; effusion in the abdomen; diarrhœa. During this latter state of the case his hallucinations disappeared.

He complained of pains, which he referred generally to the umbilicus and right hip-joint. These were partially relieved by remedies employed.

On April 6, 1819, he was seized with enteritis, and died on the morning of the 8th.

Morbid Appearances discovered on Dissection.

On removing the skull the dura mater presented many bleeding points: cranium thick and heavy. Brain firm: vessels running into its substance more conspicuous than usual. Ventricles distended with fluid. Pineal gland contained no grit.

Abdomen.—The whole of the abdominal viscera were so united by adhesions, apparently the effect of chronic inflammation, as not to be separable without destroying the parts. The omentum was enlarged, diseased, and firmly attached to the parietes of the abdomen. When cut into, it looked like the pancreas. The surface of the intestines was covered with numerous small cartilaginous bodies. The mesenteric glands were enlarged, and as hard as cartilage.

The lungs adhered to both sides of the thorax. The pericardium contained fluid. The right side of the heart was flabby, and the cellular substance loaded with serum. The left ventricle was thickened.

Observations. — In this case, although the mental hallu-

cination appears, from the man's story, to have discovered itself first, while he was under the impression of grief and anxiety, yet the subsequent history of the symptoms, which were accurately observed, evinces that the disease of the cerebral function had its foundation in the state of the abdominal viscera. This is manifest from the disappearance and return of the hallucination, according to the opposite conditions of the abdominal functions. During the period of excitement in these organs the mental disease appeared. When this condition of the organs gave way to relaxation, which was evinced by diarrhœa succeeding to constipation, anorexia to voracious appetite, languor and debility to a state of comparative tone and vigour, the morbid excitement of the brain, on which the hallucination depended, disappeared.

That the condition of morbid excitement, both in the brain and in the abdominal viscera, was a state of increased vascular action, or an inflammatory state, is proved, in this case, by the appearances discovered on dissection.

CASE V.

Elizabeth Jones, admitted Jan. 6, 1816.

An unmarried woman, aged twenty-one years, who gains her livelihood by making dresses. Of middle stature, dark complexion, dark brown hair, light grey eyes, cheerful and mild temper. She has been slightly affected with insanity about three months, and has gradually become worse, until her friends thought it necessary to have her confined. One of her sisters has been disordered in a similar way.

Present symptoms. — She is continually talking, laughing, or crying.

State of the natural functions.—Bowels generally in a constipated state; tongue covered with a dark brown fur; breath very offensive; pupils more dilated than natural.

Treatment. — Head shaved; a blister applied to it.

℞ Pulv. Jalap. ʒss.
Hydr. Submur. gr. v.
Antim. Tartar. gr. ij. M.
ft. Pulv. manè altern. dieb. sumend.

Jan. 20. Bowels open. Urine natural. Tongue clean. She talks less.

Pulv. Aperiens, ʒss. manè p. r. n.
Shower bath every second morning.

Feb. 12. She has improved considerably.

Continue the Aperient Powder.
Continue the shower bath.

28. In other respects nearly in the same state. She has a slight cough, with oppression on the chest.

Venæ Sectio. — fluant ℥xvj.
Saline Apert. Mixture, with Tinct. Opii Camphorat. three or four times in a day.

March 6. Cough better; has some pain in the chest.

Empl. Lyttæ part. dolent.
Repet. Mist.

April 5. Pectoral complaint has been removed. Mental derangement so far removed that she is allowed to walk out of the house occasionally without any attendance.

Continue the Saline Aperient, without the Tinct. Opii Camph.

May 17, 1816. Discharged cured.

Observations. — There is nothing else remarkable in this case but the gradual diminution of the symptoms of mental disorder holding a proportion to the improvement in the state of the natural functions.

CASE VI.

Elizabeth Eden, admitted March 20, 1815.

An unmarried woman, aged twenty-six, of short and stout make, large head, large dark eyes, dark hair, short neck, who, about three years ago, laboured under an affection similar to her present disease; from which she

recovered through the use of purgative medicines and the shower bath.

Present symptoms.—She is incoherent, and talks and sings continually; has a peculiar way of rolling her eyes while speaking.

State of the natural and vital functions.—Bowels constipated; urine scanty; tongue covered with a white fur; pulse very frequent and strong: head very hot.

Treatment.—Head shaved.

Twenty ounces of blood taken from the Temporal arteries.
Mist. Cath. cum Antim. Tart. quant. sine vomitu sumere potest, manè quotidie.

April 12. Continues the Cathartic mixture. Uses the shower bath every morning.

July 18.—Appears to be quite recovered, and has been made a deputy nurse of the insane ward.

CASE VII.

JOHN LAUNDRY, admitted July 10, 1816.

A coppersmith, aged forty-two, of short and meagre habit, florid complexion, sanguine temperament; highly irritable disposition. He has been confined the last nine months in a state of insanity. This disease is hereditary in his family.

Present symptoms.—Pupils contracted: tongue furred: breath offensive: talks incessantly, and very incoherently: is extremely weak: pulse 65, feeble.

Treatment.—Head shaved.

Ol. Ricini, ℥ss. occasionally, to keep the bowels open.
Diet, chicken broth and gruel.

Aug. 1. Derangement as before: strength improved.
Continue.

20. No alteration, except that his appetite is improved. Bowels and urine natural.

Oct. 6. Deranged as before: health in other respects improved.

Diet, mutton broth.
A pint of porter daily.

24. Still deranged: strength improved.

Cucurb. Cruent. Scap. et extrahantur sang. ℥xvj.
Discontinue the porter.

Nov. 14. He has been of late less noisy. Bowels and urine regular.

Sulphat. Magnes. manè quotidie.

Dec. 12. Derangement nearly as before; health in other respects much better.

March 15. He has had slight febrile affections during the last few days; complains of a pain on the right side, low down. Head aches; skin hot and dry. Bowels constipated. Pulse 110.

Abrad. Capilli.
Empl. Lyttæ Capiti.
Empl. Lyttæ lateri affecto.
Pulv. Febrif. statim.
Magnes. Sulphat. ℥j. post horam.

19. Fever considerably abated. Pulse 86, full and strong.

29. About eight P. M. he was attacked by a fit of apoplexy. A vein in the arm, and a branch of the temporal artery, were opened, but he expired in about sixty-five minutes from the time of the attack.

Dissection of the head.—Extravasation on the surface of the brain. Ventricles contained an unusual quantity of serum. Plexus choroides very large and vascular. Substance of the brain harder than usual.

CASE VIII.

Alice Lowe. Aug. 29, 1816.

An unmarried woman, aged twenty-four; of short stature, sanguine complexion, thin; cheerful disposition. She has been for several years slightly deranged, particularly in the spring; but never so troublesome as to require con-

finement until now. No cause is assigned: none of her relatives affected.

Present symptoms.—Bowels confined; thirst considerable; tongue foul, covered with a brown fur: complains of pain about the forehead. Appears tolerably rational, except at times.

Head shaved.
Blister applied.
Pulv. Cath. ʒss.
Antim. Tart. gr. ij.
ft. Pulv. altern. dieb. sumend. manè.

Sept. 2. Is more tranquil: bowels open; urine natural; tongue clean; appetite good.

Continue the Powder twice in the week.

12. Complains of pain in her right side; breathing oppressed; pulse 108, full, and rather hard; bowels affected with diarrhœa: the pain in the side is a symptom which frequently troubles her.

Empl. Lytt. ad latus.
Pulv. Cath. Antimonial. statim.

14. Pain in the side quite removed: appears rational and collected.

℞ Pulv. Jalap. gr. xij.
Potass. Supertart. ℥ss. M.
ft. Pulv. manè quotidie sumend.

22. Continues to improve daily. Takes the powder occasionally.

Oct. 5. Discharged cured.

CASE IX.

Anne James, admitted July 15, 1813.

A married woman, aged thirty-five, occupied as a mantua-maker; who, for the last three years, has been affected with a slight degree of insanity, for which it was not deemed requisite to put her under confinement.

She is of the melancholic temperament; dark brown

hair; dark complexion; small blue eyes; small head; low forehead; short and meagre person.

Present symptoms.—She is very feverish; pulse quick and small; head extremely hot; countenance wild; pupils contracted.

Bowels constipated; urine highly coloured and scanty; breath offensive.

She uses exceedingly offensive language, and makes indecent gestures.

Treatment.—Cathartic draught, with Antimon. Tart., every morning.

Blister to the head; to be kept open.

Aug. 1. Continues the mixture. Blister healed. Uses the shower bath every morning.

16. Shower bath continued: mixture every other morning.

Sept. 27. She is much better, and is permitted to walk about the house, without being confined by a straight waistcoat.

A few weeks after the last report she escaped and went to London, where she now resides. A letter from her friend has given information that she is much better, and is enabled to gain her own maintenance.

CASE X.

JANE YOUNG. January 8, 1816.

A married woman, aged thirty-two; of sanguine temperament; short and thin; the mother of a family, affected with insanity without any assignable cause.

Present state.—Bowels constipated; tongue white; thirst; dry skin; countenance wild; pulse quick; complains of pain about the forehead: talks rationally at times.

Treatment.—Cathartic Powder every morning.

Feb. 12. Continues nearly in the same state. Takes the powders prescribed.

Shower bath every second morning.

March 19. She is considerably better. Tongue clean: countenance more serene; bowels open.

Discontinue the Powders.
℞ Extract. Coloc. Co. ʒiss.
Pulv. Ipecac. ℈j.
Calomel. ℈ss. M.
ft. Massa in Pil. xxx. dividenda. Capt. 2. omni nocte.

April 28. Continues the pills; bowels regular; tongue clean; appetite good: she is free from pain, and is rational.

June 15. Discharged as cured.

CASE XI.

Elizabeth Harding, admitted Aug. 29, 1816.

A market woman, aged forty-three years, the mother of a family; of melancholic temperament, tall and stout; of industrious habits, but rather addicted to intemperance. She has been insane before this time, but was cured, and remained sane three years. Her present attack is said to have been occasioned by domestic troubles.

Present state.— Countenance wild and desponding. She is extremely violent, and uses obscene expressions.

Natural functions.— Bowels constipated; breath extremely offensive; pupils much contracted.

Treatment. — Head shaved, and a large blister applied over the back part.

℞ Pulv. Jalap. gr. xxv.
Calomel. gr. v.
Tart. Antimon. gr. ij. M.
ft. Pulv. manè altern. dieb. sumend.

Sept. 12. No material alteration has taken place.

Arter. Temp. secatur et fluat sang. lbj.
Pulv. Cath. ʒss. manè quotidie.

24. Pain in the head not so severe. Countenance assumes a milder aspect. Not so talkative. Bowels regular.

Continue.
Shower bath every other morning.

Oct. 12. Is apparently convalescent. No maniacal symptoms.

Nov. 4. Is considered quite well, and is employed as a nurse in one of the wards.

Dec. 5. Discharged cured.

She was re-admitted on May 2, 1819.

It is reported that her attacks have always been preceded by intemperance.

Present state.—She is noisy and incoherent. Her pulse feeble: no increased heat on the scalp. Tongue white. Eyes suffused. Passes off urine involuntarily.

Haust. Cath. 6tâ. quâque horâ.
℞ Antim. Tart. gr. j.
Calomel. gr. ij. M.
ft. Pulv. Sumend. quâque horâ donec vomuerit.

4. Pulv. Antimon. gr. v.
Extr. Hyoscyam. g. x. o. n.
Mist. Aper. 4tâ. quâque horâ.
Pulv. Efferves. ter indies.

6. More tranquil; answers questions.

13. Stools dark and fetid. Pulse continues feeble.

℞ Magnes. Carbon. ʒij.
Tinct. Lavend. Co. ℥ss.
Pulv. Rhei, ʒss.
Aq. Menth. P. ℥viij. M.
Capt. cochl. ij. tertiâ quâque horâ.

15. She was ordered to omit all her medicines, and have an allowance of meat every day.

18. Scalp hot. Pulse feeble. She has noisy restless nights. Omit the allowance of meat.

Hirud. viij. ad Caput.
Postea frigidis linteis operiatur.
℞ Haust. Cath. c. Antim. Tart. gr. ½. ter indies.
Affusio frigida.

21. Much in the same state. Ordered to be cupped on the head, and lose in that way ℥xij. of blood. In the evening a blister applied.

25. Relieved. Ordered to have bitter infusion ℥ij. ter indies, and the allowance of meat.

Aug. 20. She was discharged cured.

Nov. Continues well, and follows her occupation as a market woman.

Observations.— In this case the disease in the head was evidently connected with a disordered state of the intestinal canal; evinced not only by the constipated state of the bowels, but by the subsequent effect of remedies; by the fetid alvine discharges, and the morbid secretion from the mucous membrane.

CHAPTER VIII.

EPILEPTIC AND MANIACAL CASES, CONNECTED WITH DISEASE IN THE LIVER, AND OTHER ABDOMINAL VISCERA.

SECTION I.

Epilepsy, connected with Hepatic Disease, &c.

THAT epileptic fits often arise from irritation in the stomach and intestinal canal, is a fact well known. The dependance of such symptoms on organic disease of the larger viscera of the abdomen is a subject involved in greater obscurity. The former fact is so coincident with the common train of our observations in pathology, that we find no difficulty in admitting it: the latter is one which bears with it no evident probability, and which we should not be disposed to admit without a direct proof founded on decisive examples.

It has happened to me to witness several cases of epilepsy, in which, on examination, the symptoms which point out the existence of active inflammation, or those of chronic disease of the larger abdominal viscera, and particularly of the liver, were discernible: and in these instances I have observed that remedies which were adapted to relieve the disorder of the abdominal viscera, if they were successful, removed at the same time, or greatly alleviated the affection of the

nervous system. In other instances I have admitted patients into the hospital, or elsewhere commenced a course of medical treatment for some disease of the abdominal viscera, and have afterwards discovered that the subjects of such a disorder had also been labouring under attacks of epilepsy. It has likewise happened that epileptic fits have occurred, for the first time, in persons already under treatment for diseases of the description above mentioned.

From these observations it must be inferred that there is some sympathy, or connexion depending on circumstances unexplained by any principles in pathology, between that morbid state of the brain which gives rise to epilepsy, and a diseased state of the liver, and other large viscera of the abdomen*.

I shall now add the details of a case which first drew my attention strongly to this subject.

CASE I.

Sarah Avery, a girl of slender make, middle stature, fair complexion, aged twenty-three years, became my

* A very well marked case of epilepsy, in connexion with extensive disease of the liver, pancreas, spleen, stomach, and mesentery, is detailed in the 10th vol. of the Edinburgh Medical and Surgical Journal, by Mr. Clifton. In this case there was a severe pain from the shoulder to the elbow of each arm, which lasted an hour before the paroxysm. I do not remember to have seen this symptom mentioned by any medical author, but I once attended a patient, who laboured several months under symptoms of hydrocephalus, in whose case a violent pain in one arm, similarly situated, was a most distressing subject of complaint. On examining the body, tumours as large as a small nutmeg, and marks of inflammation, were found in the cerebellum and in the liver: the cerebral ventricles were full of serum.

patient in St. Peter's Hospital, on July 4, 1816. "She has been labouring four months under severe epileptic fits; which of late have attacked her very frequently: she has sometimes ten or twelve fits in a day. She seldom passes a day without a paroxysm; or, if she escapes by day, is generally assailed in the night. While the fit is upon her she is violently convulsed: afterwards affected by pain in the head, and stupor.

She was troubled with dyspeptic symptoms; a great degree of flatulence: and on examining I found that she suffered great pain when a slight pressure was made on the right hypochondre. Her pulse was frequent.

She had lately been taking doses of Cinchona and Flores Zinci; under which her disorders had rather increased.

The symptoms were such as to give me a suspicion that the liver was the seat of disease; perhaps of the primary disease. This suspicion was confirmed, when, on inquiry, and on referring to a register of cases, I obtained the following account: —

This patient was in the Hospital four years ago, and she was brought into the medical ward in June, 1812. Her health had been previously broken down by syphilis, and by the treatment to which she had been subjected for the cure of it. She had been released about two months before from a salivation. She had not enjoyed good health, or experienced the regular returns of the catamenia, for twelve months.

At this time (June 1812) she laboured under jaundice; for which, and for the symptoms accompanying it, (of which I have not a detailed account,) she was put under a course of Pil. Hydrarg. with doses of Rhubarb, Soda, and bitter infusions. On this plan her health rapidly improved, and she was discharged cured on the 21st of the ensuing August.

During her stay in the Hospital on that occasion she

was subject to slight fits; but got rid of them as she recovered of the jaundice.

I now return to the history of the case during the later attack, July 4, 1816. She complained of great pain, on pressure, in the right hypochondre; but as the fits were very severe, and scarcely gave her any respite, the head seemed to be the part to which it was requisite, in the first instance, to apply relief.

Six leeches were directed to be applied to the temples.
A blister to the nape of the neck.
℞ Pil. Cath. 2. omni nocte.
Mist. Salin. 4tâ. quâque horâ.

She lost an unusual quantity of blood after the application of the leeches, one of them having opened a small branch of an artery. She remained for two days very faint. Pulse extremely feeble.

She was ordered ℥iv. of Port wine daily.

She gradually recovered from the weakness occasioned by the loss of blood.

18. The pulse sufficiently strong: she has had no fits since the leeches were applied.

Let her omit the wine, and take occasionally Peppermint water, and two Cathartic Pills every night.
Leeches to be applied occasionally to the temples, and a blister kept open on the nape of the neck.

24. Her head is much better; her side very sore on pressure. She is much troubled with flatulence.

Venæ Sec. in brachio. fluant ℥xvj.
Hirud. vj. hypoch. dextro.
℞ Pulv. Rhei,
Magnes. Carbon. āā gr. x.
Syrup—Tinct. Zingib. āā ʒj.
Aq. Menth. at ft. haust. cum flatus argeat sumend.
Repet. Pil. Cathart. o. nocte.

25. Bowels relieved.

Repet. Mist. Menth. et Magnes.
℞ Pilul. Hydrarg. gr. x. bis indies.

Aug. 12. Side still painful. She has had some slight fits of

convulsion, without loss of consciousness, but accompanied with stupor and headache.

Venæ Sect. fluant ℥xvj.
Hirud. 12. postea ad hypoch. dext.
Hirud. postea ad tempora.
℞ Pil. Hyd. — et Extr. Coloc. Co. 2. bis indies.

From this time she gradually recovered, without any renewal of her disorder.

Sept. 30. She has lately been taking an Infusion of Gentian, with some Senna. It is now three months since she had a fit attended with coma. Appears to have recovered perfect health.

Discharged cured.

Observations. — On considering the history of this case, after its termination, the combination of symptoms during both the periods when she was under my care, and the nature of the remedies which her case seemed to require, and which were successful in relieving her, I felt little or no doubt that the primary affection was a disease of the liver; and that the disordered state of the brain, of which the epileptic fits were symptoms, was consequent and dependent upon the former. It may, however, be remarked here, as in other instances, that the secondary disease required remedies applied to the organ actually affected by it, not less than if it had been the original and only disorder.

In the two following cases, which were inveterate and incurable ones, disease of the liver, and other large organs in the abdomen, was discovered on dissection; as well as extensive disorganization of the nervous fabrick. In these cases I had it not in my power to ascertain whether the abdominal or nervous disease had the priority with respect to time; but the fact of their combination deserves notice.

CASE II.

ANNE HULSE. May 18, 1818.

Of meagre unhealthy aspect, aged sixty-four years. She has been twenty years afflicted with epileptic fits. She has often several fits in a day. Is also subject to pain in the left hypochondrium, and in the right shoulder.

She took for some time pills, containing five grains of Oxyd of Zinc, with ten grains of Chio Turpentine; and these were laid aside for an emulsion, containing the Rectified Oil of Turpentine. Under the use of the latter her fits became less frequent. She passed an interval of fourteen days without any fit.

Previously to her being seized with a fit of epilepsy, she used to complain of a sense of chilliness, commencing at the lower part of the spinal column, and proceeding upwards towards the head; she then lost her consciousness.

The use of the turpentine changed the character of the disease, or of its symptoms. The fits of genuine epilepsy were nearly removed, and in their place was substituted a kind of rigor, with stupor; which was soon dispelled by rousing her, and making her walk up and down the ward.

The turpentine was discontinued in consequence of her becoming dropsical, and purgatives, with diuretics, substituted. The use of mercury had been previously tried, from the idea of her labouring under some disease of the liver, or larger abdominal organs.

On the 8th of October she was attacked by diarrhœa; under which, in spite of all efforts to relieve her, she sunk, and expired on the 9th of November, 1818. The dissection of her body afforded some curious and interesting appearances.

Dissection of ANNE HULSE.

Skull thin; bone nearly transparent in several places. No bleeding points.

Dura mater had a natural appearance.

Pia mater and tunica arachnoides displayed the marks of inflammation.

Between the pia and dura mater a slight effusion was observed. The vessels of these membranes were, in general, not turgid, but rather pale.

The substance of the cerebrum and cerebellum was firm. The internal carotid arteries were ossified, where they unite at the sella turcica.

The vessels running on the dura mater, down the medulla spinalis, were minutely injected. This appearance extended downwards along nearly the whole course of the dorsal channel. On the surface of the medulla was observed about half an ounce of a red glary gelly-like substance.

Thorax. — The pleura pulmonalis was completely adherent to the pleura costalis. The lungs exhibited marks of disease: there was more fluid than usual in the pericardium, and that membrane itself bore the marks of inflammation. The heart was healthy.

Abdomen. — Effusion into the cavity.

Liver. — The substance, on cutting into it, appeared diseased. Some of the vessels appeared ossified. A small portion of the organ was healthy.

Spleen large, but healthy in its texture.

Mesenteric glands enlarged and diseased.

Observations. — In this case the traces of inflammatory disease, and the consequent disorganization, were plainly discovered in various parts of the encephalon. It is remarkable that these morbid appearances were more strongly marked in the medulla spinalis than in the brain; and this circumstance, when considered in connexion with the peculiar symptoms which had preceded the fits in this case, (I mean the sense of cold or chilliness felt in the spinal column, and ascending along it towards the head,) may lead, in other instances, to some practical indications of importance. The state of the medulla spinalis has hitherto been too little

examined in cases of epilepsy, and other affections of the nervous system; but some observations have of late been recorded, which render it very probable that the source of disease may often be traced in this quarter. The instance of Anne Hulse coincides with, and tends to confirm, the remarks of Dr. Esquirol, who has described eight cases of epilepsy, in which disease was discovered in the medullary substance of the spinal marrow. In three of these cases the medullary substance was of a brownish colour, and softened about the tenth, eleventh, and twelfth dorsal vertebræ. In other instances there was a similar change of structure at the lumbar extremity, and the vessels of the meninges were highly injected in various parts of the spinal sheath. The author adds, that these eight cases were not chosen from among many others, with a view to establish a new theory. Ten epileptics had died in the Salpêtrière between the 1st of February and the 1st of June. Nine of the bodies were opened; and in seven of these diseased appearances were found in the spinal marrow, or its coverings*.

In the case of Anne Hulse, besides the morbid appearances discovered in the nervous structure, traces of extensive disease were found in the abdominal viscera. The disorder in the functions of these parts, which laid the foundation of the change in their structure, was probably connected, in the relation of cause or of effect, with the morbid condition of the nervous system. As I had no

* In one of these cases the meninges were injected: in two, the arachnoid coat of the spinal marrow was greyish; and in one studded with osseous points: in one, hydatids were found in the sac formed by the spinal sheath, from the bulb of the brain to the lumbar extremity of the rachis. I refer the reader to Dr. Esquirol's memoir, of which a translation is to be found in the eighth volume of the London Medical Repository, p. 432. The paper contains several interesting remarks; among which are some observations, tending to confirm the conjecture, which I offered in a foregoing chapter, that when death takes place during an epileptic paroxysm, it is frequently caused by asphyxia.

opportunity of inquiring which disease had the priority in respect of time, it is impossible to decide positively which was the cause, and which the consequence; but the usual tenour of observations renders it probable that the disorder of the nervous system had its origin in the disturbed functions of the abdominal viscera.

CASE III.

John Bennet, upwards of thirty years of age, was admitted upon a frenzy warrant, June 19, 1812.

He was then in a raving state, and was confined in a pen. In a short time the maniacal symptoms subsided, and he recovered his usual degree of tranquillity.

He is of moderate stature, rather slender, of uncommonly dark and brown skin, for an European; very black eyes, and black straight hair. He has been subject to epileptic fits, which return sometimes every two or three days; at others he is free from them for a longer interval. Several fits generally follow each other in succession; and when they are very severe, leave him in a maniacal state. Often, before the fits come on, he is very sullen and violent.

He was ordered to take pills, composed of Calomel, Extract of Colocynth, and a small dose of Pulv. Dig., so as to keep the bowels very open, and to moderate the pulse. He began with Pulv. Dig. gr. ss. b. d. Afterwards the cold affusion was used every morning on his head.

In the following year, in the month of May, he caught a severe cold, and was attacked by inflammation of his lungs; which was subdued by moderate bleeding, blistering, and common remedies. The purgative pills were prescribed again after these symptoms had subsided, and appeared to relieve his complaints.

In the latter part of August, 1813, his fits and maniacal symptoms were violent. He was bled once in the temporal artery, and once in the jugular vein, and had leeches applied to the temples, and was freely purged. He returned, after the use of these measures, to his usual state. His fits still recurred

frequently, and left him weak and deranged; and his disorder, on the whole, seemed gradually gaining ground. The application of leeches at intervals, and the use of purgatives, and of the blue pill, were adopted repeatedly. Nothing was found materially to retard the return of his fits. When they came on they were mitigated by bleeding and emetics.

In June, 1817, his disease was very severe, and his general health greatly impaired. His bowels costive, and all the functions of the intestinal canal irregular. He was ordered to take Pil. Cath. 3. alt. noct. and to have eight leeches applied to his forehead every week.

No perceptible benefit was derived. His stools were like chopped straw. I directed the purgatives to be continued as long as this appearance continued. A seton was also put into the nape of the neck.

July 7. He felt himself better. Yesterday he had three fits.

Rept. Haust. Cath. altern. noct.

24. Is worse than usual. Lost sixteen ounces of blood.

Aug. 20. Purging has been continued. Stools are watery, containing bile. Fits return as before.

Sept. 2. Little, if any, amendment.

30. For the last four days his body has been repeatedly agitated by epileptic attacks. Anti-spasmodics were given him, without relief. On the 30th they recurred very rapidly, and he expired.

It has been observed of late by the apothecary, (Mr. Kift,) that the longer interval elapsed between the fits, the more severe they were. Previous to the fit taking place he was very irritable, his countenance appeared bloated, and more than ordinarily sallow; it assumed a yellowish cast.

Dissection of the head.—The tendinous expansion of the occipito-frontalis muscle adhered very firmly to the pericranium.

The cranium adhered firmly to the dura mater.

The dura mater was much thickened; evidently from the effect of disease. It adhered, in some places, to the subjacent pia mater.

When the dura mater was cut away, the cerebrum appeared partially covered with flakes of an opaque white substance, which appeared to be coagulable lymph, effused from the vessels of the tunica arachnoides. The vessels on the surface of the cerebrum were injected with blood; and the substance of that organ seemed of a harder consistence than natural.

The ventricles of the cerebrum contained not more fluid than natural.

The cerebellum was soft, and about two ounces of fluid were found effused in it.

Cavity of the thorax.—Right lobe of the lungs diseased, and adhered firmly and extensively to the pleura. A great part of it was covered with a very dense membrane, as hard and as thick as the cutis vera. About four ounces of fluid were found in the right cavity.

Cavity of the abdomen —The liver was enlarged, and the right lobe diseased.

The spleen diseased; appeared filled with grumous blood. The vessels of the intestines appeared unusually empty.

In the two following cases, which were speedily relieved, there were symptoms of acute hepatitis, connected with the appearance of epilepsy.

CASE IV.

Elizabeth Button. August 3, 1820.

A girl, ten years old, of slender form and pallid complexion. Her abdomen is much enlarged; she is often troubled with flatulence to a considerable degree, which causes a rattling noise in her body. Her appetite very deficient; bowels generally loose. Her mother has never been able to detect worms in her evacuations. She is often troubled with headache.

She had lately a fit. She fell down suddenly insensible,

and lay as if she was dead about five minutes. Similar attacks have occurred repeatedly within the last fortnight; before which period she never had any such symptoms. She is somewhat convulsed in her fits, foams at the mouth, and is afterwards troubled with severe pain of the head. She has also complained of severe pain and tenderness in the right hypochondre.

℞ Calomel, gr. v. hâc nocte sumend.
℞ Emuls. Terebinth. ℥ss. ter indies.
Low diet.

5. The Calomel purged her freely, and the bowels have been moderately affected by the emulsion. She complains of pain when slight pressure is made on the region of the liver; and there seems to be some swelling and hardness of the inferior margin of that organ.

Ten leeches to be applied over the right hypochondre, and afterwards a blister.
Calomel, gr. iij. ter indies.

9. She has been considerably purged by the Calomel. Omit it.

Mist. Aperiens ter indies.

10. All these symptoms are now relieved. She makes no complaint. Belly still tumid. Pain and tenderness of the hypochondre removed entirely.

Calomel, gr. iij. o. n.
Mist. Aper. ℥iss. manè quotidie.

14. She was well when she rose this morning, but was afterwards attacked with intense pain in the fore part of the head. Skin very hot and dry. Pulse very frequent. An appearance of great oppression in the countenance. She has nausea and retching, but throws up nothing except a little clear fluid.

V. S. statim ad ℥xij.
Let her hair be cut short, and her head sponged, when hot, with cold water.
℞ Antimon. Tart. gr. ij. statim.
Postea Pil. Cath. 3. et
Mist. Cath. ℥iss. donec catharsis insequatur.

17. Head somewhat relieved, immediately after the bleeding. She has had no fits; which was what I had apprehended her to be in danger of. No vomiting after the emetic. She was much relieved by the purging which followed one dose of the pills and mixture, and she took no more of them.

Has still some headache, and much of vertigo. Pulse of the carotid fuller in proportion than that of the wrist. Dislikes the light. Ardent heat of the neck and head.

Head to be constantly washed with cold water.
Ten leeches to the forehead.
Aperient Mixture.

19. Head presently relieved by the leeches; vertigo ceased, and she has now no complaint of her head. She sleeps well in general, but is sometimes annoyed by agitating dreams. Tongue clean. Bowels moved six or seven times a day.

Let her have meat broth every day, and, for the present, continue her medicines.

20. Bowels much relaxed.

Sept. 18. Has continued the mixture regularly. Is now stronger, and quite well. She requires nothing but an aperient medicine to keep open the bowels.

Made an out-patient.

27. She complained afterwards of flatulence, and tumid state of the bowels, which were removed by purgatives.

Oct. 17. She was discharged cured: no ailment remaining except a slight cough, the effect of a cold taken. She is going into the country.

Observations.— In this case I apprehend that there was obstruction in the bowels of considerable duration; the signs of hepatic affection were pretty well marked, though the existence of this disease is not absolutely beyond doubt. It probably supervened on the former disorder, and ushered in the fits, which did not recur after the measures adopted for removing it.

CASE V.

ANNE HOLVEY, æt. twenty-six. October 28, 1819.

Of florid complexion. When she came first made no mention of any fits. Complained of the symptoms of hepatitis, and her disease was considered and treated as such. Had acute pain in the region of the liver: could not bear the slightest pressure on the right hypochondre. Menstruation regular in general: the last time very scanty.

Fiat Venæ Sectio et fluant sang. ℥xvj.
Pulv. Feb. 6. qq. h.
Mist. Cath. bis indies.

Nov. 6. Much benefited by the bleeding; pain quite removed from the side; can bear pressure: mouth sore. Has menstruated very copiously. Pulse frequent; rather hard.

A few days ago, when walking up stairs, she was seized with an involuntary twisting and shaking of the left foot It went off at the time, but occurred again, and then the convulsive agitation rose along the thigh to the trunk, and, reaching her head, she fell down in a state of insensibility and convulsion. The left leg and side were most convulsed. She was languid and fatigued after recovering her senses, but had no pain in her head.

The same convulsive shaking seized her left foot, a third time. She stopped it from rising to her head by grasping and holding tight the muscles of the leg.

On being questioned whether she had ever been subject to fits before, she said that about three quarters of a year ago she had two; but was never similarly affected before or since that time.

Nov. 13. Is quite well; except that she is much troubled with wind in the stomach and bowels. No symptoms whatever of fits.

M. Menth. c. Rheo,
M. Cath. āā. ℥j. t. d.
Pil. Cath. o. n.

She made no further application for relief at the Infirmary, and it is to be presumed that she had no occasion for it.

The following is a case of slight leipothymia, which I insert on account of its evident connexion with the state of the natural functions, and of the probable co-existence of disease in the liver.

CASE VI.

SARAH REYNOLDS, æt. twenty-seven. July 31, 1820.

A pallid unhealthy looking woman: complains of severe pain in her head; chiefly about the fore part of it. Rather more than a week ago she began to be troubled with fits, which seize her only when she is walking: her sight suddenly becomes obscured, and she falls to the ground, with a sensation of fainting and loss of consciousness; but immediately recovers herself. Her pulse is regular, and rather full.

She is very subject to complaints, which she terms bilious: viz. a disordered state of the stomach, attended with headache. Has lately a sensation of painful heat in the stomach and right hypochondrium. She has lost her appetite, and is often sick, and vomits in the morning. Cannot lie on her right side, or bear pressure on the hepatic region. Catamenia regular.

She was ordered to lose fourteen ounces of blood from the temporal artery.

Episp. Nuchæ.
Pulv. Feb. o. 6. h.
M. Cath. quotidie.

August 26. The artery did not afford blood. Six leeches were applied to the temples, which bled in considerable quantity. Her head has been completely relieved, and she has had no more of her fits. Bowels open. Cannot bear pressure on the epigastrium, and on the right hypochondre, at the edge of the liver. Is troubled with flatulence.

Pil. Cath. 3. bis die.
M. Cath. — M. M. c. Rheo. āā. bis die.
Pulv. Emet. cras.

Sept. 30. Has been getting well, ever since she was here last, of the complaint for which she then applied. She has lately caught cold, and is now labouring under cough and headache, the effects of catarrh, for which she was directed to lose sixteen ounces of blood.

SECTION II.

Maniacal Affections connected with Disease of the Liver, and other Hypochondriac Viscera.

THE observations in the preceding section on the connexion of epilepsy with organic disease of the liver, and other large viscera in the abdomen, prepare us for admitting the same fact in the instance of maniacal disorders. Medical authors were long ago aware of some relation between morbid states of the parts within the hypochondria and disorders of the mind, particularly dejection or low spirits: hence the term hypochondriasis has been attached to habitual melancholy, bordering upon insanity. But I apprehend that all the knowledge possessed formerly on this subject may be reduced to the remark, which could scarcely fail to be made, that dyspeptic symptoms, and flatulent distention of the colon producing a sense of oppression in the hypochondria, were often conjoined with the desponding condition of mind I have just adverted to. These symptoms, indeed, sometimes put on the aspect of disease in the great organs, when there is, in fact, nothing more than a disordered function of the intestinal canal,

accompanied, perhaps, with some degree of chronic inflammation of the mucous membrane, which occasions tenderness on pressure, and a disposition to constipation or a mucous diarrhœa. I believe that I have been more than once deceived by similar appearances, and have imagined hepatic disease to exist when there has been no such thing. There is, however, a much more firmly established malady sometimes existing in the viscera of the abdomen, in persons labouring under maniacal disorders. On this subject very little was known until the researches of anatomists were of late, from time to time, directed to it. Dr. Cheyne was, as far as I know, the first who pointed out the fact: he was naturally induced to allude to it in attempting to establish a similar doctrine with respect to apoplexy. In his valuable work on comatose diseases, Dr. Cheyne has cited, on the authority of Mr. Todd, one of the surgeons to the House of Industry, a statement, which, if strictly correct, is most remarkable, and tends more powerfully to establish the connexion of disordered intellects with disease of the liver, than either my own experience, or the testimony of any physician, with whose works I am acquainted. "Mr. Todd, an accurate anatomist," says Dr. Cheyne, states, "that in every dissection he has made after idiotism, and mental derangement, (*and he has made upwards of four hundred,*) he has found the liver more or less diseased. He observes after insanity generally no great change of colour; but the organ is more bulky, with a thicker edge, and always connected by preter-

natural adhesions, sometimes of great extent, to the peritoneum."

I believe no other anatomist has ever been so successful as Mr. Todd in discovering *uniformly* the cause of madness in the hypochondria; though many, during the last ten or twenty years particularly, have been diligent in searching for it in the same quarter. I have, however, no design, by this remark, to discredit the assertion of Mr. Todd, or of Dr. Cheyne; and I doubt not the fact that disease in the liver existed, in many of the cases examined by the former gentleman; though I confess that I am somewhat staggered at the great number of instances in which it is recorded, and feel disposed to suspect that in some, out of the four hundred dissections, the morbid appearances were but slight, and consisted of phænomena which would not, by every anatomist, have been regarded as unequivocal proofs of visceral disease.

Within the sphere of my own observation and inquiry, the instances have not been very numerous in which organic disease of the liver, or other large viscera, has been discovered in conjunction with maniacal disorders. I must, however, confess that I have laboured in investigating this subject under some peculiar disadvantages, which it is unnecessary on this occasion to detail.

I subjoin some abridged notes of the case of a lunatic, who was several years under my care in St. Peter's Hospital. He was, from the time of his admission, in a very infirm state of health: his mental

disorder had never been very severe, and ultimately subsided into a state of morose dejection, in which he seemed to be perpetually brooding over his domestic troubles. Dissection, as it will be noticed, displayed organic disease both of the brain and of the liver, and other hypochondriac viscera. The combination I am not disposed to regard as accidental. The reader will form his own judgment on this point.

George Batt, admitted under a frenzy warrant, February 26, 1815.

A tall and muscular man, of fair complexion, blue eyes, light brown hair, high forehead, broad face, aged forty-two. He is a married man, by trade a hatter. Some of his paternal relations have been afflicted with madness. He is in general good tempered and moderate in his habits: at intervals talks quite rationally. Bears great enmity towards his family, particularly his wife and children. (In the sequel it appeared that his wife was a woman of loose character, and that circumstance preyed upon his mind).

Present symptoms.—Pain, or sense of weight across the forehead, over the eyes: pupils contracted; tongue white: bowels costive: urine scanty and high coloured: he is very restless.

Treatment.—Head to be shaved. A blister to be applied to it.
Purgative draught, with nauseating dose of Antim. Tart., every morning.

March 1. Not sufficiently purged: still irritable and violent.
℞ Pulv. Jalap. ʒss.
Calomel, gr. v.
Antim. Tart. gr. iij. M. Statim sumend.
Head again to be shaved.
Shower bath every morning.

14. Magnes. Sulph. ʒij.
Bis indies in Infus. Rosæ.

April 4. Sodæ Phosphat. ℥j.
Antim. Tart. gr. ss.
Manè quotidie. (In broth, if he will not take a draught).

May 31. Fiat V. S. et fl. sang. ℥xvj.
Epispast. Nuch.

June 12. Under the treatment above described he gradually recovered; and on June 12 was thought fit to be discharged. Happening, however, to discover that his wife, while living in separation from him, had become pregnant, he was violently enraged, and would have taken summary vengeance, if some persons had not gone to her assistance. He was detained in the Hospital, to prevent mischief, and still took laxative medicines occasionally, and the shower bath every second morning.

August 12. The symptoms of mental disorder have subsided, but he labours under considerable disease of the abdominal viscera: his belly is swelled, and painful on pressure: urine scanty: thirst troublesome: his bowels irregular: he coughs, and his breathing is oppressed: complains of being always chilly, and stands shivering, with his hands in his breeches pockets.

He took some powders, composed of Jalap and Supertartrate of Potass, and had a blister on his chest, which relieved his dropsical symptoms; and, after some time, a mixture of Rhubarb and Aromatic Confection in Mint water. He gradually acquired an improved state of health.

Dec. 12. He often appears quite sound in his intellects. Appetite, and other functions, natural.

After this period he had occasional returns of his dropsical symptoms; which were relieved by similar remedies, and by Squills. When his bowels were constipated he became very stupid and sleepy, but was relieved by purgatives. In this way he went on, often unwell, but exhibiting scarcely any remains of his derangement, until October, 1817, when he was attacked by slight febrile symptoms, typhus fever being then prevalent in the house. The attack commenced on the 5th, and on the evening of the 7th, while sitting near the fire, he suddenly expired, no previous indication of danger having been noticed.

Dissection.

Head. — On the removal of the skull bleeding points were observed over the surface of the dura mater; which

adhered extensively to the skull, particularly about the great longitudinal sinus. In several places there were appearances which seemed to indicate that local inflammation had existed at different periods.

The skull was not so deeply furrowed by the marks of the vessels as it is generally observed to be.

Dura mater.—The vessels minutely injected; the membrane thickened, and exhibiting marks of chronic disease, particularly in the duplicature of the longitudinal sinus.

Between the dura and pia mater there was some effused serous fluid, and the latter membrane bore marks of disease.

Both on the surface and between the convolutions of the brain there was an appearance of a layer of coagulable lymph.

The vessels of the cerebrum were turgid, and its substance was firm.

The ventricles contained a considerable quantity of serous fluid: the plexus choroides was turgid.

The substance of the cerebellum was firm, and its vessels not unusually loaded.

In general all the separable parts of the brain were separated by the effused fluid.

Thorax.—Lungs healthy, but extensively and firmly adhering to the parietes.

Pericardium contained a considerable quantity of serous fluid.

The heart appeared to have been inflamed: it adhered at the apex to the pericardium.

Abdomen.—Liver was generally enlarged, and its right lobe in a diseased state. Gall bladder distended.

Spleen diseased; its substance like grumous blood.

The kidneys were enlarged; but the stomach, intestines, pancreas, omentum, displayed no particular appearance.

Observations. — This man laboured long under some severe malady of the larger abdominal viscera; as it was evident, during his life, by the frequent distention of his belly, and other symptoms of dropsy; and, after death, still more manifest by dissection; particularly by the diseased state of the liver and spleen. There were also unequivocal marks of chronic inflammation in the encephalon.

Which of these parts was primarily affected, and which secondarily? The history of this particular case would not enable us to answer this inquiry; but the facts we possess are so numerous, indicating that disease in the abdominal viscera has a tendency to produce disorder in the brain; while the converse is by no means so well established, that we must conclude the abdominal viscera, particularly the liver, to have been the primary seat of disease in this instance.

Vexation and distress of mind seem to have been contributing causes to the mental disorder. It should be noticed, that his constitution was naturally predisposed, by hereditary conformation, to this disease of the brain,

CHAPTER IX.

CASES OF CEREBRAL DISEASE, GIVING RISE TO THE PHÆNOMENA OF MANIA OR EPILEPSY; OCCASIONED BY THE DIRECT OPERATION OF NOXIOUS AGENTS ON THE BRAIN AND NERVOUS SYSTEM.

SECTION I.

Preliminary Remarks.

HAVING surveyed those instances in which disease of the brain, giving rise to the phænomena of mania or epilepsy, is consequent upon disorder in some other part of the constitution, we come now to mention cases of a similar affection in the cerebral structure, which arise without any such intervention, by the immediate action of injurious causes on the nervous system itself.

The noxious causes which exert their influence on the brain are of very different kinds.

In the first place we must reckon under this department mechanical injuries of the brain, arising from blows on the head. Such injuries have given rise both to epileptic fits and to maniacal attacks.

Secondly; A variety of physical agents induce disease by their immediate effect on the nervous system. Such are opium, and other narcotics: a variety of stimulants, as alkohol; the habit of dram-

drinking is a very frequent cause of mania. All these cases must, for obvious reasons, be included in this chapter.

Thirdly; Violent emotions, passions, long continued anxieties, by their effect on the nervous system, often give rise to disease in that structure.

It is, therefore, necessary to divide the present chapter into three parts: the first of which comprehends what is to be said respecting cerebral diseases arising from mechanical injury: the second, including those cases which are the effect of physical causes: and the third, examples of similar derangement, ensuing from the operation of mental emotions.

SECTION II.

Traumatic Cases of Cerebral Disease giving Rise to the above-mentioned Effects.

THE encephalon is capable of receiving such a variety of mischiefs from external injury, and the degrees and effects of inflammation within the skull, which is one of the most obvious consequences of severe injuries, are so diversified, that it would be nothing more than we have reason to expect, if it should be found that every form of cerebral disease arises occasionally from blows on the head.

Many observations on disorders arising from this cause are to be found scattered through the writings of medical authors. Sauvages has made a distinct

species of the traumatic epilepsy, which is one of the most frequent occurrences of this class. Dr. Bateman has mentioned a case of chorea, which arose from a blow on the head, received in a fall. I have notes of some cases of maniacal disease which were excited by a similar cause. In short, I believe there is no species of nervous disease which is not occasionally so produced.

As there is no opportunity of adding much that can be practically useful with reference to these cases, I shall include what I have to say on the subject in a short compass, and chiefly confine myself to the relation of a few examples.

The following case fell under my observation in St. Thomas's Hospital, in November 1804.

CASE I.

Trusty Halsted, a negro sailor, aged twenty years.

He is a slave; and about four years ago his owner, or some other white man, in a fit of anger, struck a blow on his head with a hammer. The extent of the mischief occasioned by the blow was not ascertained, but he soon after became subject to epileptic fits, and partially hemiplegiac on his left side.

He was admitted into the Hospital as a patient of Dr. Wells, who ordered him to have a blister, and perpetual drain at the nape of the neck, and to take cathartic mixture.

The head being examined, it appeared probable that some injury of the skull had been the consequence of the blow received; and accordingly the operation of trepanning was performed. A piece of the cranium being removed, a fragment of the interior table was found to

have been forced inwards upon the brain, and penetrating to the depth of the eighth part of an inch.

An epileptic fit took place while he was under the operation, and the same disorder assailed him occasionally as long as he remained in the Hospital, though it appeared somewhat mitigated. He was taken away by his owner, and obliged to go to sea before the wound was healed. It is probable that some considerable disorganization had been induced in the encephalon, by the long continued compression, and, perhaps, by the irritation occasioned by a sharp fragment of bone forced in upon the dura mater.

In the foregoing case the symptoms may be ascribed to compression of the brain. In the following it cannot be supposed that any such circumstance existed.

CASE II.

Rees Williams, out-patient, Feb. 15, 1819.

A robust man, aged about nineteen; who was in good health until a year ago, when he received a blow on his head by a ship mast, which fell upon him. From that time he has been subject to epileptic fits, which seize him generally after intervals of three or four days: sometimes he has several in the course of a day. From a well grounded suspicion of some depression of the skull, the scalp has been divided, and the cranium carefully examined, when no lesion of the bone could be discovered. While the wound was open the disorder was relieved, but it returned when the incision had become cicatrized.

Cathartic medicines were prescribed for this patient, his bowels being habitually costive, and a seton was ordered to be made in the nape of the neck.

I saw him not again until the latter end of October, 1820, when he was brought into a medical ward in the Infirmary, after having been for some time in the house in consequence of an

accident. He was just in the same state as in the preceding year. According to his own account his disorder had been very much relieved as long as the seton continued to discharge.

Some blood was now taken from his temporal artery, a seton was again inserted into the nape of his neck, the part of the head marked by the cicatrix was blistered, and evacuant medicines were given.

After these measures the intervals between his fits were very much prolonged. I designed to have carried topical depletion as far, and to have persisted in it as long as possible, without endangering his life; and, if this attempt failed, to have tried the effect of trepanning; but the patient became troublesome in the ward, his intellects being impaired and his temper violent, and in my absence he was discharged.

CASE III.

William Harris. May 1, 1818.

A man of melancholic temperament, aged sixty years: he has been married sixteen years: of intemperate habits; of violent and sometimes sullen temper. Three years ago he fell from a scaffold and injured his head: since that time he has complained of giddiness and headache: his bowels are generally costive. During the last eighteen months his disease has gained ground. He is now quite maniacal and unmanageable, unless coerced.

He is extremely dirty; skin cold; pulse at the wrist small, quick, and feeble. The temporal arteries can hardly be felt. His countenance expresses wildness and anxiety. He is very abusive. His bowels have been confined for seven days.

Warm bath immediately.

℞ Submur. Hyd. gr. viij. in a bolus, to be taken immediately.

℞ Haust. Cath. 3ta. quaq. horâ donec alvus soluta fuerit.

(These prescriptions were given in the evening.)

2. ℞ Calomel, gr. ij.
Antim. Tartar. gr. j. M.
In Pulv. sumend. quaq. horâ donec vomuerit.

4. He has been freely purged: he was much more quiet after the operation of the medicines. Is now noisy and violent, and asks for strong drink. Pulse about 100, strong.

V. S. et fluant sang. ℥xij.
Affusio tepida.
Mist. Aperiens, 4ta quaq. horâ.
Hyoscyami, gr. x. bis die.

5. Is tranquil since his bowels have been moved.

6. Bowels constipated to-day.

Haust. Cath. 3. qq. h.

7. Tranquil.

8. Bowels not open since the evening of the 6th.

Repeat the Powder of Calomel and Tartarized Antimony every 3d hour, until it purges him.

9. Constipated. Is more tranquil. Pulse reduced in frequency. Scalp hot.

Capill. Abrad. Lintea frigida capiti admov.
Enema purgans statim injiciatur et repet. p. r. n.
℞ Calomel, gr. v.
Cambogiæ, gr. ij.
In Pil. statim sumenda.
Baln. Calid.

10. Bowels moved once by the enema; very fetid stools.

Repeat the Pill. of Calomel, &c. in the evening.

In a sinking state. Tongue covered with a dark fur, and dry. He is insensible.

He was ordered a cordial draught every third hour, and a little wine.

11. Slept some hours after taking the wine. Is tranquil. Bowels opened by the enemas. Stools less dark and offensive: more natural. Skin moist. Pulse 90, soft and compressible. He is conscious; says he can eat something. Complains of pain in the right hypochondrium, which is increased on pressure. Tongue dry, dark, and tremulous.

℞ Calomel and Antim. Powder, āā gr. iij.
6ta quaq. horâ.
Cordial Mixture — of Dec. Cinchon. ℥vj.
Ammon. ppt. ℈ij. Tinct. Lavend. ℥j.
A dose to be taken every 3d hour.

Repeat warm bath.
Empl. Lyttæ hypoch. dextro.
Wine ℥ij. twice to-day.

In the evening he had a partial paralysis of the left side of the face.

13. Pulse feeble. Extremities livid and cold. He is sensible and tranquil. His mouth is affected by the mercury.

Blister on the right side of the head.
Continue the Mixture, with the addition of some Confect. Aromat. Wine, &c.

He gradually sunk, and expired on the 16th.

Dissection Thirty-six Hours after Death.

On removing the skull, it was found to adhere strongly to the dura mater; particularly in the course of the great longitudinal sinus. Vessels of the dura mater gorged with blood. About four ounces of serum were found effused, between the dura and pia mater. Substance of the cerebrum firm. Lateral ventricles distended with serous fluid.

The liver was of natural size; pale; much indurated. Gall bladder full of bile. Spleen small, and firm.

A portion of both the lungs appeared as if filled with effused blood.

CASE IV.

Peter Wessel, admitted at St. Peter's Hospital, Sept. 20, 1816.

A Prussian mariner, very tall and stout, of sanguine temperament, who has been twenty years in the British service. About eight months ago he received a violent blow on his head, which fractured his skull. He was taken to an hospital in Jamaica, where he was cured of his wounds, but it was observed that he talked at times incoherently. He complained of a dull obtuse pain of the whole head, particularly during a hot sunny day, when he

was obliged to go below deck and keep himself quiet. At other times he was able to do his duty on ship-board, except ascending the mast, which he could not attempt without great danger of falling. He behaved tolerably well during the voyage from Jamaica to Bristol; but, in three or four days after his arrival, became so frantic as to render confinement needful. He is in the habit of drinking to intoxication.

Present state.—Tongue white: bowels confined: pupils irritable and contracted: head tender, when pressed, particularly about the forehead. (The injury received was on the side and back part.) Extremely noisy and violent; it was with difficulty that eight or nine men could bring him to the Hospital. Is continually pressing his forehead with his hands, and complaining that it gives him much pain.

Treatment.—Head shaved. Temporal artery divided, and ℥xvj. of blood taken.

Blister to the head.
Saline purgatives, with antimonials.

Sept. 25. Blood much inflamed. Still very noisy.
Repeat bleeding from the arm.

It is unnecessary to give minute details of this case. The disorder was treated by antiphlogistic remedies, local and general, which gave a temporary relief; the pain in the head and maniacal symptoms recurred, and in May, 1817, he sunk under an attack of diarrhœa*. The body was carried out of the Hospital without being examined.

Observations.—We have here a case of true encephalic mania, which can be traced to a local injury of the head; and we clearly observe the connexion of mania with inflammation of the encephalon. I very much regret that the body was not examined; but the principal points in the nature of the case are perspicuous enough without.

Respecting the treatment of cases of epilepsy, or of mania, proceeding from injuries, little need be said.

When there is any depression of the skull, or any injury of a particular portion of the cranium that can be ascertained, it is obvious that the trephine should be used, if the case be of such urgency as to warrant exposing the patient to the pain, and degree of danger, attending the operation.

In other respects I may refer the reader to what will be said on the treatment of those cases, which fall under the following department.

SECTION III.

Cases of Cerebral Disease giving rise to Epileptic, or Maniacal Phænomena, occasioned by physical Agents, which act directly on the Brain and Nervous System.

THESE cases may be distributed under three heads, in relation to the noxious causes that give rise to them.

1. Disease in the brain, whether consisting in chronic inflammation and its effects, in tumours, or other spontaneous changes of structure, often exists in connexion with a scrofulous habit, and gives rise to various forms of disorder in the nervous functions.

2. In the second place I may mention morbid changes of structure, which are not manifestly connected with a scrofulous constitution.

3. Various noxious matters taken sometimes with the aliment; at others as poisons, occasionally as medicines, which stimulate the nervous system, and induce diseased action. One of these is mercury; a

substance which so irritates the nervous system, in some constitutions, as to induce severe and dangerous disease. Maniacal affections have often been excited by it.

But a very frequent exciting cause of mania, which comes under this department, is the use of wine and ardent spirits. Dram-drinking is a very common precursor of madness among people of the lower class.

4. Where the natural predisposition to these diseases is very strong, they are brought on by the use of a diet, which contains no noxious or poisonous articles, but is simply of a more stimulating or exciting nature than the constitution of the individual can support. Patients of this class enjoy good health as long as they are very abstinent, and use plenty of exercise; but as soon as they indulge in a full diet, they become the victims of some disease. Maniacal affections are the class of nervous disorders which are principally excited in this way.

5. External heat is often the exciting cause of disease; frequently hot rooms; but particularly the effect of alternations of cold and heat, which happen in the spring. We find many persons subject to attacks of recurrent, or, as it is often termed, periodical mania, who experience a renewal of the disease every spring or summer, unless they adopt precautions to protect themselves from the stimulating effect of returning warmth.

The following cases will exemplify the agency of some of these causes.

CASE I.

THOMAS WESTON, out-patient, October 28, 1819.

A man of dark complexion, black eyes and hair, who has been amaurotic for several years: he is constitutionally lethargic, and inclined to sleep. He has lately become of fuller habit than formerly. Within the last three months he has been three times attacked by epileptic fits, which came on during his sleep, and continued about an hour at each time. Pulse full, especially in the carotid. Eyes inflamed. He has habitually bad health, and has long been afflicted with symptoms of determination to the head.

I proposed to order a seton in this man's neck, but he objected to it, as he gained his subsistence by carrying burdens on his shoulders.

He was ordered to lose sixteen ounces of blood, and have an issue in each arm; and take cathartic pills every night, and cathartic mixture three times in the day.

Nov. 4. Head relieved by the bleeding: the lethargic disposition has disappeared. No fits. Pulse natural.

Continue Cathartics.

10. Much oppressed by vertigo. He has an issue only in one arm.

Ven. Sec. fluant ℥xvj.
Empl. Lytt. ad Nucham.
Fiat fonticulus prope genu.
Repet. Med. Cath.

17. Suffers much from hæmorrhoids.

Repeat the Pills.
Mist. Aper. 6ta quâque horâ.

24. He says he is in better health than for several years.

Dec. 1. He is often troubled with a severe pricking and shooting pain, attended with a sense of numbness, which rises from the heel towards the knee of one leg, and thence towards the great trochanter. In other respects he is better.

Ven. Sec.
Empl. Lytt. ad calcem.

8. A sense of coldness and numbness in the thigh: pain less severe; in other respects he is well, but starts and moves his limbs during his sleep. Pulse small.

Empl. Lytt. ad Nucham.
Pulv. Feb. o. n.
Mist. Cath. bis indies.

29. The shooting pain seizes him in the thigh frequently: he has symptoms of nephralgia.

Liq. Potass. Subcarb. ʒj.
Sextâ quâq. horâ in Infus. Lini.
Pulv. Feb. et Pulv. Lax. āā. gr. x. o. n.
Mist. Cath. p. r. n.

Jan. 19. Pain nearly as before. He is drowsy and lethargic.

Ven. Sec. fl. ℥xvj.
Empl. Lytt. ad femur.
Continue Pulv. Feb. and Mist. Cath.

Feb. 8. The pain in the thigh nearly removed.

Mist. Aper. ter die.

June 15. The pain and numbness still affect the posterior part of the thigh occasionally. In other respects he has tolerably good health. He is, however, still troubled with drowsiness, and feels vertigo, with a noise in his ears, when he inclines his head. Bowels rather constipated. He still keeps an issue in his arm, but has not had medicines regularly.

Cucurb. Cruent. ad humeros: exsugantur sang. ℥xvj.
Emp. Lytt. ad Nucham.
Let him have Cathartic Pills and Mixture.

He came again, to be discharged, on the 3d of Jan. 1821, after an occasional attendance of fourteen months from his first application. He was now free from all morbid feelings, except some relics of the numbness in his thigh; and said that he had enjoyed better health for some months past than for twenty years before he applied. He had no fits since his admission.

Observations.—This man's brain appears to have been long the seat of considerable disease before his epileptic fits came on. The speedy removal of the epilepsy, and the gradual relief of all the other symptoms, with the exception of the blindness, which probably depended on

disorganization, by the use of evacuants and drains, proves that more may be done by the steady application of such means, even in inveterate cases, than is commonly imagined.

CASE II.

MARY GRANT. Jan. 3, 1814.

A girl, twenty-two years of age, living in service.

History.—Shape short and broad: complexion fair, with large blue eyes: dark hair: high forehead: lively and affectionate disposition. Her mother observed something peculiar in her from infancy: she was not playful as other children.

Her mother has been deranged in her intellects, and continues to talk oddly.

She has been troubled with scrofulous affections.

Her complaint began by a feverish disorder, under which she laboured about nine weeks: it was followed by a melancholy and pensive habit. She was observed to spend much of her time in reading religious books, and attended a meeting of Calvinistic dissenters.

Present appearance.—Countenance very wild: she is very mischievous, and fond of destroying her clothes.

Functions.—Appetite natural. Tongue clean, except in the morning. Bowels open.

Treatment.—Mist. Cath. c. Antim. Tartar. manè quotidie.

Feb. 12. Uses the shower bath every morning, the mixture every second morning.

March 18. Continues the same remedies. Is permitted to go out occasionally to visit her friends.

May 19, 1814. Discharged cured. Returned to her former place.

This patient was again admitted into the Hospital on June 21, 1817; where she remained till her death, which happened on the 30th of August, 1820.

On this occasion her constitutional tendency to scrofulous affections showed itself in a more decided manner.

The glands of the neck were frequently swelled and inflamed: she was repeatedly attacked by pneumonic symptoms. When these disorders became a little relieved, her mental alienation was aggravated. She generally sat with her hands folded, and her eyes fixed downwards.

Towards the summer of 1820 she suffered much from ulcerations in the neck, and disorder of the stomach. General debility and exhaustion followed; and increased, in spite of all attempts to relieve her by tonic medicines and regimen: her stomach became extremely irritable, and she sunk*.

Dissection.—Skull remarkably heavy and thick.

Dura mater thickened.

A considerable quantity of serum between the dura and pia mater.

Vessels of the pia mater pallid. The membrane itself thickened.

Fluid within the pia mater.

Substance of the brain very firm.

Pineal gland large, and rather a large piece of grit in it.

The longitudinal sinus contained a firm coagulum, resembling a polypus, which extended into the lateral sinuses.

The ventricles contained very little fluid, and the plexus choroides was pallid.

Abdomen.—There was no mark of disease in the viscera of the abdomen, except in the mesentery. The vessels of the mesentery were very pallid; and the glands extremely small and indurated.

Observations.—Cerebral inflammation, alternating with scrofulous inflammation of the absorbent glands: the glandular disease increasing in the mesentery, gradually destroyed the powers of life.

* The unwholsome air of the hospital is particularly unfavourable to cases of this description.

CASE III.

WILLIAM ROGERS, admitted Aug. 4, 1818.

A man, aged forty years, of melancholic temperament, pale, swarthy, of diseased countenance: he has worked at a floor-cloth manufactory. Some time ago, in consequence of domestic affairs of an untoward nature, he became addicted to dram-drinking. He was observed by his fellow-labourers to be for some days very dejected, and, at length, made an attempt to cut his throat.

Present symptoms.—In the evening. Pulse 120. Scalp hot: great distress of countenance. He imagines that he is to be dragged up and down Temple Street and flogged.

V. S. in brachio et fluant sang. ℥xxiv.
Haust. Purgans. cum Antim. Tart.

5. Blood sizy; crassament lax. Tongue furred. Pulse 80, soft. Bowels not moved. He has been noisy.

Rad. Caput. et admov. lintea frigida.
Hirud. x. ad Temp.
℞ Antimon. Tart. gr. ij.
Calomel, gr. v.
Sumend. quâq. horâ donec vomuerit.
Haust. Cath. postea 4ta qq. horâ.

6. Slept well. Bowels relaxed. Skin moist and relaxed. Tongue clean. Pulse 130, full. Headache: pain across the forehead.

V. S. et fl. sang. ad Syncopen.
Empl. Lytt. Nuchæ admov.
Repet. Haust. Cath. et Aq. frigida ad Caput.

From this time he had no symptom of mental aberration, and his other complaints gradually subsided. On the 12th he was discharged as an out-patient.

This man was again brought into the Hospital on the 27th of July, 1819, in a state of furious madness, and was confined in a straight waistcoat. He was again relieved by two bleedings, by blistering the nape of the neck, and by purgatives, especially by mercurials, which produced ptyalism.

He was discharged on the 19th of August following.

Observations.—In this case the disease was manifestly inflammatory. This is indicated by the whole of the symptoms, and by the juvantia and lædentia.

CASE IV.

ELIZABETH NUBY, admitted Feb. 9, 1819.

A woman of sanguine temperament, aged sixty years: her forehead highly arched: her eyes prominent. This is the first appearance of insanity.

She has enjoyed pretty good health until about two years ago, when she had an epileptic fit. She has suffered much from distress; and latterly drank spirits.

About a fortnight ago she complained of headache, and soon after she was observed to talk incoherently. Her bowels have been constipated.

At present she complains of headache, and refers the pain to the vertex: her scalp is hot; her pupils dilated; and the vessels of the eye turgid. Her tongue is clean; her skin, in general, cool. Pulse at the wrist feeble, and sixty in number.

Treatment.— Capilli abrad.
Lintea madida Capiti admov.
℞ Calomel, gr. v.
Aloes, gr. v.
Sapon. gr. iij.
ft. Pil. iij. statim sumend.
Vespere. Hirud. vj. ad tempora et Emplast. Lyttæ ad Caput.

The bowels had been relaxed.

Feb. 10. She slept a little: is talkative: her skin cool: circulation unequal.

Pulv. Emetic. statim.
Pil. Hyd. laxant. gr. x. o. n.
Magnes. Sulphat. ℥ss. manè quotidie.
Middle diet.

11. Irritable and talkative.

Continue the Pills and Draughts.
Pulv. Ipecac. Comp. gr. v. 4ta quaq.

13. Improved. Less talkative; debility not so great.

Continue.

19. Countenance distressed. Eyes suffused. Pain in her head, across the forehead. Tongue clean. Bowels open. Skin shrivelled and cold. Pulse rapid, small, and hardly perceptible.

Warm bath immediately, and Dover's Powder, in the dose of ten grains, every sixth hour, with a view of restoring the superficial circulation.

23. Hor. 4 P. M. After a visit from her friends she appeared much affected: the pulse sunk; she was generally convulsed.

Æther. Sulph. Co. statim et ab opus sit.

— 8 P. M. Paralysis of the right side: blood was taken from the arm and temporal artery, and a blister applied to the nape of the neck. She appeared a little relieved, but sunk on the morning of the 25th. The body was removed by her friends before it could be examined.

Observations.—This case exemplifies the connexion of epilepsy, mania, and paralysis; since the three diseases occurred in the course of it.

There were the most evident marks of congestion in the vessels of the head, in the symptoms described at the woman's admission, and subsequently. It can scarcely be doubted that, before she died, effusion had taken place within the skull. The symptoms of the last days of her existence, particularly the paralysis, unrelieved by depletion, pretty clearly indicate this to have been the fact, though it was not ascertained by dissection. These facts tend to illustrate the nature of that morbid state of the brain which gives rise to mania.

CASE V.

Betsy Bishop, admitted March 7, 1814.

A short and stout woman, aged twenty-nine years, of swarthy complexion, dark eyes, black hair; lively disposition. She has been a prostitute, and has been before confined more than once as a lunatic. She is addicted to drinking undiluted spirits.

Present state. — She is very noisy; uses the most obscene language.

Bowels confined; urine scanty; tongue white; pupils contracted; head very hot.

Treatment. — Venæ Sect. — fluant ℥xvj.
Shave the head and apply a blister.
Purgative Mixture, with nauseating dose of Tartar Emetic, every morning.

April 1. Considerably more tranquil; unconfined.
Continue.

May 12. Complains that her head is oppressed.
Venæ Sect. et fluant ℥xvj.
Mist. Cath. altern. dieb.

June 16. Discharged cured.

The mother of this patient affirms that her complaint has been several times brought on by dram-drinking: sometimes it is so slight as to be removed by a dose of purgative medicine.

CASE VI.

Samuel Riche, admitted July 4, 1814.

A tall and stout man, aged twenty-nine years, by trade a copper-smith, of fair complexion, dark hair, and large dark eyes, habitually obstinate, dull and stupid in his business: he has been in a state of insanity these last three months. During that time has been well purged, and his head has been twice blistered.

It appears that the complaint has been brought on by the habit of frequent intoxication. Two of his relatives, on his father's side, were affected in a similar manner.

Present symptoms. — Tongue covered with a dark brown fur; eyes red, and the lids swollen; pupils dilated; the countenance is sometimes heavy and stupid; at others expresses the greatest anxiety and terror: he complains that devils are dancing round him.

Treatment. — Twenty ounces of blood were taken from the temporal artery, and an emetic ordered every evening.

12. He appears very weak; unable to speak: tongue not

so foul as it was; bowels freely purged: takes thin gruel, panada, &c.

Twelve leeches were applied to the temples. Frequent sponging, with vinegar and water.

18. He has been lying, during the last three days, on his back, motionless, resembling a person intoxicated: pupils dilated; breath extremely offensive: his stools and urine run from him unperceived. While he was examined this morning by the apothecary, his head having been moved, a quantity of thick pus issued from his right ear.

19. His ear discharges a little pus, mixed with blood: pupils are more irritable: bowels quite open: urine increased since yesterday.

21. Is able to sit up in bed: discharge at the ear stopped: bowels open: breath not offensive: tongue clean. Complains of being sore all over the body, particularly in the head.

Aug. 12. He can walk about the ward: appetite considerably better; talks quite rationally. Takes a mixture of Infus. Gent. Comp., and Infus. Sennæ, three times a day.

Sept. 3. Continues the mixture: uses the shower-bath.

Nov. 24. Discharged cured.

Oct. 4, 1816. This patient has been twice in the Hospital since the above account, under similar affections, brought on by intoxication.

SECTION IV.

Treatment of the Cases described in the last Section.

THE treatment of nervous affections, arising from the effect of morbid causes, which act immediately on the brain and nervous system, is much more simple, and founded on more simple indications, than that which is required where disorders of the nervous system are dependant on, or complicated with, morbid

conditions of other functions. The only object now to be attended to is to relieve local determination to the head; due regard being paid to the state of the constitution in general.

In a great majority of cases, the excessive arterial action in the head is connected with an over excited state of the constitution in general. The arterial action is somewhat stronger in proportion in the vessels of the head; but it is strong and vigorous every where. Heat, thirst, costiveness, and other symptoms of defective secretion, are present. Such are the effects which ensue from over stimulation, by the use of ardent spirits or other exciting causes. On the other hand, morbid determinations to the head, as well as to other parts, often co-exist with a very defective degree of vigour in the general state of the circulation, and with an exhausted or debilitated constitution. It is obvious that these opposite states of the habit must require great modifications in the medical treatment to be adopted. In the latter case attention should be paid to preserving and promoting the vigour of the constitution in general, at the same time that topical evacuations, and other means of relieving congestion in the brain, are adopted.

Thus, in cases resembling that of Mary Grant, where extreme feebleness of constitution, with a scrofulous predisposition exists, it would be preposterous to attempt general bleeding, or considerable purging, or antiphlogistic treatment. The curative indications here are, first, to strengthen the habit; secondly, to relieve the local determination.

The first of these indications must be fulfilled by tonic regimen and remedies. Exercise in the open

air, the air of the sea, bathing in salt water, sailing, frequent change of air, a mild, nutritious and plentiful diet, are among the means best adapted to this end. At the same time great care must be taken to promote the healthy process of digestion: on this account the stomach must never be loaded with more food than it can bear without uneasiness. The bowels must be kept open, and occasionally even a brisk purgative may be given with benefit. In the mean time the employment of leeches, blisters, cupping-glasses, may be requisite: and particularly the more permanent method of obtaining relief by a seton in the neck, or by issues in the arms. The latter, though not a topical remedy, is frequently efficacious on another principle.

But where, as it much more frequently happens, the excess of action in the head is in harmony with the state of the system in general; where there is a full pulse and febrile diathesis, it is necessary to adopt general antiphlogistic means. Bleeding from the arm should precede the employment of cupping-glasses; and the quantity of blood to be taken must be governed by circumstances, and the repetition of the measure by the effect produced by the first attempt. Saline purgatives should be given in large doses, together with moderate doses of Calomel. Blistering the nape of the neck, or cold affusions, may be conjoined, according to particular circumstances.

Most of those cases, which occur from the immediate effect of ardent spirits, are speedily relieved by these measures.

In cases of a more chronic description similar means must be adopted, with greater caution, and in a way that admits of their use being continued for a longer time. In these instances issues and drains of every description are of great importance. The case of Thomas Weston, just mentioned, exemplifies their beneficial effect; and in the second division of this work I shall have to relate many other examples equally decisive*.

* Numberless cases are recorded by medical writers of the benefit accruing from the use of issues and setons in diseases of the brain, as well as of other internal parts. I shall call to the remembrance of my readers one or two cases of this description, which appear to afford a very decisive testimony.

Dr. Bateman has related two instances of the benefit produced by setons. One was that of a boy, aged thirteen years, who was affected by chorea, after a blow on the head, received in a fall: he was subject to irregular movements of the limbs, chiefly on the right side, and to a considerable degree. "For three weeks," says Dr. B. "the boy has been unable to leave his bed; has been peevish and irritable; often screeching, and distorting his features, as if from sudden pain. Bleeding from the temporal artery, blisters, and purgatives, afforded no material relief; but he recovered after the application of a seton in the neck. A gradual improvement took place from that time."

Dr. B. says he has often witnessed the superior utility of setons to all other depletions in chronic diseases of the head.

"A few years ago a girl, not arrived at the age of puberty, was reduced to a state bordering upon idiotism, by frequent attacks of epilepsy: there was, in fact, little other prospect than of confirmed idiotism for life, if she survived the severe paroxysms of convulsion. The measures just enumerated, and particularly repeated bleedings by leeches, open blisters, and mercurial laxatives, were carefully employed, but without affording any essential relief. But from the moment when a discharge from a seton commenced, she began to recover her intellects: the drivelling

SECTION V.

Of Nervous Diseases, resulting from the Operation of Mental Emotions.—Cases of Madness from Superstitious Terror, and other Passions.

STRONG mental emotions have a powerful effect, as it is well known, on the nervous system: this is evident in the tremor and agitation which vehement passions excite. The same causes, either immediately

expression of fatuity gradually left her countenance, and the epilepsy ceased. She remained afterwards free from epilepsy, and in possession of a respectable share of mental acuteness."

A case, equally striking and decisive as to the efficacy of this remedy, is related by Dr. Mead. "A girl of five years old, of plethoric habit, was seized with violent and frequent convulsions, from which she was with difficulty saved by evacuants, and other remedies. After a short interval she was again," as Mead says, "at the full moon seized with a violent fit: after which the disease kept its periods constant and regular with the tides. *She always lay speechless during the whole time of flood, and recovered upon the ebb!!* The father, who lived by the Thames' side, and did business upon the river, observed these returns to be so punctual, that, not only upon coming home, he knew how the child was before he saw it, but in the night has risen to his employ, being warned by her cries, when coming out of the fit, of the turning of the water!! This continued fourteen days; and then a dry scab on the crown of the head (the effect of an epispastic plaster, with which I had covered the whole occiput in the beginning of the illness,) broke, and from the sore a considerable quantity of limpid serum ran. Upon which, the fits returning no more, I took great care to promote this new evacuation; and, besides purges of mercurius dulcis, &c. directed an issue to the neck; which being thought troublesome, was made in the arm. The patient, however, grew up to woman's estate, without ever after feeling any attacks of those frightful symptoms." —MEAD's *Works*, p. 180.

or otherwise, have a similar influence on the action of the heart, and the circulation, and sometimes give rise, in a remarkable degree, to a determination of blood towards the head. From these, and other common observations, we might be led to expect that causes of this kind must occasionally excite much disorder in the state and functions of the brain and nervous system.

Such is, indeed, the result of experience. Every body has heard of convulsive fits, of hysteria, or of epilepsy, occasioned by a sudden fright. The vehement ravings of pulpit declaimers are continually productive of effects of this description; and the sudden screams of some weak and irritable female, are very commonly the marks by which the popular performers in this species of oratory, measure the success of their efforts on the passions of their audience. Such phænomena have, on many occasions, been multiplied by the influence of sympathy, as the history of a variety of epidemical delusions sufficiently testifies*.

But the phænomena of convulsive diseases arising from mental emotions, are more interesting in pathology than with respect to practice. A sudden paroxysm of terror is often the immediate cause of an epileptic attack; but when fits of this kind become habitual, we have reason to suspect the influence of other circumstances, which predispose the constitution to this disease, as well as the continued operation of occasional causes: and it is to these that our attention must be directed, in order to effect a cure.

* Witness the scenes which took place at the tomb of the Abbé Paris, and the history of the Convulsionnaires in the last century.

The moral history of madness is more important in a practical point of view. I shall, therefore, in the observations I have to make on the subject of this section, advert principally to the operation of mental causes, which induce maniacal disease.

The influence of moral causes, indeed, or rather of the emotions excited by them, in inducing maniacal affections, is so considerable and so notorious, that the generality of persons imagine the whole theory of such diseases to turn upon this species of agency. The fact is, however, that the mental impressions and emotions of the lunatic are much more frequently the consequences, than the causes of his malady. Every insane person has some false impressions, and his hallucinations engender more or less of passion, and what seems to be morbid emotion. A lunatic, whose disorder had its original source in the state of the natural functions, and who would have continued sane during his life, if his bowels or liver had performed their proper actions, or if he had not induced a morbid excitement by dram-drinking, will talk wildly and vehemently upon whatever subject the current of his thoughts, and the habits of his former life, have rendered him most disposed to dwell upon. He contemplates them erroneously, mistaking some day-dream for a reality; and the emotion which this erroneous impression excites, is supposed by those around him to be the cause of his disordered state: whereas the whole phænomena of his derangement are consequent upon a disease of the brain, induced by merely physical causes.

This consideration will enable us to reduce very much the number of maniacal cases referrible to moral causes. Still the existence of such a class of maladies cannot be questioned *.

It is not, indeed, difficult to imagine that a strong passion may give rise, in a constitution predisposed to madness, to the actual appearance of this disease. We have seen that a certain organic operation of the brain is the physical cause, or universal antecedent, of perception, and that an organic operation, somewhat modified, probably less vivid or intense, is the physical cause of reverie: the transition from one of these modes of action to another constitutes the change from sanity to madness. The influence of a strong passion leads the mind to dwell continually on the objects which excite it: the same ideas are continually presented; the same conceptions repeated in the greatest possible degree of vividness and intensity. If the brain is so constituted as to be prepared for such a morbid change, operations which are so frequently reiterated, and so vehemently performed, at length pass the limit of natural and healthy energy, and become converted into those modes of cerebral, or nervous action, which are connected with actual perception and recollection. In this conversion that increased vascular action, or increased determination

* In a former page I have related a case where the disease was deeply seated in a morbid state of the brain, as well as of the abdominal viscera. Yet this was a case which would certainly have been supposed, without a knowledge of this circumstance, to have arisen from moral causes.—*See the Case of* GARD LUKE.

of blood to the brain, which is a concomitant circumstance of strong mental emotion and of vivid thought, has probably a considerable share.

Such disorders are chiefly incident to persons who are naturally of an anxious contemplative mind; who by circumstances are withdrawn from the active pursuits of life, little acted upon by external impressions, and therefore more given up to the influence of mental feelings.

Of all the kinds of mental emotion, there is none which operates so frequently in giving rise to disease as fear, or apprehension concerning the future. This emotion occurs in very different degrees and modifications. When most violent and sudden, it is termed terror; and in this form it is, of all passions, the most powerful in its agency upon the corporeal frame. When more moderate and continued in its operation, it is termed anxiety or apprehension: its effects on the body are then less appalling, but, in many instances, not less prejudicial.

The propensity to look forward with hope and fear, seems to be so necessary to self-preservation, that it is common to many, perhaps to all animated creatures. In the habits of the ant*, the bee, and of birds,

* "Haud ignara et non incauta futuri." Common notions deny to the inferior animals the attribute of reason, and represent them as actuated by a blind impulse, and unconscious of the end to which their efforts are directed. Descartes, whimsically enough, denied them even sensation, and regarded them as automatons, moved by the mind and volition of the Deity. They are now generally allowed to be possessed of sensibility; but we still

we especially observe the effects of this principle. But there is this peculiarity in the anxieties of the human species, that they are bounded by no limit of time or physical circumstances. Even death, which the experience of our senses presents to every one as the "ultima linea rerum," has never been with the generality of men, in any age or country, the boundary of their anxious expectations. Philosophers have endeavoured in vain to make them wiser in this respect. The propensity is universal and unalterable by circumstances; and it may hence be concluded, like the pursuit of pleasure, and the aversion to pain, to be a principle in the natural constitution of man.

The dread of future evils, which in the present scene of existence is held in some restraint by the experience of realities, expands into infinitude after the barrier is passed. A thousand horrible forms hang over the path which the human imagination has marked out to its view through the regions of futurity. Hence death becomes the king of terrors; not by the simple horror of non-existence, but as ushering us into an unfathomable abyss of vague anxieties*.

refuse them the reasoning faculty. But there is precisely the same reason for ascribing to them reason as sensation. We assign to them sensation, because they display phænomena analogous to those which sensation gives rise to in human creatures. Other phænomena are displayed in their habits and modes of action, which are equally analogous to the phænomena arising from the exercise of reason. But here we stop short, as Descartes did with more consistency at the threshold.

* Shakspeare has expressed, in a celebrated passage, the habit, or propensity of thought, which renders death so terrible.

There is one circumstance connected with these habits, which forms a striking feature in the pathology of the human mind. The anticipations which respect this life have a large mixture of the pleasing and cheerful: they may be said, in most persons, to consist rather of hopes than of fears. But the expectations which relate to the future unknown, are generally of a gloomy and melancholy description.

In order to be convinced that this remark is well founded, we need only refer, in a very superficial way, to the superstitious and psychological notions which prevailed in remote times. It is by surveying the actual facts which the history of mankind displays, and not by theoretical speculations, that we may become acquainted with the principles of human nature; and, among the various nations of antiquity, where no exact prescript prevented the mind from following its bias and expatiating at large, we are enabled

The passage I allude to describes accurately those feelings which give origin to religious madness.

——————— "To die — to sleep: —
"To sleep! perchance to dream. — Ay, there's the rub;
"For in that sleep of death what dreams may come,
"When we have shuffled off this mortal coil,
"Must give us pause. There 's the respect
"That makes calamity of so long life.
. . . . . .
——————— "Who would fardels bear,
"To grunt and sweat under a weary life,
"But that the dread of something after death, —
"The undiscover'd country, from whose bourn
"No traveller returns, — puzzles the will;
"And makes us rather bear those ills we have,
"Than fly to others that we know not of?
"Thus conscience does make cowards of us all."

to discover what are its predominant tendencies and affections.

It is a very striking fact, that in all the forms of mythology the representations which prevailed respecting the fate of the dead were full of gloom, and the apprehension of evil. Even among the Greeks, whose fictions were the most adorned by the graces of poetry, the state of departed souls was a theme of sorrowful expectation. The abode of the dead was a scene of horror; or, at best, presented a dreary and cheerless prospect. Its situation in subterranean caverns, was the most dismal that the imagination could fix upon. The very names of the rivers that watered the paradise of the poets, are expressive of anguish. And among the Orientals, although we are, in some instances, but imperfectly acquainted with their modes of thinking, we discover proofs enough in the public ceremonies, and external practices of religion, to convince us that they have partaken of similar feelings and ideas. The horrible scenes of expiation, the slaughtering of human victims, the burning of children, the self-tortures practised amid shrieks and yells, round the image of some hideous monster, decorated with the symbols of carnage and death, display evidently enough the character of those superstitions, to which mankind may be said to have been, at one time, generally devoted.

It would be very interesting to inquire, what is the origin of this prevailing apprehension of evils in contemplating the imagined scenes of future existence? There seems to be no obvious cause for it in the nature of circumstances: no reason, for ex-

ample, why the representations of the ancient mythologists should have turned rather on penal sufferings than on hopes and agreeable prospects. The solution of this problem appears to be, that the superstitions of mankind have not been merely the creations of the fancy, but principally of the conscience. It seems that a certain persuasion of moral demerit, or delinquency, has been an universal impression upon the minds of men in all ages. With this is intimately connected the idea that they are accountable beings, and that there are certain unseen powers, before whose tribunal they may, and probably will, be arraigned*. Here the imagination is necessarily called in to conjure up a host of tormentors, of uncouth and horrible forms, whose office it is to inflict punishment in the invisible world, for the delinquencies of the present life. Hence the Furies, Gorgons, and Chimæras, and the similar monsters of other mythologies.

As these phænomena occupy so prominent a place in the history of mankind, of their sentiments, opinions, and actions, we may infer that they are the result of principles deeply laid in the constitution of human nature: but it is the business of the moral philosopher, or of the theologian, to trace them to their source: I am only concerned with this subject in so far as the theory of religious insanity is connected with it. If it appears that a propensity to fear, rather than

* It seems that even philosophers have not often succeeded in emancipating themselves entirely from these apprehensions: witness the authentic statement respecting M. de Voltaire, who, in his last illness, sent for a Capuchin, confessed, and received absolution. — *See* GRIMM's *Correspondence.*

to hope, respecting the future state, and to indulge the imagination in conjuring up phantoms of terror and suffering, is natural to the human mind, we gain one step in explaining the nature of religious madness. It will follow, for example, that this disease is not principally the effect of any particular representations; since the numberless forms of superstition are themselves the result of that mental predisposition from which it originates. Still it cannot be questioned that the frequency of this kind of madness must be more or less influenced by the ideas respecting the future state, which are publicly inculcated. We are not sufficiently acquainted with the domestic history of the ancients to determine, by any authentic evidence, in what degree insanity prevailed among them; but we need not hesitate to conclude, that superstitions, which could induce mothers to put their infants alive into the jaws of a crocodile, or into a flaming furnace, must have abounded with sources of intense emotion, and with frequent instances of madness. Even the classical faith of Agamemnon, who cut the throat of his daughter, in order to procure a change of the wind, must have produced many a religious lunatic besides Orestes. It would, perhaps, be rash to assert, and yet it can hardly be doubted, if human nature is every where alike influenced by similar causes, that the victims of superstitious terror were more numerous among the heathens of antiquity than they have been among the generality of Christian nations.

It is indeed manifest that the doctrines of Christianity are alone calculated, from their very nature, to tranquillize the evil forebodings of the mind, and to give

a new direction to those propensities from which religious madness originates. And, in fact, the frequent cure, not the production of lunacy, accompanied, as we know from history, the first preaching of this faith. It must, indeed, be confessed, that phænomena of an opposite description sometimes occur in these days. Whether this arises from a distortion of the genuine principles of the Christian religion, I shall not venture to decide. On themes of this nature I do not presume to enter, but shall take leave of the subject, after adding a few brief remarks on the relation of some particular tenets to this species of insanity.

It cannot be disputed that the doctrines professed in some Christian churches are more favourable to the existence of this disease than the tenets of other communities. In the Romish church the facility of obtaining absolution, and the doctrine of purgatory, are well fitted to appease the apprehensions of an alarmed conscience. On the other hand, the dogma of the Reformed church, and of some sects in this country, that salvation is the peculiar destiny of a favoured few, and that the mass of mankind were consigned, by an unchangeable ante-mundane decree, to eternal damnation, cannot fail to excite terror and dismay in the minds of those who are impressed with such a persuasion. I am convinced, by my own observation, that such circumstances are not without their corresponding effect. Still it must be allowed that much less depends upon the established creed, or professed tenets, than on the style or modes of representation which are prevalent in any particular time or country. In most catholic countries there is at present very little of energy, or vehemence

of declamation: and it would appear, from the facts that we possess, that religious madness is now comparatively rare among those who adhere to the catholic ordinances. But this has not always been the case: at various times a high degree of enthusiastic fervour has broken out among them; and some of the preaching orders have been accustomed to adopt, in their harangues, a terrific and impassioned style*. During

* Within a few years instances of this kind have occurred in catholic countries. I have before me the account of a case of this description, which happened in the kingdom of Naples in 1812. The circumstances of this case are so characteristic that I cannot omit to insert it.

"In the kingdom of Naples a custom exists of preaching in favour of missions, by a particular set of priests. In order to animate the faith of believers, they accompany their orations with particular acts, which are often of such a nature as to produce too powerful an effect on weak minds. Thus they hold their hands over flaming torches, whip themselves with scourges, garnished with iron points, &c.: and, where these means are not sufficient, they join tears. These sermons are always prolonged until the close of day, &c. The feeble glare of a few flambeaus heightens the effect of the scene.

"One of these sermons occasioned the disease I am about to describe. The subject was HELL: and to heighten the colouring of the frightful picture the preacher had traced, he took a skull in his hand, and having raised a doubt respecting the abode of the soul to which it belonged, he exclaimed, invoking it, 'If thou art in heaven, intercede, &c. If thou art in hell, curse, &c. &c.' He then cast it from him, with such violence, that from that moment a morbid change took place in the system of the lady who was the subject of this relation."

The case which follows may be read in the third vol. of the London Medical Repository. It was reported to the Société Médicale d'Emulation, of Paris, by M. Berthollet, Physician to the Forces.

such periods lunacy, from this species of excitement, has not been unfrequent. On the other hand, in countries where the Reformed church has been long established, as in Scotland and the Dutch provinces, the clergy, in general, have laid aside that vehement mode of preaching, for which they were once remarkable. And a similar observation may be applied to those sects which approximate in doctrine to the reformed: but to this remark some particular and striking exceptions must be made: and it is here that we find most of the instances of religious insanity which occur in this country*: for the English church has never abounded in that species of oratory which is graced with trophies of this description.

After all, our ideas of pathology will be very erroneous, if we do not bear in mind that a certain predisposition in the physical state of the brain is a necessary condition, in order that the above mentioned cause, however powerful as a moral agent, may give rise to insanity. Superstition is indeed itself a disease, but it is a disease of the mind: it is only when its influence is exerted on a nervous system, weak by organization, that the disorder in the corporeal organs, which constitutes insanity, is produced. We have ample proofs that the most abject and fearful superstition may exist, and may torment its victim through life, without giving rise to any insane hallucination, properly so termed.

* Many curious facts, relating to the subject of religious insanity, have been collected by Dr. Burrows, in his recent work, entitled, "Inquiry relative to Insanity," &c. to which I beg to refer the reader.

Fear and anxiety in persons of maniacal predisposition, have often for their objects circumstances connected with the sensations and bodily health. When this habit amounts to nothing more than the apprehension of terrible diseases and dejection of spirits, connected with uneasy sensations and great torpor, or extreme irritability, the affection is termed hypochondriasis. When any hallucination displays itself, as in the instance of those persons who have fancied themselves converted into tea-pots, or were persuaded that their heads were too large to pass through a door-way, the case strictly falls under the description of insanity. Anxieties of this sort are the consequences, not the causes, of a diseased action in the brain.

Other groundless fears are sometimes observed in individuals to a singular degree: as when men of great opulence were constantly impressed with the apprehension of perishing from want. Such a habit may depend on weakness and imbecility of mind; or it may, in some instances, be connected with a maniacal notion: the two cases are easily distinguishable.

Next to fear and apprehension, grief, and especially disappointment in the pursuit of wealth, in this country, where commercial enterprise engages so many individuals in hazardous pursuits, are among the most frequent moral causes of madness. In France the hospitals abounded with lunatics during the horrors of the revolution; partly, as it should seem, through the influence of grief, occasioned by domestic calamities, and partly in consequence of the violent passions excited in the struggle of political parties.

In cases of mania, arising from the effect of emotions, it will often be found, on inquiry, that there is considerable disorder of the natural functions. This may, in a certain degree, be the effect of the distemper of the nervous system; but I apprehend that much more generally, and in a greater extent, it is to be regarded as a contributing cause: on all accounts, however, it is a very important circumstance in the medical treatment of such cases. I have repeatedly seen maniacal affections, which seemed to have been brought on by passions, relieved in a very short time by remedies which acted merely on the body.

SECTION VI.

Treatment and Examples.

Respecting the moral treatment of insane persons, whose disease is the consequence of vehement emotions, enough, and more than enough, has been written, in treatises which are in the hands of every medical practitioner. Nothing that is new can be said on this subject. Indeed little has ever been properly said that would not have been suggested by common sense and discretion to every individual, in particular instances. The cruel methods which have been adopted in some establishments, to the disgrace of our nation, must have owed their origin to carelessness and indif-

ference, rather than to any mistaken ideas; since it is impossible that any medical practitioner could be so stupid as to suppose that any beneficial effect could result from inflicting corporal severities in the cure of a disease of the brain. At least, if such things have been, the time for their existence has passed.

I believe that most of the vauntings which are set forth, in the present time, respecting the greater skill displayed in certain establishments in the moral treatment of lunatics, and the greater humanity of certain practitioners, has its origin in motives which are easily traced, and which are unfortunately but too common in their operation.

The medical treatment of maniacal cases of this class must be governed by the principles laid down at the end of the last section.

I subjoin two cases in illustration of these remarks.

Elizabeth Harris, admitted Nov. 25, 1816.

A short and delicate woman, aged forty-two years, of melancholic temperament, but lively disposition. About seventeen years ago she married a Swedish sailor, with whom she lived two years, and had one child. Her husband went abroad, and three years afterwards she was informed that he died in America. Some time afterwards she married an elderly man, by whom she had six children. About a fortnight ago, to her great astonishment, her first husband made his appearance. From that time she has been in a state of derangement. She was never before so affected, nor does there appear to be any maniacal tendency in her family.

Present state. — She is extremely noisy and incoherent; uses abusive language. Pupils contracted: she cannot

bear a strong light, on account of the headache which it occasions. Eyes inflamed. Bowels rather confined. Urine high coloured. Tongue furred. Thirst considerable.

Treatment. — Head shaved and blistered.
Laxative antimonial draught every morning.

30. Is less noisy, and more rational: tongue clean, except that it is slightly furred in the morning. Bowels and urine natural.

Continue.

Dec. 14. Continues gradually improving in her mental faculties.

Continue.

Jan. 1, 1817. Appears to be quite rational.
June 14. Discharged cured.

Observations. — In this instance the exciting circumstance was evidently mental emotion; but the state of the intestinal canal was a concurrent cause of no inconsiderable moment. For, when the canal was evacuated by purgative medicine, and the excess of vascular action in the brain reduced, the disease disappeared.

THOMAS WINTLE, admitted Sept. 18, 1815.

A cooper by trade, aged fifty-seven years, of short and corpulent make, with a large head, short neck, light brown hair, blue eyes: of melancholy disposition; supposed to have become insane in consequence of domestic troubles: no hereditary tendency to mania in his family.

Present symptoms.—Talks or prays incessantly; religion is the subject to which his ravings tend: entertains violent enmity against his family.

Vital and natural functions. — Pulse small and quick; 100 in a minute. Pupils much contracted. Pain in the forehead. Bowels constipated.

Treatment. — Back part of the head blistered; to be dressed with Sabine ointment.

Cathartic draught every day, with Antimon. Tartar.

Oct. 12. Continue the Cathartic mixture.

Shower bath every morning.

Dec. 18. Continues.

Jan. 10, 1816. Discharged cured.

Some time after this date he still complained occasionally of lowness of spirits, but was able to follow his trade.

CHAPTER X.

OF LOCAL CONVULSION, OR PARTIAL EPILEPSY.

CASES of convulsive agitation, attended with affection of the head, more or less severe, sometimes occur, which bear a certain degree of affinity to epilepsy; or approximate to the character of that disease, without entirely coming up to the description of it. It is not very easy to distinguish these attacks from those of epilepsy by an exact definition. The partial nature of the disorder is the ground of distinction. The complaint I now refer to, may be regarded as an imperfect or partial epilepsy. In the description, however, of epilepsy, it was remarked, that the convulsion is not always universal, being sometimes nearly confined to one half of the muscular system, and scarcely passing over the median line: and the affection of the perceptive faculty, and of consciousness, in epileptic attacks, was observed to be in various degrees; commonly, indeed, amounting to absolute coma, but sometimes only to a degree of stupor or dulness of perception, attended with vertigo or headache.

There is another disease, unaccompanied by convulsion, which I suppose to be allied, in a certain manner, to epilepsy; or, rather, to that affection which I have termed leipothymia. It consists in a sudden attack of dimness in the sight, attended with stupor, and often with vertigo, which comes on at uncertain intervals, and after continuing for a short time, leaves

the patient labouring under a severe headache with drowsiness. This disorder is produced, as I believe, by the same causes which give occcasion to epileptic attacks; existing, perhaps, in a lower degree, and acting on a constitution less susceptible of the morbid action, on which these diseases depend. But of this complaint I shall say nothing further at present. The disorder I am now considering is characterised by convulsion, of a more partial or limited extent than what takes place in epilepsy.

The best way of setting before the reader an account of this disease will be by describing some characteristic cases. I shall first adduce one, on the authority of Dr. Pitcairne, and his contemporary, Dr. Mead, and then relate two or three similar cases which have fallen under my own observation.

Dr. Pitcairne's patient was about thirty years old, of a thin habit, and somewhat melancholic temperament, who, nine years before, after a considerable hæmorrhage from the nose, " complained," says Dr. Mead, " of some humour suddenly arising from his right hand to the top of his shoulder, and then fell senseless on the ground. Upon his recovery from the fit, he felt so great a numbness in that hand, that he could not stir his fingers, and his right arm was violently tossed forward and backward, against his will, for the space of four minutes, during which time he lost the use of his tongue." This disorder, as the author informs us, recurred afterwards periodically, twice in a year; but in one remarkable particular it had altered its character; viz. the stupor, or diminution of the perceptive power, which always continued

from the first attack, never afterwards deprived him of his senses; that is, he had no return of coma; for he could walk or ride even when it was at the worst. The disorder never affected the lower extremities, nor the left arm: while the aura was rising up his hand, he could still use his fingers; but when it had got up to the arm, then they were deprived of feeling and motion: afterwards, upon its seizing the right side of the head, the convulsive motions of the arm began, and continued three or four minutes. Sometimes the numbness occurred without the convulsive agitation following: the memory was remarkably affected about the time of the paroxysm.

In this case the first attack was of such a kind as plainly to indicate the nature of the disease to be closely allied to that of epilepsy. It commenced with the *aura* epileptica, was accompanied with sudden coma, and with convulsion: the only difference was, that the convulsive agitation was confined to one arm. The subsequent attacks, however, were less resembling those of epilepsy, and are specimens of the partial convulsion I am now attempting to distinguish.

The following case occurred to me, among the out-patients, at the Bristol Infirmary:—

Hugh Bray, admitted Dec. 23, 1816.

A stout labouring man, aged forty-six years, who has been of late much troubled by a strong convulsive jerking of his left arm. It comes on by fits: his arm is violently tossed about for a minute or two: it afterwards feels benumbed, and he is, for a short time, incapable of moving it. After each of these attacks he suffers vertigo, and a severe headache, but never lost his senses. The disorder

recurs several times in a day. In the interval he feels himself tolerably well.

Treatment.—Pulv. Cathart. gr. xxv. altern. noct.
Mist. Cathart. ℥iss. ter indies.

28. He says he is much better: he has had no attack of the convulsion for several days, but still complains of the feeling of deadness, or numbness, which used to follow the fit.

Repeat the same medicines.

Jan. 4, 1817. The complaint in his arm is quite gone; he has a catarrh and cough.

Pil. Cathart. 3. omni nocte.
Mist. Salin. Antim. c. T. Scillæ.
Oxymel. Scill.—Syrup. Opii, part. æq. p. r. n.

15. Cough continues: chest oppressed.

Ven. Sec. fl. ℥xvj.
Empl. Lytt. ad Stern.
Repet. cætera med.

Feb. 1. Discharged cured. He has had no recurrence of the disease in his arm.

From the immediate effect of cathartics in removing the disorder, it may be presumed that the irritation, which was the exciting cause of the disease, had its seat in the intestinal canal.

The following case is analogous to the foregoing in some respects. It is remarkable as affording an example of those cases, already alluded to, in which the attacks of a disease, otherwise allied to convulsion, feign the character of paralysis.

Samuel Brain, Aug. 27, 1821.

A man of dark complexion, aged thirty-two years, who gains his livelihood by working in a glass-house. Two years ago he was suddenly seized with a jerking, or tossing of the right arm; which continued about an hour, and then subsided. About a fortnight afterwards a total para-

lysis seized the same arm, and continued about half an hour; during which time he was completely blind in the right eye. These symptoms, like those of the former attack, were but temporary. But, ever since that period, he has been subject to occasional attacks of vertigo, attended with tremor and faintness, almost amounting to syncope, according to his own account, so that he nearly loses his senses. He was lately seized with these feelings, and remained, during four days, scarcely conscious of existence. If he attempts to walk or move quickly, the sense of faintness and giddiness is almost insupportable. Pulse 45, and weak. Tongue white. Throat looks reddened.

Cupping glasses to the nape of the neck and shoulders.
Empl. Lytt. ad nucham postea.
Pil. Cath. o. n.
Emuls. Tereb. ter indies.

Sept. 1. Much relieved. Pulse more frequent.
Repeat medicines.

8. Vertigo, if he walks fast. Pulse 58, stronger than before: otherwise well.

15. Nearly as before.

V. S. — fl. ℥xvj.
Pil. Cath. o. n.
Mist. Cath. manè quot.
Emuls. Terebinth.

29. Pulse stronger in the carotid.
Cupping to be repeated.
℞ Infus. Calumb.,
Aq. Menth. āā. ℥j.
Sp. Ammon. Co. ʒj. ter indies.
Pil. Cath. o. n.

Oct. 3. Much relieved; a pound of blood flowed from the scarified part, which is twice as much as before. He can now walk without any troublesome sensations.

Continue.

The following case resembles the preceding in its essential character, but differs with respect to the seat of convulsive action.

MABELL HOOKINGS, æt. twelve. June 8, 1820.

A girl of pale complexion; tumid abdomen: has been for nearly three years subject to fits of violent hiccup. The fit generally comes on three or four times in the day and night, and continues from ten minutes to an hour. She knows when it is coming on by a pain in the epigastric region, and a sensation of nausea: sometimes the globus hystericus accompanies the attack. After it has lasted some time, it occasionally excites sneezing and gaping. After these symptoms have ceased, a headache commonly follows. These fits occur during sleep as well as by day.

The first attack she ever experienced followed a sickness of three days; during which she was constantly troubled with vomiting.

She now complains of soreness when the epigastrium is pressed. Tongue clean. Appetite, &c. natural. Abdomen tumid.

℞ Emuls. è Tereb. ℥ss. ter indies.

9. She has had three or four fits, which have lasted about ten minutes, but have not been so violent since she has taken the medicine. Bowels open; epigastrium tender.

11. Two fits of hiccup last night, which lasted about an hour each. Bowels opened by the medicine.

12. She has had no fit on the 10th and 11th, until the evening, when she had two, which lasted about an hour each, but were not so violent as formerly.

13. No fit yesterday, but one this morning, of shorter duration than the former.

On the 14th she had one fit; likewise on the 15th, but escaped entirely on the 16th.

17. The bowels are moderately relaxed by the emulsion. The

tumour of the abdomen has diminished. The fits have of late been very short and slight.

23. She has had no fit for a week, and feels much better.
Continue emulsion.

29. No fit for two weeks.
Full diet. Continue.

July 3. No return. Discharged cured.

The symptoms in the above mentioned cases bear a resemblance to those which are occasionally produced by intestinal worms; but I could not discover that any worms were evacuated by either of these patients: and I believe that all the symptoms which are supposed to depend on worms, do occasionally arise from the irritation of long retained feculent matter, or otherwise from that state of the intestinal canal which is produced by constipation.

The general character of these cases, especially the two former, bears such a resemblance to epilepsy, that I think we may look upon them as imperfect attempts to produce that disease, or as differing from genuine epilepsy in some, perhaps trivial, modifications.

Whether all the other remote causes of epilepsy do occasionally, under somewhat different circumstances, or in constitutions predisposed to different modes of morbid action, give rise to local convulsions, I have not yet been able to determine, but I think it not improbable. I have lately seen a case of convulsive twitchings, affecting chiefly the muscles of the left arm, and left side of the face, which appeared to have arisen from tardy menstruation. In this instance the symptoms were those of a partial or incomplete epilepsy. During the paroxysm there was a degree of

stupor, together with great loss of power in the lower extremities; and the patient afterwards suffered a severe headache. This disorder has become mitigated since the catamenia have been established, and appears likely to subside gradually. The patient has received much benefit from an issue in one arm, and from doses of Epsom salt taken every morning.

CHAPTER XI.

OF CONVULSIVE TREMOR.

In the course of the preceding sections on epilepsy several cases are mentioned in which fits of rigor, or of tremor, appeared on some occasions to occupy the place of the usual epileptic paroxysm. This was observed particularly in those instances in which the original disease had become mitigated by the effect of remedies, or was otherwise diminishing in its severity. It would seem, therefore, that a paroxysm of tremor is sometimes a certain modification of the convulsive or epileptic attack.

I have had under my care several patients who laboured under a disease, consisting in occasional attacks of this description, in which the tremulous agitation of the muscles was so violent, and accompanied with such unpleasant internal sensations, as to occasion considerable alarm to the sufferer. These paroxysms are generally unattended with any sense of chilliness, approaching to the coldness of rigor; though sometimes the extremities, particularly the legs and feet, are cold; while the head, neck, and chest, are hot, and smoke with a profuse transpiration: the head is sometimes affected with vertigo and stupor, and sometimes with violent pain. After the paroxysm has continued some time, it subsides spontaneously, and is not followed by any accession of heat.

This disease has been very little noticed by medical

authors. We have, however, a case recorded by Tulpius. A young unmarried woman, of pale complexion, and phlegmatic constitution, was afflicted, during three years, with a shaking palsy; which did not affect her constantly, but came on in periodical fits: each paroxysm lasted nearly two hours, and was accompanied by a hoarseness and suppression of voice. And Sauvages has copied from Bonetus an account of a disease, to which he gives the term of *tremor vertiginosus*. The symptoms of this disorder are nearly what I have described: the patients were seized with a convulsive tremor, attended with severe headache and vertigo, which came on in paroxysms. But this disorder was fatal in a few days; and a circumstance is added, which savours strongly of the marvellous. It is said that, on opening the head, a worm was found in the brain, of a red colour, with a sharp mouth and hairy neck, longer than a finger.

The following case, which fell under my observation at St. Peter's Hospital, affords a characteristic specimen of the disease I have described.

John Pugh, æt. forty-five. March 1, 1820.

A carpenter, of meagre habit, low stature, dark hair. About a month ago he complained of cynanche tonsillaris; soon after he was affected in his chest: his symptoms were considered as asthmatical: his bowels were constipated. He has complained, for some time, of headache. On the 23d of February he was attacked, in the forenoon, by a violent tremor, which continued two or three hours, and then went off, after he had taken an emetic. It recurred again on the following day at the same time, and

on every succeeding day about the same hour. He is now labouring under a paroxysm.

On first looking at this man I should have supposed him to be under a severe rigor of intermittent fever; but, on a closer inspection, his affection appeared very different. The whole muscles of the upper extremities, including those connected with the ribs, clavicle and scapula, were constantly agitated by a convulsive movement, which was wholly, or very nearly, confined to them. The lower extremities were quite free. The man is perfectly conscious, and able to answer any question distinctly. His pulse is quick, and appears to be irregular; but it is very difficult to feel it on account of the constant agitation of the tendons. The skin is warm, and he does not appear to have any sensation of chilliness. The upper part of the body is in a state of profuse perspiration, and smokes. He complains of vertigo and headache.

I ordered him to be bled, and a large orifice was made in the arm, from whence the blood flowed in a full stream. Thirty-eight ounces, avoirdupoise, had flowed, before syncope came on. When about half the quantity had flowed, the tremor became more general, and the convulsive jerking motion now occupied the glutei, which threw him up from his seat, with the action of a man sitting on a trotting horse. As soon as he became sick and fainting, the arm was tied up, and he was laid upon a bed: the tremor immediately ceased, except some slight and partial quivering.

He was ordered,—

Pulv. Cath. ℥ss. statim.
Mist. Cath. 4. qq. h.
Pil. Cath. omni nocte.

5. 11 A. M. Return of the tremor.
Cold affusion.

The cold water was thrown over him, and produced an immediate cessation of the tremor. He became afterwards hot.

9. No return of the tremor.

Hyd. Subm. gr. v. o. n.
Magnes. Sulphat. o. m.
H. Salin. 4. hor.

11. Tremor came on about six A. M., but continued only twenty minutes.

He got rid of the tremors after this time, but fell into a state of debility.

April 11. Appetite fails. Coughs and spits much.

Dec. Cinchon. c. Acido Sulph. ter indies.
Pil. Cath. o. n.
Mist. Aper. o. m.

May 12. Recovered from his complaint. Has, however, a disorder in the arm, the effect of inflammation in a vein, which came on after bleeding. On account of this he is now in the surgery ward.

The following was a case in which paroxysms of tremor were the most conspicuous feature, but they were combined with stupor and delirium. The disorder had more resemblance to febrile rigor, and displayed more disturbance of the circulation, than the last mentioned case.

John Jones, aged twenty-five years, was, during the early part of his life, a mariner, and served on board a ship of war, but since the peace he has been a labourer: he has been in the habit of drinking spirituous liquors. About three weeks ago he was seized with rigors, attended with coldness, and followed by heats, headache, and wandering pain in his limbs. These symptoms ushered in a state of stupor and delirium; during which his countenance became distorted, the eyes rolled, the muscles of the face were slightly convulsed, and the body generally agitated. After a time all these appearances subsided, and he became perfectly rational, but seemed a little stupid, as if roused

from a sleep. The paroxysm has returned at uncertain intervals, with the same succession of symptoms. He has been bled and purged, and is now brought to the Hospital under a frenzy warrant, March 11, 1819.

Vesp. He is now in a state of delirium; rolls his head about, and his body is generally agitated. The temporal arteries beat rapidly and forcibly: the scalp is hot; the feet cold; face flushed; tongue a little furred.

Let his head be shaved and covered with cold wet pads, and his feet immersed in hot water.

℞ Calomel.—Pulv. Antim. āā gr. iij.
Sâ. quâq. horâ, cum Haust. Cath. donec alvus soluta fuerit.
Hirud. xx. ad Caput.

12. *Manè.* Is rational: tongue as yesterday; bowels purged freely: complains of pain and tension of the right hypochondre; tenderness there on the slightest pressure. Pulse 130, full and jerking. Head aches at times, but is at present free from pain.

V. S. et fluant ℥viij. sanguinis.

Syncope followed: blood slightly buffy: crassamentum lax.

Twelve leeches and a blister to the right hypochondre.
Calomel gr. v. cum Haust. Cath. 6ta. quâq. horâ.
Low diet.
Cold water to be applied to the head.

Vesp. Has had two returns of the rigor, followed by the symptoms before described, but of shorter duration.

14. Paroxysms shorter and more frequent; if he is roused from his stupor, they are, in some measure, kept off.

After this time he was freely purged, occasionally bled from the temporal artery, and had leeches often applied to the head. The disorder abated, but a dose of Turpentine occasioned a recurrence of the fits. The application of cold water was continued to the head.

On the 16th of April he had had no fit for eight days: he then began to take two grains of Argent. Nitrat. three times in the day, and subsequently escaped any attack.

On June 23 he was discharged cured.

This case was evidently combined with an inflammatory state, and probably with inflammation of the liver.

I have met with two instances of paroxysms of tremor, or rigor, like the preceding, but unaccompanied with spasm, occurring in persons who had suffered an attack of paralysis. In one of these cases there was a strong tendency to stupor, attended with the evident marks of congestion in the head.

With respect to the treatment of this disorder, it must be conducted on the same principles as that of epileptic, and other convulsive disorders. The measures to be pursued in particular cases must depend on the disordered function from which the morbid phænomena arise: in most instances, I believe, it will be found that the affection of the nervous system is symptomatic of irregularity in the uterine, or in the intestinal and gastric functions. I attended a lady some time ago, in whose case this disorder appeared to have been connected with irregularity in the returns of the catamenia. She has been subject to it several years, and suffered such a degree of exhaustion from the tremulous agitation of her limbs, and from the intensity of headache, when the paroxysm seized her, as to occasion apprehension of imminent danger. In cases of this description, I think there can be no reason to hesitate in adopting the treatment which is found to be most beneficial in uterine epilepsy. Those cases, perhaps more numerous, which proceed from enteric irritation, are likely to be relieved by the means recommended in the chapter on enteric epilepsy; particularly by stimulating cathartics, joined with the use of bitters, aromatics, and alkalines; or by the oil of Turpentine, and other remedies of a similar description; care being taken, at the same time, to relieve congestion in the head.

CHAPTER XII.

OF SOMNAMBULISM, OR ECSTASIS.

SECTION I.

Phænomena and Pathology of Ordinary Sleep-walking.

THE stories of sleep-walkers have generally been related as matters of mere curiosity, and as displaying a singular modification of the state of sleep, rather as than indications of disease. Medical writers have collected examples of this affection, and have recorded them as interesting facts in physiology; but have expressly excluded them from the catalogue of morbid phænomena*. Hoffmann was, as far as I know, the first writer who appears to have had any clear insight into the nature of somnambulism. He was not possessed of any great collection of facts in illustration of it, but his good sense and acuteness enabled him to form correct ideas respecting it†.

It is certainly remarkable that Darwin was led, by his hypothetical notions on the nature of reverie and of epilepsy, to regard sleep-walking as connected with the latter. This conjecture, for it appears to have been nothing else, has been confirmed by recent observations, which seem to prove that somnambulism

* See Sylvius de le Boe, Prax. Med. lib. ii. c. 33.

† Hoffmann de Somnambulis, Oper. tom. vi.

always indicates a disordered state of the brain, and that this disorder is, in many instances, nearly allied to epilepsy. But before I proceed to the consideration of this subject, it is necessary to make some remarks on the phænomena of ordinary sleep-walking.

Somnambulism appears to be a morbid modification of ordinary dreaming. We have before remarked that the condition of the brain, during sleep, predisposes to attacks of epilepsy, and other disorders of a similar character. But a fit of somnambulism is not thus merely connected with sleep as with its predisponent cause. It is, in fact, a dream so modified, that the dreamer gains the power of pursuing, by voluntary motion, the objects which he is desirous of seeking, or avoiding, in his reverie. This near relation of the state of somnambulism to that of ordinary dreaming, is proved by the fact, that sleep-walkers, after they have awakened from the slumbers which ushered in the fit of somnambulism, have sometimes remembered their adventures, and have correctly related them: not, however, as transactions in which they had actually been engaged, but merely as the impressions of their dreams*.

This circumstance in the history of somnambulism has been noticed by Sylvius and Hoffmann. It is, however, by no means an uniform occurrence, and it will therefore be proper to adduce some particular

* Somniantibus et somniorum ratione obvenire hominibus somnambulorum affectum patet ex ipsorum evigilantium relatu, putantium se somniasse duntaxat quæ actu fecerunt. — SYLVII, *Prax. Med. loco citato.*

example. The following incident, recorded by Horstius, affords a striking instance: —

"In the citadel of Brenstein three young noblemen, who were brothers, lodged in the same apartment. One of them was observed by the two others to rise from his bed in the night, during his sleep. He took a cloak, with which he went to a window, and, having opened the casement, mounted, by the help of a pulley, to the roof of the building, followed by his brothers, who were anxious to observe his movements. After some time he lighted on a nest of magpies, which he tore in pieces; and having wrapped up the young birds in his cloak, went down again into his chamber by the same way through which he had gone out of it. Then, after walking about for some time, he returned to his bed, and placed his cloak by his side, with the young birds in it. In the morning he awoke, in his usual way, and began to talk to his brothers, and observed, after a time, that he had had a singular dream. He then related to them circumstantially his adventure on the roof of the castle; upon which they laughed at him, and, opening his cloak, showed him, to his great surprise, the young birds wrapped up in it. They told him what had occurred, but he could not be persuaded fully to believe them, until they led him up to the top of the tower, and showed him the remains of the nest which he had torn in pieces *."

* An incident occurred some years ago in this city, which affords a curious example of somnambulation leaving an impression on the memory, as in the instance recorded by Horstius.

A maid-servant, who lived in the house of an elderly lady, some years since deceased, had risen early on a winter's morning, and was employed in washing, by candle-light, the entry of the house, when she was greatly surprised at seeing her mistress, who

Incubus is another modification of dreaming; which seems to be, in some respects, similar to somnambulism. In incubus a person is conscious of an attempt to perform voluntary motion during sleep, but the effort fails, and the struggle and agitation which accompanies it awakens him. As the person is immediately aroused from his dream in incubus, he generally remembers it: the somnambulist often returns to his bed and sleeps soundly, and the impression is obliterated. Sometimes, however, if a sleep-walker is suddenly disturbed in the midst of his exertion, he is unable to recal any trace of the dream which excited him to it.

was then in a precarious state of health, coming down stairs in her night dress. The passage being narrow, she rose up to let her mistress pass, which the latter did with a hasty step, and walked into the street; appearing, to the terrified imagination of the girl, to pass through the door without opening it. The servant related the circumstance to the son and daughter of the lady as soon as they came down stairs, who desired her to conceal it from their mother, and anxiously waited for her appearance. The old lady entered the room while they were talking of the incident, but appeared languid and unwell, and complained of having been disturbed by an alarming dream. She had dreamed that a dog had pursued her from her chamber down the staircase, and along the entry, and that she was obliged to take refuge in the streets. This recital produced a very strong impression on those who heard it, and it was concluded that the old lady's ghost, or wraith, had appeared. I apprehend that there can be no hesitation in setting this down as an example of somnambulism, in which the impression of the dream remained in the memory after the person awoke. I may add, that the family in which this incident took place, is intimately known to me, and that I can vouch for the truth of the statement.

Notwithstanding these differences, I apprehend that somnambulism and incubus are similar affections. A young lady, who was some time under my care, was formerly very subject to walk during her sleep: during the succeeding day she always suffered a severe headache, accompanied with a sense of fatigue. She had an obscure recollection of some laborious exertion, and of very distressing sensations, experienced during her sleep. She has been free from the tendency to somnambulism several years, but has since been subject to incubus. Her feelings, after a fit of incubus, are precisely similar to those which she formerly experienced after somnambulation.

When we consider the near relation of somnambulism to the state of sleep, and to dreaming, it appears the more remarkable that it should attack persons during their waking hours: but of this affection, and the morbid circumstances attending it, we shall say something further, after inquiring into the state of the mental faculties during somnambulation.

Sylvius supposes somnambulism to arise from the mind being so wholly intent, and vehemently exerted, on one object of phantasy, or reverie, that all its other faculties are suspended, and the attention is withdrawn from the objects of perception. This comes very near to the account I have given above of ecstatic mania, as exemplified by the instance of a lunatic, who wandered up and down in a public street, and fancied himself at the head of an army of soldiers, to which he issued commands. But I apprehend that there is one circumstance in the state of

the sleep-walker, in which his temporary condition differs from that of the lunatic. The exercise of perception is much more completely suspended in the case of the somnambulist than in that of the madman. The latter avoids horses and carriages in a crowded street, while he is intent upon his phantasm: but the sleep-walker often falls through open windows: if he treads securely in dangerous places it is the consequence of habit, and of his having been previously familiar with them, and not owing to the correctness of his present perceptions.

Hoffmann cites the case of a somnambulator, which indicates the state of the perceptive faculty in this affection. A man who dreamed that he was going to set out on a journey, rose and put on his clothes, his shoes, and spurs; and then striding across the sill of an open window, began to kick his heels, and to exert his voice, as if to excite his horse to speed. When awakened he became excessively terrified at the danger he had incurred. An authentic instance was related to me of a man who rose in his sleep, saddled a horse, and actually proceeded on a journey; but this was what he was accustomed to do regularly every week, in order to attend a market: here habit supplied the place of attention to external impressions. Hoffmann likewise mentions the case of a sleep-walker, who got out of a window, and of another who threw himself into a well, under the impression that he was returning to his bed.

Perception, however, appears to be the only mental faculty which is not at times completely awake during somnambulation, and perception is aroused when a

particular voluntary effort is directed to it. Many instances have been known of persons who have composed and have written letters during a paroxysm of this affection; and one remarkable example is on record of a young man, a professor of poetry at an university, who, having been during the day very intent on the composition of some verses which he could not complete to his satisfaction, rose in his sleep, and opening his desk, sat down with great earnestness to renew his attempt; and, at length, having succeeded, returned to his bed, after reciting his composition aloud with great self-applause*.

It seems to be proved, by cases of this description, that all the other mental powers are nearly as active as usual in somnambulism. The only faculty that is in a very unnatural state is that of perception; and this faculty remains under that degree of oppression, or suspension, which, perhaps, constitutes the essential character of sleep. The perceptive faculty is sometimes entirely inaccessible to external impressions; so that there is no possibility of awakening or arousing the sleep-walker, until, the paroxysm having come to a close, he lies down again and returns to his quiet slumber†. And yet, when the chain of internal

* Henric. ab Heer in Observat. Med. p. 32. in Hoffm. l. c.

† I have frequently witnessed the paroxysms of an affection which sometimes amounted to somnambulism. A boy, about twelve years of age, used to rise in his bed during the early part of the night, and sit with his eyes half open, muttering and crying: sometimes he got out of bed and walked. No effort to awaken him was ever successful, but, after a time, he would lie down and become composed.

movements prompts him to make the effort, he can exert this faculty upon any of the objects towards which he may be led to direct it.

Among the causes of somnambulism must be reckoned, in the first place, hereditary predisposition; for, like other peculiarities of the nervous system, that condition which renders one person more prone than another to this affection, is transmitted to certain families*. Men are more frequently subject to it than females; and young persons, than those of middle or advanced age.

The exciting cause is generally an intense application of the mind to some object which it pursues with energy during the day: the same train of ideas recurs at night, and is accompanied with the same ardour of pursuit. In short, the same causes excite to somnambulation, which, in other cases, induce vehement dreaming. This analogy is still further extended by the fact, that drinking wine or spirits before going to bed, is, in some persons, the exciting cause of somnambulation.

The history of somnambulism, properly so called, is interesting, as it respects physiology, and affords a number of curious facts and incidents; but it is chiefly because similar phænomena display themselves during the waking hours, or in connexion with some constitutional disorder, that we are now concerned with this subject; and it is now time to direct our attention to

* I have learned this fact by personal inquiry. I know a family in which several individuals have been sleep-walkers. The same assertion is made by Hoffmann.

these particular circumstances. I shall close this section with two observations, on which some cases, afterwards to be adduced, will furnish a commentary.

1. Several cases are on record, and some have occurred in my own practice, in which a person, in his waking hours, has been suddenly seized with a fit of insensibility to external impressions; during which his condition, in every respect, resembled that of the sleep-walker. These fits suddenly terminate; the person is awakened, and generally recollects little or nothing of what has passed. As this affection cannot properly be denominated somnambulism, I shall distinguish it by the term ecstasis.

2. Both somnambulism and ecstasis, but particularly, as I believe, the latter, are frequently connected with a disposition to epilepsy. Where they do not coexist with epilepsy, they often seem to stand in the place of it, and to depend on those particular circumstances of the constitution which are the fundamental causes of epilepsy.

SECTION II.

Of Ecstasis.

It is remarkable that there should be in pathology so near a relation between epileptic and maniacal affections, as their frequent conversions into each other, and the similarity of circumstances under which they originate seem to point out, while the phænomena of the two diseases have little or no material

resemblance. The affection I am now about to describe seems to be a sort of connecting link between them. In some of the most observable circumstances its paroxysms resemble epileptic attacks: at the same time the phænomena, which display themselves during the fit, are nearly allied to those of ecstatic mania. I cannot better explain my meaning in this remark, than by relating a case which occurred lately at a school within a few miles of Bristol.

T. R——, a boy between thirteen and fourteen years of age, of melancholic temperament, dark hair and eyes, delicate constitution, possessed of good natural talents, was observed to be, for some time, under great anxiety, in consequence of finding himself scarcely able to perform the tasks allotted to his class in the school, and to exert himself with great eagerness. One day in February, 1821, on going out, soon after breakfast, with his school-mates, he suddenly exclaimed that somebody was beating him on his head: he staggered and fell: his companions led him into the house. This was the commencement of a paroxysm, which continued several hours, and was the prelude to a series of similar attacks. The most remarkable phænomena of these fits were the following: —

They generally occurred towards the early part of the day, and in the afternoon left him nearly free from any appearance of disease. He was aware of the approach of the paroxysm, and used to say that he perceived a mist, or darkness, before his eyes, and was then going off. He then immediately fell into a state of reverie, and became more or less uncon-

scious of external impressions. During this fit he sometimes repeated his lessons, evidently fancying that he was saying them to his tutor On those occasions he repeated lessons which he had actually gone through in the school. Sometimes he fancied himself playing on a flute, and blew and moved his fingers, though he had nothing in his hand. It was then observed that the movements of his fingers actually corresponded with the notes of the tune which he supposed himself to be playing: if a flute was put into his hands he would use it. Occasionally he would call to other boys, whom he fancied he heard accompanying him, and tell them they were playing out of tune. Sometimes he seemed to be playing at cricket, and would run after the ball. When he came to a wall he would run up against it; and, though stopped, would still continue to move his arms and legs, as if running, being unaware that his progress was arrested. Once or twice he repeated a long conversation, which he had held with his father three years before, on a subject which interested him much. His father, who had come to the school to see him, heard it, and remembered the occasion on which it had really taken place. In these conversations he made pauses, during which it appeared that he heard replies. He often had his eyes open and fixed, when it was evident that he did not perceive external objects. Yet he possessed the power of perception, when the train of his thoughts led him, by a voluntary exertion, to direct his attention to external circumstances. Thus, when he played on a flute, several boys were desired to accompany him, or play to him, by way of experi-

ment, and it was evident that he heard and listened to them. If any body attempted to interrupt him, or break in upon his reverie, he would sometimes scream out, and express great impatience.

After remaining in this state some hours, he was seen to start suddenly with a general movement of the body, and he then immediately recovered his usual state of consciousness. He never retained the slightest trace of any occurrence which had taken place during the paroxysm, and would even express surprise at finding himself in a different place from that in which he was situated at its commencement. Once or twice he expressed wonder at the lateness of the hour, not being aware of the lapse of time which had taken place during the paroxysm.

During the intervals of the fits he was impatient of a strong light. He generally slept soundly, but once or twice rose from his bed and walked in his sleep.

He was thought to be somewhat relieved by having his head shaved, and by the application of leeches. After he had been affected as above some weeks, he was taken by his father to a distant part of the country; and I understand that the physician who has since attended him considered his disorder as depending on a disordered state of the intestinal canal. He has subsequently displayed slight symptoms of a maniacal description*.

* I did not see this case. Happening to be summoned to a patient at the house where it occurred, soon after the boy had left the school, I heard of it, and took pains to collect an accurate account of the circumstances and history of the case from several persons who were eye-witnesses.

The symptoms with which this singular affection commenced, in the first instance, and the mode in which the paroxysms recurred, the premonitory sensations which ushered them in, are all like the circumstances of epileptic attacks. The subsequent obliteration of all the impressions received during the fit, and even of the occurrence of the fit itself, is a phænomenon which also characterizes the whole class of disorders to which epilepsy and catalepsy belong.

But a circumstance, which more unequivocally connects the species of disease I am now considering with epilepsy, is the fact that they have, in many instances, been combined in the same individual, or may be said to have passed into each other. The fits of delirium to which epileptics are so frequently subject, may, perhaps, be more nearly allied to this affection than we generally suppose: but I am now adverting to a kind of paroxysm which is of a more decided character.

The following case will afford an example of these remarks. It was an instance of ecstasis occurring in conjunction with epilepsy: the exciting cause appeared to be intestinal irritation, which had occasioned a morbid plethora in the vascular system of the brain.

Robert Summers, aged forty-six. An out-patient at St. Peter's Hospital, Feb. 11, 1820.

A man of middle stature and bulk, of sanguineo-melancholic temperament, by trade a carpenter, in general of temperate habits, but sometimes intoxicated with beer. Nearly three years ago, in the spring, when walking about,

he fell down in an epileptic fit, and remained insensible for some hours. About three months afterwards he had another fit. These attacks have, of late, recurred frequently.

Present state. — Countenance anxious and distressed; face bloated, and of purplish hue; head is at present cool, though frequently hot; tongue furred at the back part: pulse at the wrist small, feeble, frequent: feet generally cold; bowels constipated: he complains of pain across the forehead.

He is just recovering from a singular state of reverie, in which he has passed twenty-four hours. It began in the evening with a rigor, which continued more or less the whole night: from that time he remained constantly in motion, walking up and down the room, or about the house. He kept his eyes open, but was unconscious of external impressions; sometimes muttered to himself, and by his gestures, and the motions of his hands, it appeared that he fancied himself to be working in his usual occupation. In this state he remained all the ensuing night, and a part of the following day. During that time he never ate or drank any thing in a natural manner: he sometimes caught hold of a piece of bread, and having bitten it hastily, threw it down, and drank in the same way, immediately continuing his work. If he was spoken to, he was some time without taking any notice, and then would reply hastily, as a person does who is disturbed by a question, when in a reverie.

He became, at length, completely fatigued by this long continued exertion, and gradually recovered his consciousness: he then complained of headache, but had not the slightest recollection of what had passed during twenty-four hours. When he heard the persons who were about him speaking of his walking about, he asked what they alluded to.

He was ordered to have his head shaved, and twenty leeches applied to the temples, to use the pediluvium, and take a dose of calomel at night, and one of Epsom salts in the morning.

12. Bowels freely purged; stools very offensive. Says he is better, and feels lighter: has still a sense of weight across the forehead.

Twelve leeches to the head.
A blister to the nape of the neck.
Repeat the medicines.

13. Well purged; stools not so dark or offensive: says he is another man, but has still a weight across the forehead.

28. He has had occasional returns of his fits, though not so frequently, by far, as heretofore; and he has occasionally relapsed into a state of stupor and reverie, like that before described. He has been several times relieved by topical bleeding and purgatives. He is now quite intelligent, and gives a circumstantial account of the history of his disorder, as far as he has been aware of it. On Saturday last (this is Monday) he had one slight fit.

Aug. 29. This man was relieved, for the time, from the oppressed state of his brain, by unloading the bowels, and by moderate local depletion applied to the head; but he is still subject to occasional recurrences of epileptic fits. An attempt has been made to get him into the Hospital as in-patient, in order to try more advantageously to relieve his disorder, but he would not consent.

Two curious and interesting cases, which also exemplify the connexion of ecstasis or somnambulism with epilepsy, are related by Dr. Martinet, in the Bibliothèque Médicale. The following is an abstract of the most important particulars.

CASE I.

—— Massy, a saddler, aged twenty-five years, born of parents free from any cerebral disorder, experienced, when thirteen years old, violent terror from an accidental cir-

cumstance. Three days afterwards, having suffered some vexation, he was seized with convulsions, and subsequent insensibility, which continued three quarters of an hour. Soon afterwards a second attack occurred, and the paroxysms then returned every day for some weeks, and were brought on by any mental irritation; the duration of the fit continually increasing. In other respects his health was good. He then, for three months, used a cold bath, and in the third month had not suffered a single attack. They ceased entirely until the nineteenth year of his age, when he became a somnambulist, working during the night at his trade as a saddler, getting out on the roof of the house, going out to walk, and occupying himself in a thousand various ways. Soon after this the fits of epilepsy reappeared, recurring every five or six days, increasing in duration, and commencing from that time only with a sensation of heat, which, from the epigastrium, rapidly extended to the head, and produced complete insensibility. He was, at various times, relieved by bleeding; and, in the 24th year of his age, being then a soldier, escaped three months without a return of his epilepsy. In the following year he was much astonished to find himself, one night, on the roof of the house, wet with rain: the impression which he thence conceived, produced some time afterwards an attack of epilepsy, followed by contraction of his fingers and toes.

CASE II.

J. Beatrix, twenty-two years of age, born of parents who have never manifested any particular cerebral disorder, experienced, for the first time, after a fit of terror, complete loss of sensibility.

When fourteen years of age, being apprenticed to a watch-maker, he sought for a shoe-brush one day to clean a watch with it. His master, surprised, gave him a blow, which occasioned, a second time, a fit of insensibility.

After five minutes he recovered, but had no recollection of the circumstance which had given rise to the attack. Three months afterwards he became subject to fits of somnambulism, which recurred about every fifteen days. They commenced with a sense of heat, extending from the epigastrium to the head, followed by confusion of thought, and complete insensibility. During the fits his eyes were fixed and open, and he was employed in all the affairs which formed the subject of his usual occupation. On awakening he was much surprised to find his work in a different state from that in which it had been before the commencement of the paroxysm. Sometimes, however, he recalled the impressions which had presented themselves most forcibly. Between the age of twenty-one and twenty-two he became subject to paroxysms of genuine epilepsy; and since that time the fits of epilepsy and somnambulism have happened very frequently*.

Dr. Darwin has related two remarkable examples of ecstasis, or somnambulation, one of which considerably resembles the case of T—— R——, above described; it occurred in a boy about nine years old, and was supposed to proceed from worms. The first symptom was a pain near the umbilicus, which was followed by a sort of convulsive movement of the arms and legs, like swimming; a reverie ensued, during which the boy sang, and fancied himself hunting or jumping: the fit terminated in a stupor, and he then suddenly came to himself, with great surprise, and seemed quite ignorant of what had passed. The

* This account is somewhat abridged. The reader will find a complete translation of it in the forty-second volume of the London Medical and Physical Journal, page 166, from whence I have taken the extract.

other case was that of a young lady, aged seventeen years, of sanguine temperament: it was combined with epilepsy, and came on soon after the period of menstruation. The paroxysms began with vehement convulsions, which suddenly gave place to a fit of reverie: during this she repeated poetry, conversed with imaginary persons with her eyes open, and could not be brought to attend to the stimulus of external objects by any kind of violence which it was proper to use. In this instance also the termination of the paroxysm was accompanied by the appearance of inexpressible surprise.

SECTION III.

Of the Pathology and Treatment of Somnambulation, and Ecstasis.

It appears to me sufficiently proved, that the affections I have described, particularly ecstasis, are nearly connected with epilepsy, and depend on a slight modification of the proximate cause of that disease. The state of the brain, which gives rise to epileptic paroxysms, cannot be very different from that which excites the fit of walking reverie. Whether this last state of the brain is more or less remote from the condition of health, than the state of the same organ which is peculiar to epilepsy, we cannot determine. The fits of more distinct and complete delirium, or raving madness, to which epileptics are subject, appear

to be a more severe form of disease than the paroxysms of epilepsy themselves.

We may venture to lay it down as probable, that ecstasis also may occasionally proceed from any of the remote causes, or predisposing states of the system, which give rise to epilepsy.

We have, in the case of Summers, an instance of ecstasis from intestinal irritation. The state of the natural functions appears in this instance to have been similar to the condition that belongs to enteric epilepsy. I cannot affirm the case of the boy, mentioned by Darwin, to have been of this description; but it seems very probable from the symptoms that accompanied the attack.

2. When this disease occurs in young females, especially in those of sanguine temperament, we have strong reason for suspecting it to be connected with disorder of the uterine functions. The liability to a variety of hysterical, and pseudo-maniacal disorders, which is known to depend on a similar cause, would be enough to excite this suspicion; and although we have the history of only a limited number of cases, yet there is enough to confirm it. The female, mentioned by Darwin, was of the sanguine temperament; she was seized by her disease just after the flow of the catamenia: but in the following case, which occurred under my care at the Bristol Infirmary, it was evident that fits of ecstasis arose from a defect in the periodical function of the uterus.

Silvia Flook, out-patient at the Infirmary, August 27, 1820.

A girl of pale sallow complexion, twenty-five years of age, who has, for five years, been subject to fits of a singular description, which affect her chiefly during her sleep. She rises from her bed and walks about, and often makes violent efforts to go out of the house; which she would do if not prevented by her friends. At these times she is in a state of great agitation; laughs aloud, sings, and utters cries: she does not weep, nor is she distinctly affected by the globus hystericus; though she says that she sometimes is troubled with a sense of tightness about her throat. After no long time her agitation subsides; she recovers herself, and is then always unconscious of all that has happened.

A similar affection sometimes occurs in the day, and while she is awake. She then gets up and walks about, without knowing whither she is going; and after the fit ceases, she has no recollection of what has occurred during it. She is troubled with stupor, and a sense of oppression on her head, with occasional vertigo.

State of natural functions, &c. — The catamenia have been wanting during three or four months. When they appear they are very scanty: this happened about a month ago. She has of late suffered much from a violent pain, which seizes her in the sacrum. Pulse natural in number, but rather harder and fuller than natural. Abdomen tumid. Bowels constipated. Appetite deficient.

If this woman had been an in-patient I should have prescribed venesections, with the warm-bath, and saline laxatives and antimonials. As she was an out-patient it was necessary to adapt measures to circumstances.

Ven. Sec.—fluant sang. ℥xvj.
Pil. Cath. o. n.
Mist. Cath. — M. M. c. Rheo. aa ℥j. ter indies.
Spir. Ammon. Fœt. ʒj. p. r. n.

Second Report.—Sept. 3. Somewhat relieved by the bleeding and purging. Feels lighter and better. Still gets up and walks almost every night, and sometimes in the day-time. Pulse 100, rather full. Tongue rather white. Appetite much better.

Repeat the medicines.

6. Bowels opened six or seven times in a day. She is better. Pulse regular and natural. Tongue clean.

Pilul. Cath. o. n.
Emuls. Terebinth. 4tâ quâque horâ.

9. Is on the whole better than she was. Tongue clean. Had yesterday headache. She has the fits at night as before, but not by day. Pulse quick and full.

Venæ Sect. — fl. sang. ℥xvj.
Repet. med.

16. Rests well by night; troubled by agitation in the day, but not so severely as formerly. Bowels not sufficiently open. Appetite good. Tongue clean. Strength increased.

Mist. Cath. manè quot.
Repet. Emuls.
Spir. Ammon. Fœt. ʒj. when the symptoms of her disorder appear.

30. Has vertigo; yet says she feels lighter and better since she has lost blood. The catamenia are still wanting. The fits of her disorder come on as before. This morning she began, while standing at a washing tub, to sing and talk to herself, and walk about the house. When the fit was over she recollected nothing of what had passed.

V. S. et fluant ℥xvj.
Empl. Lyttæ Nuchæ.
Mist. Cath. ter indies.

Oct. 7. Two days after the bleeding the catamenia began to flow, but ceased again after two days duration. Vertigo relieved. Sleeps better. Has had two attacks of somnambulism.

21. Fits of somnambulism rather more troublesome by night; do not trouble her by day. Pulse full, and quick.

Refuses to be bled or have a seton in her neck. Seemed offended when these measures were urged; and, from her manner,

I conjectured that she would not attend again, which proved to be the case.

I saw no more of her.

A case of very similar character has been described by Lorry, who was himself an eye-witness, and the account has been extracted from his work by Sauvages. As it occurs precisely on the point in question, and stands on the most creditable authority, I shall subjoin a translation of it.

" A woman, who had scarcely had any appearance of the catamenia, and had never borne any children, fell repeatedly into fits, which were unaccompanied by any severe convulsion: during these paroxysms she would talk, and was accustomed to address herself to some one individual present, with whom she conversed, at first, in an obscure voice, but afterwards in a distinct and audible manner. She evidently perceived him, and observed all his gestures, but all she said to him bore a reference to one idea, on which she was intent. In the mean time she appeared not to see or hear any other person, even if he exerted his voice to the utmost to make himself heard. This fact," says Lorry, " I witnessed with the greatest astonishment; but many other persons are living who can attest it. The mother of this female died unexpectedly; after which the daughter used to hold conversations with her, as if she were present; she would answer questions, as if interrogated by her mother; would entreat her to take care of her health, and recommend some physician, as more able to restore her than others: moreover she would talk to her mother of her destined marriage, although it had already been some time completed, in a manner perfectly like that of a sane and modest young woman; making some objections to it, replying to others,

and appeared to be revealing all her secret wishes: in a word, she seemed perfectly collected and rational, excepting the error respecting time, and the supposed presence of her mother. This woman had, in other respects, good health, but was afraid of the smallest noise, and was easily affected by any thing she saw or heard. At length she fell into a consumption, and, at the first onset of febrile disorder, all her nervous symptoms left her."

The same author relates another case similar to the foregoing, except that it was complicated with symptoms of catalepsy. The woman, who was the subject of it, fell into a state of somnambulism; during which she was so insensible to external impressions that she could not be excited to attention by pinching, or even pricking her. She conversed aloud, and with her eyes open, with absent persons, supposing them to be present, yet had those perceptions to which the course of her reverie directed her. If her fingers or her arms were extended, or placed in a certain posture, they retained their position, until it was changed in consequence of some voluntary movement of the limb. After the fit she lost all recollection of what had passed."

3. I think there can be scarcely any doubt that other sources of disease, which give rise to various forms of epileptic and maniacal affections, may also occasion fits of ecstasis and somnambulism; but I am not in possession of any facts which further illustrate the pathology of this affection.

With respect to the medical treatment of this complaint little need be said. It is sufficient to refer the reader to the observations already made on the ana-

logous cases of epilepsy and mania. When the disorder proceeds from intestinal irritation, or affection of the alimentary canal, it must be treated on the principles laid down in the sections on enteric diseases of the maniacal or convulsive kind. The indications of cure are to restore the functions of the abdominal viscera to the healthy state, and to remove the vascular plethora, with which the brain has become affected. When this complaint is connected with the state of the uterine system, it must be treated according to the rules laid down in the section on uterine epilepsy.

NOTE ON CHAPTER XII.

THE contents of the last chapter will, perhaps, have sufficiently explained my remark on the analogy between ecstasis, or somnambulism, and certain forms of mania. I mean those cases in which the intensity of reverie is so great as to withdraw the attention of the lunatic from external objects, and employ him exclusively in those acts to which the course of his phantasy directs him. And this consideration throws an additional light on the nature of that deviation from the healthy state of the intellectual operations in which madness consists.

The analogy I have alluded to is very curiously illustrated by some interesting facts, related in the first volume of the American Journal of Science, which has just come to my hands, through the kindness of the editor, Professor Silliman, of Yale College. As this work may not be in the possession of some of my readers, I shall take the liberty of extracting the cases I allude to.

CASE I.

Some years ago a farmer, of fair character, who resided in an interior town in New England, sold his farm, with an intention of purchasing another in a different town. His mind was naturally of a melancholy cast. Shortly after the sale of his farm, he was induced to believe that he had sold it for less than its value. This persuasion brought on dissatisfaction, and eventually a considerable degree of melancholy. In this situation one of his neighbours engaged him to enclose a lot of land, with a post and rail fence, which he was to commence making the next day. At the time appointed he went into the field,

and begun, with a beetle and wedges, to split the timber, out of which the posts and rails were to be prepared. On finishing this day's work, he put his beetle and wedges into a hollow tree, and went home. Two of his sons had been at work through the day in a distant part of the same field. On his return, he directed them to get up early the next morning, to assist him in making the fence. In the course of the evening he became delirious, and continued in this situation several years; when his mental powers were suddenly restored. The first question he asked, after the return of his reason, was, whether his sons had brought in the beetle and wedges? He appeared to be wholly unconscious of the time that had elapsed from the commencement of his delirium. His sons, apprehensive that any explanation might induce a return of his disease, simply replied, that they had been unable to find them. He immediately arose from his bed, went into the field, where he had been at work a number of years before, and found the wedges, and the rings of the beetle, where he had left them; the beetle itself having mouldered away. During his delirium his mind had not been occupied with those subjects with which it was conversant in health.

CASE II.

Mrs. S——, an intelligent lady, belonging to a respectable family in the State of New York, some years ago undertook a piece of fine needle-work. She devoted her time to it, almost constantly, for a number of days. Before she had completed it she became suddenly delirious. In this state, without experiencing any material abatement of her disease, she continued for about seven years, when her reason was suddenly restored. One of the first questions which she asked, after her reason returned, related to her needle-work. It is a remarkable fact, that during the long continuance of her delirium she said

nothing, so far as was recollected, about her needle-work, nor concerning any such subjects as usually occupied her attention when in health.

CASE III.

A lady in New England, of a respectable family, was, for a considerable period, subject to paroxysms of delirium. These paroxysms came on instantaneously, and after continuing an indefinite time, went off as suddenly, leaving her mind perfectly rational. It often happened that when she was engaged in rational and interesting conversation, she would stop short in the midst of it, become in a moment entirely delirious, and commence a conversation on some other subject, not having the remotest connexion with the previous one; nor would she advert to that during her delirium. When she became rational again, she would pursue the same conversation in which she had been engaged during the lucid interval, beginning where she had left off. To such a degree was this carried that she would complete an unfinished story, or sentence, or even an unfinished word. When her next delirious paroxysm came on she would continue the conversation which she had been pursuing in her preceding paroxysm; so that she appeared as a person might be supposed to do who had two souls, each occasionally dormant, and occasionally active, and utterly ignorant of what the other was doing.

END OF PART THE FIRST.

APPENDIX.

For the sake of brevity, I have generally used, in the foregoing pages, short terms for hospital formulas. It is necessary here to indicate their composition.

[*As it is only necessary to express the relative, and not the positive quantities, I shall by* x *denote an indefinite quantity. The doses marked down are those understood to be given in all cases where no dose is specified. Pills are of five grains; draughts of* ℥iss.]

Pilulæ Catharticæ.—Extr. Coloc. Simpl.—Hydrarg. Submur.—āā x. Aloës Soc.—Scammon.—āā 2 x. Dos. 3 Pil.

Pilul. Aperient.—Quæ suprà, omisso submuriate.

Pil. Hydrarg. laxant.—Pil. Hydrarg.—Extr. Coloc. Simplic.—āā. x. Dos. 3 Pil.

Pulv. Cath.—Jalap. 4 x.—Hyd. Sub. x. Dos. gr. xxv.

Emulsio Terebinth.—before described. Dos. ℥ss.

Pulv. Febrif.—Pulv. Antim.—Hyd. Subm. āā. x. Dos. gr. x.

Pulv. Laxans.—Pulv. Rhei.—Magnes. Carb. āā. x. Dos. gr. xx.

Mist. Salina.—Potass. Tartrat. ʒj. in haust.

Mist. Salin. Antimonial.—Idem cum Antim. Tart. gr. ¼. 4tâ quâq. horâ.

Mist. Salin. Ant. c. T. Scill.—T. Scill. ʒss. in dosib. sing.

Mist. Sal. Antim. Opiat.—Syrup. Papav. vel Opii. ʒj. in dos.

Mist. Laxans Antim.—Idem, Magnesiæ Sulphate pro Tart. Potass. mutato.

Mist. Cathart.—Infus. Sennæ c. Magn. Sulph. ʒij. et Tinct. Jalap. ʒj. Dos. ℥iss. ter indies.

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