

**Epilepsy : in what class of cases, and under what circumstances, may we reasonably hope for cure in epilepsy? / by William Camps.**

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**Publication/Creation**

London : H.K. Lewis, 1866.

**Persistent URL**

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# EPILEPSY:

IN

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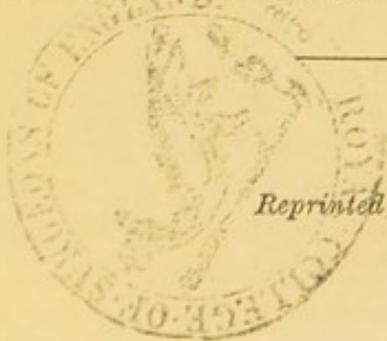
## CURE IN EPILEPSY?

By WILLIAM CAMPS, M.D., F.L.S.,

MEMBER OF THE ROYAL COLLEGE OF PHYSICIANS, LONDON; AUTHOR OF ESSAYS AND REVIEWS  
ON MORBID AFFECTIONS OF THE BRAIN, SPINAL CORD, AND NERVES, INCLUDING  
THEIR PATHOLOGY AND TREATMENT, ETC. ETC.

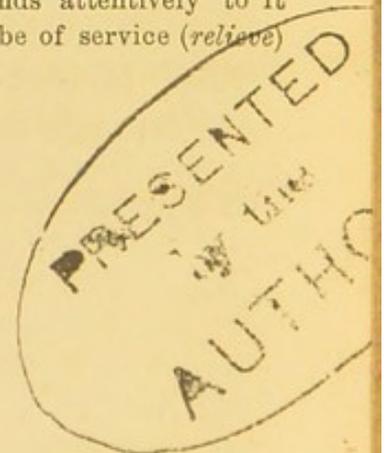
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"I firmly believe that if physicians would apply their minds attentively to it  
(Epilepsy), they might *cure* a great many Epileptic persons, and be of service (*relieve*)  
almost to all."—VAN SWIETEN'S *Commentaries*.



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Reprinted from "THE MEDICAL MIRROR."



LONDON:

PUBLISHED BY H. K. LEWIS, 136 GOWER STREET. W.C.

MDCCCLXVI.



## EPILEPSY:

### IN WHAT CLASS OF CASES, AND UNDER WHAT CIRCUMSTANCES, MAY WE REASONABLY HOPE FOR CURE IN EPILEPSY?

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THERE can, I think, be no reasonable doubt in the mind of observant and intelligent practitioners of the medical art, that diseases, disorders, and derangements of the nervous system have of late years greatly multiplied in number, if not much increased in severity of degree. More than this, not only have they greatly multiplied or increased, but perhaps it is not saying too much to assert that, even at this present time, they are still greatly upon the increase. From whatever cause or causes the increase in this class of diseases may arise, and it would not be a difficult task to point out some amongst others as tending to produce them, the fact, as it appears to me, remains indisputable. Some physicians affirm that formerly human beings—men, women, and children—were generally stronger and more robust, and less frequently attacked with disease than they are at the present time; in fact, according to the opinion of such, there was a less amount of disease altogether amongst mankind at large.

However this may have been, whether true or not, the causes which tend to produce diseases of one or more parts of the nervous system have greatly increased, and it is much to be feared that this increase does but keep pace, *pari passu*, with the everyday increase of population and of progressive civilization. Especially is this the case as regards residents in large towns and cities, in which the daily toils and burdensome anxieties of life make increasing demands upon the nervous energy and brain-power of all engaged in the struggle for life and position.

The older physicians do not, in their records of diseases, treat at length of diseases of the nerves; in fact, paralysis and convulsions of more or fewer parts of the body would seem to be all, or nearly all, the diseases of this class that they recognised as such, although a careful and attentive perusal of their writings will show, that they had observed and recorded many

diseases to which they affixed no names, and to which they did not, or could not, assign appropriate causes; diseases which, at the present day, by the aid of a more enlightened physiology and pathology, we know to belong to the class of nervous diseases; the phenomena they present to our observation indicating most clearly to the intelligent practitioner some lesion in the functions, if not in the organism, of the nervous structure of the human frame.

The ruder anatomy of the parts concerned in the class of disorders under consideration may be stated at once as simple, and far from complex, consisting, on the one hand, of the entire nervous mass of the human framework; and, on the other hand, of the blood-vessels that supply, and, in many cases, that accompany, the nervous mass in its grosser parts, or in its numerous ramifications throughout the body. In cases, however, of *impaired* or *perverted* motion, as in paralysis, and in convulsions for example, there is another anatomical element that must be taken into account, and this element is one that hitherto, in nervous diseases, has not received the attention that it obviously deserves. I mean by this, the muscular tissue, a tissue, the proper and healthy function of which is contraction or contractility.

By the nervous mass of the human framework will, of course, be understood the brain, including the cerebrum and cerebellum, the medulla oblongata, the spinal cord, the nervous ganglia, situated in various parts of the body, as well as the ramifications of the various and numerous trunks connected with the cerebro-spinal axis, and the great sympathetic or nerve of organic life.

The universally acknowledged importance of nervous affections, and the deep interest now felt in this extensive department of medical observation, as well as the active and refined inquiry devoted thereto, sufficiently warrant any amount of renewed attention to the subject, even supposing that little more than a renewed attention be asked and given to facts already known. The very intricacy itself affords one of those instances wherein new conclusions and a nearer approximation to truth may be rendered possible, we might even say probable, merely by recasting the order of these facts, regarding them from new points of view, and by using them in new or in different considerations.

In hospitals, and other kindred establishments for the reception and treatment of the sick, the student and practitioner commonly enough meet with affections of various parts or organs of the nervous system, yet, for the most part, those particular cases of this class of disorders which are there to be found are, by no means, such as come under observation and treatment in the course of daily professional life; in this latter condition,

that is in the great hospital of the world at large, many of these cases of affections of the nervous system present themselves to our notice under most troublesome, and frequently under very unsatisfactory conditions; in fact, they occasionally, and especially in very civilized life, are amongst the most intractable disorders that the practitioner can have to do with.

In my judgment, it is mainly by observing and recording such and similar facts and observations, that we can at all hope to unravel with success the almost inextricable perplexity in which at present many nervous diseases still remain. Nothing, I am convinced, will tend more to draw aside the curtain which as yet conceals from our clear, distinct perception of the true causation of nervous diseases, than a careful, patient, laborious observation and record of these symptoms and phenomena, as they present themselves to our notice, as medical observers and practitioners.

Be it observed, that very few, even of the worst cases, although attended with distressing and painful concomitants, are but seldom attended with immediate fatal results; and even if it were so, in my opinion, the ordinary after-death examinations of the body would do but little towards revealing to us the true causation of the diseases themselves, except in comparatively few instances: and, even in the living subject, whilst under medical care and treatment, the application of organic chemistry, and the use of the microscope from time to time will, I fear, likewise but in few instances, be productive of very fruitful and satisfactory results. Still, however, these valuable aids to diagnosis and treatment must not be neglected, and a proper value should be assigned to any pathological facts with which their application may happily furnish us. We must gladly avail ourselves of any and of every adjunct that may be reasonably expected to throw additional light upon our present obscurity, and so to rescue us from error and from ignorance, the two worst enemies to human health and happiness.

A better acquaintance with diseases of the nervous system, or, in other words, the removal of error and ignorance in regard to them, will do more than almost anything else to rescue many of our suffering and afflicted fellow human beings from the relentless hands of the pretenders to medical science and practice scattered up and down throughout the metropolis and the country at large.

The foregoing practical and suggestive question is the title of a paper read at a late meeting of the Harveian Medical Society of London. That paper, now very considerably abbreviated, constitutes the substance of the present communication to the *MEDICAL MIRROR*; and although thus condensed and shorn, as now, of

much minor detail, it is hoped that even in this form it may not be unacceptable to many of the readers of that Journal.

What is epilepsy? As commonly understood, epilepsy is a convulsive disease, in which, during each attack or paroxysm, there is a loss of sensation and of consciousness which is attended with convulsive movements of the body of more or less violence, and affecting, at the same time, fewer or more parts of the frame.

The seizure is very generally sudden and without warning; that is, the seizure or attack *per se*, although in very many cases the unfortunate sufferers are not without premonition of a seizure, and then expect the attack or paroxysm. Most generally the paroxysm is ushered in by a loud cry or scream of a very peculiar, remarkable tone or character; the patients instantly fall, losing all sense and consciousness, and are almost as instantly attacked with convulsions varied in a degree and kind, and affecting different parts of the muscular apparatus of the body.

It is needless, on the present occasion, to attempt a description of the epileptic paroxysm; this, of course, is to be found in all works that profess to treat of systematic Medicine, from Hippocrates, Galen, and Aretæus, through Sydenham, Boerhave, and Van Swieten, down to Marshall Hall, Copland, Watson, and Aitkin of our own day.

The more modern, recent writers on this disease, whose names are familiar to us in this country, are Brown-Séquard, Radcliffe, Russell, Reynolds, Sieveking; besides these authors of published works, there are to be found, scattered throughout the pages of medical, general, and periodical literature, many admirable contributions on this subject of nervous and cerebro-spinal pathology.

The essential diagnostic symptoms of an attack or paroxysm of epilepsy are complete loss of sensation and consciousness, attended with spasms, with convulsions more or less severe and extensive, affecting fewer or more parts of the muscular apparatus of the body.

This, as is well known, is a nervous disorder, which occurs in fits, as they are vulgarly called, or in paroxysms; and these fits or paroxysms seize the patient, sometimes after very short warnings, and sometimes without any warnings whatever, so that the patient falls down suddenly, as though struck down instantaneously. Hence, in vulgar, common language, these attacks have been denominated "falling fits."

Very commonly, but not always, the head is drawn on one side, with strong convulsive motion. Biting the tongue, foaming or frothing at the mouth, the foam or froth being often coloured with blood, are very frequent attendants upon the attacks or paroxysms when severe. The duration, the continuance of the epileptic attack or paroxysm, may vary from a few minutes to

in very bad, severe cases, a few hours ; still, this protracted duration of the attack does not, however, often occur, except in that variety of the disease called apoplectic epilepsy.

I have said that the cry or scream that ushers in, or precedes the attack is very peculiar and remarkable, and must be heard to be recognised as forming a part in the epileptic paroxysm. A very short time ago I was at Ealing, visiting a patient there, affected with another variety of nervous disorder, when, whilst walking in the village, waiting for the return train to town, my attention was suddenly arrested by a loud, peculiar cry, or scream, which informed me at once of something wrong in the nervous condition of some one or other, although I saw nobody near me. On looking along the road, however, as far as my eye could reach, I perceived two men, apparently engaged in a scuffle or struggle with each other in the middle of the high road. On approaching these two men, I discovered them to be an epileptic gentleman with his attendant ; the former having been seized with an attack or paroxysm of epilepsy, made known to me by the peculiar cry or scream which ushers in the seizure. This was as severe a paroxysm of the disease as any I had witnessed for a very long time.

When the spasms cease and the consciousness is restored, the patient does not at once recover the full use of his faculties, but commonly falls into a heavy sleep, from which he awakes with headache. Then in a few hours, or, at most, after a day, you will find him quite restored to his ordinary state. In bad cases, the intellectual powers are gradually lost, and more especially the faculty of memory. Besides paroxysms such as those just now thus briefly described, many persons subject to this disease have very slight affections, which are called *faint turns*, *le petit mal*, or by other names. In some of these, the attack of the affection is so slight, that very little, if any, change of the countenance is perceptible. In others, the face turns pale and then becomes very red, and the whole is over in a minute or two, or even in a less space of time than that. The shortness of the duration of these *faint turns*, these seizures of *petit mal*, is very remarkable. I have heard of the patient of one physician who experienced them very frequently when walking, or when engaged in conversation, while those around him discovered no change, no alteration whatever, in his appearance. The patient described them as consisting in a stoppage, an arrest of all action of the mind, analogous to stoppage of light to the eye by interposing a dense body suddenly before it. Many physicians, and amongst these must be mentioned Dr. Marshall Hall, appear to me, to have attached far too much importance, as regards prognosis, to these attacks of *faint turns*, or *le petit mal*.

A human being may be said to be liable to attacks of this

disease in proportion to the sensibility of the nerves of such individual: hence we see, that women and children, and weak persons, are more frequently attacked with this and with other convulsive diseases than are old people and strong, hearty, robust men and women. When the tendency of this disease is very great in the ganglionic portion of the brain and spinal cord, the attacks or paroxysms may be reproduced by exciting causes, so slight, as, under ordinary circumstances, would not suffice to produce them.

Occasionally, I fear we must say, and, perhaps, not unfrequently, epilepsy is, in the present state of our knowledge, absolutely *incurable*; but I am inclined to hope and believe that it is much less so than it is commonly supposed: and if we have hitherto been but little successful in its treatment, valid reasons may be advanced why, in many instances, our efforts to effect a cure have been comparatively unavailing. Have we sufficiently informed ourselves of the remote causes which produce the paroxysms, or of the precise nature of the exciting causes which renew, or re-excite the paroxysms? Have we given sufficient attention to the physical condition or to the temperament of our patients, whether liable to this disease? The *proximate* cause of epilepsy most certainly exists in the nervous system, in the brain, and spinal cord. Perhaps, even now, we must admit that the *exact* nature of this distressing affection of the nervous system is not known with absolute certainty; nor is it such as, necessarily, to leave behind it any organic changes discoverable after death. It is quite true that organic changes have been found in the brain and spinal cord after death, but these have been various in their seat, if not in their nature; and ought, therefore, to be considered as coincidents and not as proximate causes of the disease. They may have had some connection with the disease under consideration, but not that precise connection that ought to be considered as a proximate cause of the disease under consideration.

The passions, or moral emotions, and especially fright, fear or dread, sadness or grief, vexation, useless regret, and anxiety are said more frequently to produce the disease than mere physical disorder or derangement of some part or parts of the body; but I have commonly noticed, that wherever these former long exist, they become more or less connected with troublesome disturbances of a purely physical character. The emotional forms of epilepsy must all be ranged under this class; and under some fortunate circumstances many of these may be very amenable to successful treatment.

The paroxysm is very frequently preceded by different symptoms which denote, it may be, the beginning of some

confusion, embarrassment, or derangement in the head itself; or it may be the beginning of some kind or degree of irritation in various remote parts of the body; and, in this latter case, we may often be successful in checking or altogether preventing the attack, by the application of a sufficiently strong ligature *above* the place whence the irritation may commence. I have known this method adopted with great success in many cases; and at the National Hospital for Paralysis and Epilepsy, in Queen Square, I have frequently heard Dr. Brown-Séguard recommend its habitual use, in many cases of sympathetic or symptomatic epilepsy. The patient is ordered to wear a strap manufactured expressly, which, on the apprehended approach of the attack or paroxysm, may be almost instantly tightened, so as to exert suitable compression upon the part or limb which is the seat or primary source of the irritation.

Since the brain, the nerves, and the muscles suffer great fatigue consequent upon the paroxysms, if these should be frequently repeated, it is to be expected that the functions of these several organs, brain, nerves, and muscles should become more or less disturbed or disordered, hence we observe in such patients impairment of the intellectual faculties, especially of the memory, amounting in some cases to imbecility; we also observe various forms of diseases of the nerves, disturbed digestive functions, general weakness, and other disturbances of the system.

Epilepsy is produced by whatever may irritate the sensory nerves to that degree as to induce irregular, spasmodic, it may be convulsive action in the central nervous ganglia of the brain and spinal cord, and through these central ganglia the motor nerves and the muscular apparatus. The extent to which this susceptibility to irritation exists in some persons is almost inconceivable, except to those of us who may have witnessed it in some of our patients. I remember to have read of one unfortunate epileptic female, who was so distressingly susceptible of irritation, that it is said she could not be touched in any part of her body with a needle or any other pointed instrument without being thrown into an attack of epilepsy. Although I have myself never witnessed so extreme a case as this in epilepsy, yet in the hysterical, which, pathologically, is near of kin to the epileptic, I have witnessed irritation almost as excessive.

These exciting causes may have their seat either in the brain or spinal cord themselves, and thus act *directly* upon these organs, in which case, so giving rise to *idiopathic* epilepsy; or these exciting causes may have their seat in various remote parts or organs of the body, either internal or external, so producing what is termed *sympathetic* or *symptomatic* epilepsy; consequently

this latter class of causes must of necessity be very numerous, and may be placed either in the fluids or in the solids of the body. It is to this latter class of cases to which I wish to direct especial attention, as offering such reasonable grounds for hope of successful result in our treatment of this disease. This latter class of cases—cases of *sympathetic* or *symptomatic* epilepsy—is very extensive, and comprehends, I believe, a very large portion of all the cases of this disease that are commonly met with in practice; thus holding out to us, as well as to our patients, reasonable prospects of relief, if not of recovery.

The exciting causes of epilepsy are better known to us than the proximate cause; still, we cannot, in every instance, satisfy ourselves even as to these. It would really seem that almost any cause seriously disturbing the body or the mind, in an epileptic subject, may give rise to a paroxysm. Errors in regard to diet are amongst the exciting causes most commonly observed; great fatigue, too, is to be ranked as amongst the number of exciting causes.

In order to proceed satisfactorily in the treatment of this disease, we must, in the first instance, at the onset, ascertain by careful study and observation whether it be of the *symptomatic* or *idiopathic* class, whether it be due to some exciting cause or causes, existing at a distance from the ganglionic centres of the brain and spinal cord, and through the agency of sensory nerves so affecting these great central nervous organs, as to cause undue action of the motor nerves that are connected with them, thus constituting *sympathetic* or *symptomatic* epilepsy; or, on the other hand, whether the disease be due to some *exciting* cause operating *at once* and *directly* upon the central nervous ganglia of the brain and spinal cord, exciting therein undue irritation, thereby constituting *idiopathic epilepsy*. It is, moreover, needful to observe with attention what may be the accidents in various parts of the body which operate so as to reproduce from time to time the paroxysms of the disease, as well as the errors or defects of constitution or temperament which affect the patient so as to render him or her more than commonly liable to attacks of the disease in question. In order to effect a cure, if the case be one of the *sympathetic* or *symptomatic* character, we must, by the various means in our power, remove or destroy the exciting cause which produces the attack. If the case be one of the *idiopathic* variety, it is of all things necessary to enjoin the strictest attention to diet and regimen.

In regard to diet and regimen, little can be added to the judicious advice given hundreds of years back by Celsus, in his work *De Medicina*. He recommends to the epileptic to eat moderately, and very little meat; to avoid the direct rays of the sun, very hot baths, very hot fires, heated apartments, wine—in

fact, everything that produces undue elevation of temperature—venereal excesses, cold, standing upon precipices and lofty places, everything that may operate so as to produce fear, dread, fright, fatigue, uneasiness of mind, anxiety, and undue application to business. Could much, if anything, be added to such judicious comprehensive advice of the old Roman physician?

A chief, leading, primary object to be attained in the successful treatment of epilepsy is to effect, if possible, the removal of those causes which determine, not only the formation of too much blood in the frame, but also, and what is even of far more importance, its too easy and rapid movement through the brain and upper portion of the spinal cord; in other words, it is of the greatest importance, as far as possible, to regulate the circulation of the blood in the head. Those causes which are generally admitted to favour the determination of blood to the brain and upper part of the spinal cord are its too rapid movement through these organs, and its obstructed circulation in some other part of the body—an obstruction produced, it may be, by some derangement of the natural secretions, it may be, by some imperfect action of the blood-vessels, retarding free circulation of the blood in the extremities; or, it may be, by spasm or irregular contraction of the blood-vessels in one or more parts of the body other than in the extremities, for instance, in one or more of the muscular or visceral organs of the frame. Too much attention can scarcely be directed to secure the attainment of this most important object, in all cases of epilepsy, whether *symptomatic* or *idiopathic* as to class.

The limits of my present communication do not admit of much being said in detail on the important subject of treatment; yet, of all kinds of remedies, none, in my judgment, will be found so persistently efficacious as a very particular attention to diet, which should be of the mildest, simplest, most unirritating description, taken with great moderation at ordinary meals. This attention to diet I enjoin, *cum omni imperio*. In persons liable to attacks of epilepsy, it is striking how often these recur after well-ascertained irregularities in regard to articles of diet; and in such persons it is as striking what heavy penalties they have to pay in the shape of paroxysms of the disease for partaking of comparatively common articles of food, which do no harm to healthy persons.

The two main objects of treatment must be—first, to allay or remove all sources of irritation; and secondly, to impart tone to the system. For the successful accomplishment of these two chief necessary results, all the appliances of our art, medicinal and regimenal, must be brought under tribute, and in many cases must be exerted with much patience and perseverance.

Of medicines, of drugs, we must most assuredly give the palm to the bromide of potassium, and after that, in my opinion, to bella-

donna, with its alkaloid—atropia—and its salts, such as the sulphate and valerianate of atropia ; these act, as is now well known, as sedatives in cases of undue nervous excitement or irritation. The sulphate and the oxide of zinc have been much vaunted as remedies in cases of epilepsy, and on occasions have been thought to do good service; but their real value is still very doubtful.

*Sympathetic* or *symptomatic* epilepsy is in general much more susceptible of successful treatment than the *idiopathic* variety of the disease ; and I think it may be affirmed that this variety of the disease may be almost always successfully treated when the cause which produces it is not in itself incurable ; when the part in which the cause is seated can be safely removed, unless, indeed, the disease shall have existed a very long time, since, in such case, it is to be feared that the brain and spinal cord may have acquired, by frequent, habitual repetition of the paroxysms, a strong epileptic tendency or disposition. Should this be so, that is, should this epileptic tendency or disposition have been contracted to such an extent as to be confirmed, then, indeed, the removal or destruction of the primary original cause may not suffice for cure, since other causes, originally much less considerable or efficient, may then suffice to reproduce the disorder. Those cases in which the paroxysms are produced and reproduced by any well-ascertained solitary cause, capable of destruction or removal, even although such cause be in itself a strong or violent one, are much more amenable to successful treatment than that class of cases in which the paroxysms are produced and reproduced by causes so slight or trifling, as it is all but impossible to assign to them their real value or importance as factors in the production of the disease. Such great readiness or tendency, such extreme susceptibility to reproduction of the paroxysms, denote an unusually irritable condition of the brain and spinal cord, and may well bid the sternest defiance to our therapeutic resources, however skilfully devised and perseveringly applied.

The causes giving rise to the *sympathetic* variety of the disease may be seated in the stomach, in the intestines, in the liver and gall-bladder, in the spleen, in the kidneys, in the urinary bladder, in the organs of generation, and elsewhere in the interior of the body. If situated in the exterior parts of the body, they may be seated at the top of the head, in the upper lip, in the breast, the shoulder, the arms, forearms, or fingers, in the groin, the thigh, and the leg, or in different parts of the foot. The causes giving rise to the *idiopathic* variety are situated within the cranium, so as *directly* to affect the brain or upper part of the spinal cord, the medulla oblongata, or the sensorium communa ; and these may be very numerous, including injuries of various kinds, ossifications, syphilitic or scrofulous or cancerous deposits,

morbid growths or productions in almost endless variety, affecting either the cerebral mass or masses, or their investing membranes. The operation of the passions, as productive of epilepsy, must be ranged in this category, as acting *directly* upon the brain, or by means of alteration in the quantity or rate of movement of blood through the central mass or masses.

In my own opinion, there is no class of cases of epilepsy more amenable to appropriate treatment than that which owes the production of the disease to the syphilitic virus or poison in some part or organ, either solid or fluid, of the body.

Some of the most completely successful cases of this disease that I have witnessed have been in persons who have had epilepsy in the adult period of life, after having been the victims of syphilis in some form or another, affecting some part or parts of the body. The appropriate and successful remedy in such cases, I need scarcely say on the present occasion, has been the well-established anti-syphilitic remedy, the iodide of potassium, given in gradually augmented doses.

From what has been already thus briefly advanced, it will be, I think, most readily inferred that the circumstances under which, and the class or classes of cases in which, we may hope for cure in epilepsy are :

*Firstly.* Those in which the primary source of the disease is such as to give rise to the form known as *sympathetic* epilepsy. In any of this class we may, as it seems to me, if the true primary source of the disease be accurately determined upon, very reasonably hope for complete cure of the disease.

In this class of cases, I should place all those sources of irritation seated either in internal organs or external parts of the body to which I have previously adverted, whilst speaking of the causes of this form of epilepsy.

*Secondly.* That class of cases in which the disease derives its origin from the presence of syphilitic virus in some part or parts of the system.

*Thirdly.* Those cases of *idiopathic* epilepsy in which, though the disease be seated in the brain and spinal cord themselves, yet where, at the same time, the paroxysms are milder and unfrequent, and wherein the epileptic tendency or disposition may not be confirmed, either by acquired habit or by hereditary predisposition.

The facility to acquire the aptitude or tendency to epilepsy depends greatly upon age and upon sex. There are, however, some individuals of both sexes so fortunately constituted as to their physical framework, so strong, so robust, in whom the nervous system is so well developed, as not to be affected with undue mobility, and not to be unduly affected either by external or internal impressions ; and in whom the muscles are so firm

and tense, as not easily to be susceptible of undue contraction, so as to be thrown into states of convulsion, and who, consequently, do not appear to be susceptible of attacks of nervous diseases, unless from the application of unusual and, it may be, really accidental and uncommon exciting causes. In these rare and fortunate individuals, we are almost compelled to admit the persistent existence of that natural and beautiful harmony of part with part which characterises good sound health ; a healthy harmony existing between the blood on the one hand, and the nervous masses on the other ; such a harmony as enables each part to perform its appropriate function in the human economy, and thus enabling the individual to possess and enjoy a large amount of physical well-being. We may easily suppose some such healthy harmony of part with part to exist in the bodies of many animals, wild and domesticated, whose life, as long as it lasts, is one continued period of physical enjoyment and well-being.

I have repeatedly, when on various occasions reading papers on different nervous diseases before the medical societies of the metropolis, maintained that further investigations into the functions of the various nerves throughout the body, would lay open to us a very wide and extended domain of pathology, and consequently of medical treatment of disease ; and that further research into this subject would not fail to pour upon us a flood of light, over some of the dark, obscure paths of medicine, along which we had hitherto groped our way, guided only by the dimness of empiricism itself. A further and more extended acquaintance with the normal healthy operations in the organic, as well as in the animal nervous system, cannot fail to enable us to understand, and consequently to appreciate at a better and truer pathological value, the abnormal and unhealthy operations observed in the same nervous systems respectively. Already the scientific labours of Claude-Bernard, Brown-Séguard, and many others in the same field, have enabled us to comprehend much that, until now, was always painfully, and often pathologically obscure, and consequently unsatisfactory.

The importance of a due estimation of temperament or constitution in discussing the disease now under consideration, will be made even more evident than it now is, when I come to treat of another severe intractable disease of the nervous system—hysteria—in doing which it is my intention to enter at some length upon the consideration of what I term the hysterical temperament or constitution. For, as in the production of the paroxysms of epilepsy, so in the productions of paroxysms of hysteria, two states or conditions of the body, or certain parts of the body, are absolutely essential ; in the former disease—epilepsy, these are—first a tendency or disposition of the brain

or spinal cord, or both together, to assume a state of irregular action more readily than in health ; and, secondly, the presence of some irritating cause or causes, which in their operation upon this, or upon these organs, compel or excite this tendency or disposition to assume an abnormal or unhealthy state of action. So, too, in the latter disease, hysteria, two states or conditions of the body, or of certain parts of the body, are absolutely essential, these are—first, a tendency or disposition of certain parts of the nervous system to assume a state of irregular action more readily than in health ; and, secondly, the presence of some irritating cause or causes, which, in their operation upon these parts of the nervous system, compel or excite this tendency or disposition to assume an abnormal or unhealthy state of action. It will, I think, be in my power to adduce good evidence, derived from cases met with in practice, denoting a manifest connection between these two severe intractable diseases ; in fact, in very severe forms of hysterical paroxysms, it is by no means easy to discriminate between the two diseases. One of the very worst cases of hysteria I ever witnessed, was one under my own care in this neighbourhood, in which the attack or paroxysm so closely resembled an attack or paroxysm of epilepsy, that it was not until after consulting with a physician of acknowledged reputation that I was able to satisfy myself which of two diseases I had to treat. Severe, however, as was that attack, the patient had a good, complete recovery, and has continued well from that time until this, a period now of some years' duration.

The ancient practitioners of the healing art, in their discourses on medicine, direct the attention of their readers to what they called *temperaments*, or different conditions of *constitutions* ; but for the want of accurate physiological knowledge of most parts or organs, as well solid as fluid, of the human framework, they greatly failed in demonstrations in regard to these subjects, or to express the fact ; in other words, their descriptions of these subjects were very imperfect, owing to want of a more exact information. Advancing, progressive scientific information, here as in many other departments of general pathology, has by slow, yet, it is hoped, by no uncertain steps, removed extensively the dark veil of obscurity which long hung suspended between the human mind and the operations of nature. By many of the moderns, too, by which term I would be understood to mean those practitioners of the healing art who flourished and wrote endless treatises on the theory and practice of medicine, the study and observation of the temperaments or constitutions, and consequently of the doctrines deducible therefrom, have been almost altogether neglected. It is much to be desired, that the diverse temperaments and constitutions which undoubtedly exist

in nature, differing in different individuals, and in different members of the same families, should be more accurately scrutinized, and more carefully observed, by means of light to be derived from a more enlarged acquaintance with the principles of modern science, as applied to various functions of the body, as the circulation of the blood, respiration, absorption, and innervation, &c., &c.; the application, for instance, of organic chemistry to the known differences in constitution between arterial and venous blood, the recent discoveries made in the anatomy and physiology of the lymphatic system, the exact constitution of the fluids therein contained; the chemical analysis, in fact, of all the solids and fluids of the body, with that of the various secretions and excretions, as they exist in different individuals; the discoveries in regard to, and experiments upon, the nerves themselves; discoveries in regard to, and experiments upon, electricity, galvanism, &c., and their modifications; also upon heat, light, and the atmosphere, &c., &c., must unitedly tend to remove from the medical mind much that still remains of obscurity, ignorance, and prejudice.

To our own English physician—Sydenham—more is perhaps due, as an observer of nervous disorders, than to any other physician living before his time; he has, moreover, in his works, left behind him one of the best and most graphic descriptions of the vapours in females; to him, too, is due the clear perception of diseases of the nerves—doubtless hysteria in one or more of its forms—assuming the characters of almost every other form of disorder. I am not sure that he speaks of hysteria, and of nervous diseases, as proteiform in character; although, however, he remarks that at one or more times nervous disorders are capable of assuming the characters of almost every disease; and that all these symptoms observed, however varied and multiplied, depend solely, or for the most part, upon too much or too little, upon excess or upon deficiency, of nervous action, agency, or energy. Much attention, however, as Sydenham had given to, and much observation as he had made upon, diseases of the nervous class, neither he, nor his contemporary Willis, nor even later, Cheyne, nor his contemporary Hoffmann, most probably from insufficient physiological knowledge, appear to have recognised the true pathological import of many of the symptoms which they severally observed and recorded.

In discussing the subject of the epileptic constitution or temperament, it is incumbent upon us to ask ourselves this question: Is this disease—epilepsy—hereditary? I have no doubt whatever, from actual experience, derived from observation, as well as from reading descriptions thereof in the works of medical authors who have written upon this distressing malady, that

this question must be answered in the affirmative, and that, in some instances, epilepsy is directly transmitted from mother to child; but, in regard to diseases of the nervous system in general, as affected by parental transmission, this all but universal law, may be expressed thus: that if one, or still more so, if both parents be affected with almost any disease whatever of the nervous system, the offspring, whether one or more, is, with rare exceptions, extremely liable to suffer from some one nervous disease, although the particular disease affecting the offspring may not be exactly the same disease as that affecting the parent or parents. The state of things in relation to parent or parents and offspring, may be briefly expressed in this manner: given a parent or parents, affected with almost any nervous disease, and the chances are, that the offspring of such parent or parents will, most probably, suffer from nervous diseases in one form or another.

Thus, by way of illustration, one or both parents may suffer, or may have suffered, from epilepsy; yet it by no means follows that the offspring of such parents will suffer from that same disease—epilepsy; although it is highly probable that they may suffer from convulsions, or from hysteria, or paralysis, or some other form of nervous disease; or conversely, the parent or parents may suffer, or may have suffered, from paralysis, or hysteria, or convulsive disease of some kind or other, whilst the offspring of such parents shall suffer from epilepsy. In my own practice and observation, I have known instances of this description. I remember, too, distinctly, on one occasion, in conversation with Dr. Brown-Séguard, one of the Physicians to the National Hospital for the Paralysed and Epileptic, in Queen's square, to have mentioned this circumstance in connection with diseases of the nervous system, when that physician completely concurred in that opinion, as a fact he had frequently observed in nervous patients. One remarkable instance, amongst others of a similar kind, is now before me, in the person of a grandfather, who I have known for a long time, as affected with partial paralysis, several of whose children suffered from one form or other of nervous diseases, and his grandchildren, also, are to my knowledge sufferers from nervous affections of one kind or another. The very remarkable case of tetanic catalepsy, which was under my notice some few years ago, occurred in a female grandchild of this identical grandfather, who was affected with partial paralysis.

In support of the foregoing statements, bearing upon the peculiar yet varying character of the hereditariness of nervous ailments, as transmitted from parent or parents to their offspring, or from direct or remote ancestors to their direct or remote progeny, I now take leave to adduce the

following instance of this kind, in connection with nervous affections, although not of the epileptic variety : I have, at this time, under my own observation, an interesting, intelligent young lady, of about sixteen or seventeen years of age, who is affected, although but slightly, with sleep-walking, somnambulism, whose father has been frequently under my care, in consequence of severe and protracted nervous affections, assuming a great variety of symptoms, both physical and psychical, and whose paternal grandfather and grandmother suffered long and severely during their lives from one or more nervous affections. The grandfather, when in middle life, had an attack of apoplexy, followed by complete hemiplegia, from which he completely recovered, yet leaving him throughout the remainder of a good long life affected with brain-disease, at times almost amounting to insanity. The paternal grandmother, from the middle period of her life, suffered at times from local or partial epilepsy, attended with persistent partial hemiplegia, until her death, which took place at a somewhat advanced age. Just as we sometimes observe a constitutional or hereditary weakness in most other parts or organs of the human framework in both sexes, so, in like manner, we not unfrequently observe a similar weakness in the various portions of the nervous tissues pervading the human body, whether male or female ; and, moreover, we may affirm, that just in proportion as this constitutional or hereditary weakness of the nervous system is more or less strongly developed in the individual, in like proportion is the same weakness easy or difficult of eradication ; and, in some exceptional cases, although it may not be absolutely ineradicable, and, consequently, incurable, still such rare cases will of necessity demand the utmost care and attention that medical skill can afford, throughout all periods of life. In regard to females, perhaps there is no habitual practice that has done more to favour the unhealthy development of any latent constitutional or hereditary weakness of the nervous system than the pernicious custom of tight lacing, a custom that so long prevailed in their physical training ; and of all the unnatural errors connected with the physical education of young ladies, this has always been one of the most mistaken, and one of the most mischievous as to its results upon the entire nervous system of those exposed to its influence.

It has been known to produce an excessive, an undue mobility of the entire nervous system, which has chiefly manifested itself at about the age of from thirteen to sixteen years. As I am now adverting only to the nervous and epileptic constitution or temperament, I forbear any further allusion to this practice amongst females, with reference to its equally mischievous effects upon other important organs and functions of the female

framework. Amongst the influences which we should naturally expect, attended with bad effects upon the epileptic constitution or temperament, are the suppression or retention of the natural secretions and excretions of the body; for, if such secretions or excretions as in health should be evacuated, are morbidly retained within the body; or, if, on the other hand, such as in health should be retained are evacuated from the body, we cannot be surprised, nay, rather we should expect that among other parts of the body likely to suffer from these irregularities, and so become diseased, the nervous system in its various parts would become affected with varied and numerous derangements. That this is so, all observed and recorded medical experience combine to substantiate.

In confirmation of what has been here advanced, we may remark that there are few parts of the human framework that are not weak, and occasionally imperfect in some families; so much is this the case that in a physical as well as in a moral sense, most, if not all, of us may be said to have our weak points; parts of our bodies which ordinarily are the first to take on a morbid action, and if this be truly so, in regard to many other parts of our physical frame, it is by no means difficult to comprehend that any weakness or imperfection of the nervous system should be as hereditary as the weakness or imperfection of any other part or organ of the body.

Thus we see, as we might reasonably expect, that apoplexy, paralysis of various kinds, epilepsy, convulsions, and hysteria may be, and very frequently are, transmitted from parent or parents to their offspring.

The classification of the numerous varieties of cases of epilepsy, into the two great divisions of *sympathetic* or *symptomatic*, and *idiopathic* epilepsy, is a classification of the utmost practical value and importance in regard to prognosis, as well as, in many cases of the disease, in regard to treatment; the cases which fall under the first of these two great divisions, that is, the *sympathetic* or *symptomatic*, being so much more amenable to treatment, and, therefore, offering so much more reasonable grounds for hope of successful results, than do the cases that fall under the second of these great divisions—that is, the *idiopathic*.

In perusing attentively, the works of the various authors who have taken the trouble to record facts and observations in relation to this dire disease, it is really encouraging, and not a little surprising to note, in how many cases such authors speak of satisfactory and successful results, even in those where the disease is said to have been attended with very violent symptoms during the attacks.

Hippocrates, the "Father of Medicine," as he is very commonly termed, observed, and pointed out that an excessive irrita-

tion of the stomach, not unfrequently produced attacks of very severe epilepsy, and which, he asserted, were, in such cases, caused by the presence of bad, black bile in that viscus; and such attacks arising from such a cause, he of course would relieve, and very possibly cure, by either vomiting or purging, or by both these remedies administered simultaneously. Galen, too, in his writings, speaks at great length of the influence of the stomach upon the brain, as productive of vertigo, delirium, convulsions and epilepsy, notoriously a convulsive disorder; whenever the nerves which supply the stomach are disordered or deranged by vicious, offensive, bilious conditions of this important viscus or organ. He speaks of a certain young man who was attacked with violent convulsions, very possibly epileptic, or epileptiform, who was speedily relieved therefrom, as soon as he had freely vomited a considerable quantity of offensive, black bile. He says also that he has known many persons in whom, owing to a bad condition of stomach, this disease, epilepsy, made its appearance whenever they suffered much from indigestion. He writes an interesting case of epilepsy which occurred in the person of a literary young man, following upon undue fasting, accompanied with undue exercise of mind; from these facts he inferred that the seat, the origin of the disorder in this instance, was in the stomach; and being well satisfied as to this point, he directed the treatment of his patient accordingly, and completely cured his patient. This successful case of this disease recorded by the old Roman physician is well worthy of recital in detail.

A certain literary young man experienced an attack of epilepsy whenever he studied more than usual, or whenever he instructed his pupils more forcibly than common, whenever he was more vexed or more irritated than customary, or whenever he fasted longer than was usual with him. "I suspected," says Galen, "that the superior, the cardiac orifice of the stomach, which is a very sensitive part of that viscus or organ was the seat, the origin of the disorder, and that the brain and the nerves were affected consequently or coincidently, I therefore directed the patient to make use of all such remedies as would be likely to promote a good, complete digestion of his ordinary food; to take every three hours a little dry bread or biscuit if he were not thirsty; and if he were very thirsty, to take the bread or biscuit moistened with a diluted, slightly astringent wine, a wine so weak or diluted; as not to affect the head, and yet such as would fortify and improve the tone of the stomach. The relief that this patient obtained by adopting this mode of living, of dieting, convinced me that my conclusion as to the cause of the disease in this case was true and correct, and I treated the patient accordingly."

Subsequent to the time of Galen, many physicians have recorded numerous observations of this disease as produced by a similar cause, that is, more or less derangement of the healthy functions of the stomach.

Valleriola, a celebrated physician of the sixteenth century, practising at Avignon, relates an instance of a female patient in whom derangement of the healthy functions of the stomach caused attacks of epilepsy of the most violent description.

In the medical consultations of Fernel, a case is recorded of a young woman, twenty-three years of age, attacked with epilepsy, which evidently depended upon some derangement of the proper functions of the stomach as the exciting cause of the paroxysms. Forrestus, too, relates a similar observation in regard to one of his patients. In the collection of medical cases and observations of Theophilus Bonnet, is a record of a male patient, thirty years of age, in whom the disease was produced from a similar cause or causes; and Dr. Woodward, a physician of our own country, in his select cases in physic, has related the case of a surgeon, subject to attacks of epilepsy, and who, at the conclusion of each paroxysm, suffered very violent pains in the stomach, attended with copious vomitings of acid, frothy bile; and who, moreover, whenever these vomitings did not take place, was seized with a second paroxysm of the disease, as violent as the first. In fact, there are individuals in whom, the superior, the cardiac orifice of the stomach is so acutely sensitive, that the very slightest cause of irritation may suffice to produce attacks of paroxysms of this disease.

I think it may be affirmed, that, next in order after the stomach, the intestines, small and large, are the most frequent seat of the causes of *symptomatic* or *sympathetic* epilepsy, and this, more especially, in cases where the disease affects children under ten or twelve years of age. Not to speak just now emphatically of the existence of parasitic animals, such as worms, in the intestines, a well-known and long recognised exciting cause of *symptomatic* or *sympathetic* epilepsy, the continued presence of others, and, it may be, of less irritating matters lodged in the intestines, not unfrequently give rise to attacks or paroxysms of this disease; and these matters, less irritating than worms, may be almost, if not entirely, attributable to improper, irregular diet, or the allowed indulgence in the frequent, daily use of unwholesome sweetmeats, or other articles of indigestible trash—mis-called food. The presence of these and similar matters in the intestines, operate prejudicially in two respects; in the first place, the proper healthy nutrition of the body not being adequately performed, the nervous system throughout the bodily frame becomes relaxed, weakened, and wanting in tone; and, in the second place, these offensive

matters becoming lodged, or, at any rate, retarded, in the intestines, constitute a source of irritation to the intestinal canal itself, to its proper nerves, or to the nerves of its blood-vessels, and transmitted from these to the ganglionic nerve-substance of the spinal cord, medulla oblongata, and brain, thus giving origin to attacks or paroxysms of the disease under consideration—epilepsy. Tulpius, in his medical observations, relates the case of a young female, who suffered from frequent and distressing paroxysms of epilepsy, the chief exciting cause of which he attributed to a prolonged constipation, succeeded by obstructions, and the formation of offensive, and, consequently, irritating matters existing in the spleen, the pancreas, the mesentery, and the large intestines, accompanied by a sensation of pain and heat in the sides and in the loins; in this case, in proportion as easy, loose, regular evacuations were obtained from the bowels, the paroxysms of epilepsy gradually diminished in frequency and in intensity, until at length they altogether disappeared, and the patient ultimately recovered.

The presence, the existence of worms in the intestines, either *per se*, as in conjunction with other irritating substances, has been long known, and recognised as a frequent exciting cause of epileptic paroxysms; indeed, so much so, that it passes almost for a medical axiom, in such cases of *symptomatic* or *sympathetic* epilepsy, to say, expel the worm or worms, and, *at the same time* you expel the demon, the disease. Daily medical experience confirms and assures us of the correctness of the opinion, that the presence of parasitic animals, such as worms, is amongst the most frequent, common causes of epilepsy in young persons; and, moreover, not an uncommon, exciting cause of *symptomatic* or *sympathetic* epilepsy in adults; so much so, that this has been acknowledged, that all writers upon this disease refer to this as a frequent exciting cause, and hence we have a variety of the disease spoken of by some under the epithet of *verminous* epilepsy—"L'épilepsie vermineuse," of French medical authors. Other organs in the abdomen not unfrequently become the seat, the source of origin of *symptomatic* or *sympathetic* epilepsy.

Many cases are upon record, and, therefore, to be found scattered throughout the writings of physicians, in which the spleen, the pancreas, the gall-bladder, the kidneys, and the urinary bladder, have each, or all, been the seat or origin of paroxysms of the disease under consideration. The presence of calculi in the gall-bladder, has been known to give rise to paroxysms of epilepsy, and there is one very remarkable case in which pressure over the region of the spleen sufficed to produce epileptiform convulsions. The presence of calculi, also, in the pelvis of the kidneys, has been known to give rise to

similar epileptiform convulsions; and the presence of a calculus-stone in the urinary bladder, has been known to produce attacks of tetanic spasms, a form of convulsions pathologically almost akin to epilepsy. After all, the organs situated in the abdominal cavity, which, next to the stomach and intestines, are more commonly productive of epileptic paroxysms, are the organs of generation, those organs concerned in the reproduction of the species, both in the male and in the female sex; and disturbances in the proper functions of these parts or organs of either sex, and from whatever cause, are, I apprehend, amongst the more frequent sources of origin of very many cases of *symptomatic* or *sympathetic* epilepsy; without, however, entering into detail, it may at present suffice to say that all, or nearly all, in this class of cases of epilepsy, may be explained with tolerable, if not with sufficient clearness, upon the physiological principles enunciated and illustrated by modern observers and experimenters in the domain of nerve physiology, especially, by the scientific researches of Brown-Séquard and Schröder Van der Kolk.

We may occasionally witness attacks of epilepsy in animals, and very frequently attacks of convulsions in them. I have myself seen epilepsy in the horse, the particulars of which I forwarded to the *Veterinarian*, a monthly journal devoted to veterinary science; and it is well known that we may produce at pleasure epileptiform attacks or seizures in guinea-pigs; yet, notwithstanding these observations of convulsive affections in animals, no one I apprehend would assert that, in any animal lower in the scale of being than the human animal, he had seen attacks or paroxysms of hysteria; this disease, as it appears to me, puts forward its claims for dominion only over poor suffering human nature, leaving brute nature totally exempt from its control and authority. Comparative pathology may doubtless throw considerable light upon many of the diseases that affect our common humanity; but I fear that it will not contribute *directly* very much to our stock of knowledge in regard to epilepsy, although *indirectly*, in regard to convulsive diseases, it may possibly hereafter aid in removing some portion of that error and ignorance concerning these, which, unkindly, still becloud our understanding, and thus too successfully baffle, and sometimes altogether interpose between our well-intentioned efforts and our patient's welfare and restoration to health.

PARK STREET,  
GROSVENOR SQUARE, W., 1866.

