# AN ESSAY ON THE SHAKING PALSY

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# SHAKING PALSY.

BY

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# PREFACE.

THE advantages which have been derived from the caution with which hypothetical statements are admitted, are in no instance more obvious than in those sciences which more particularly belong to the healing art. It therefore is necessary, that some conciliatory explanation should be offered for the present publication: in which, it is acknowledged, that mere conjecture takes the place of experiment; and, that analogy is the substitute for anatomical examination, the only sure foundation for pathological knowledge.

When, however, the nature of the subject, and the circumstances under which it has been here taken up, are considered, it is hoped that the offering of the following pages to the attention of the medical public, will not be severely censured. The disease, respecting which the present inquiry is made, is of a nature highly afflictive. Notwithstanding which, it has not yet obtained a place in the classification of nosologists; some have regarded its characteristic symptoms as distinct and different diseases, and others have given its name to diseases differing essentially from it; whilst the unhappy sufferer has considered it as an evil, from the domination of which he had no prospect of escape.

The disease is of long duration: to connect, therefore, the symptoms which occur in its later stages with those which mark its commencement, requires a continuance of observation of the same case, or at least a correct history of its symptoms, even for several years. Of both these advantages the writer has had the opportunities of availing himself; and has hence been led particularly to observe several other cases in which the disease existed in different stages of its progress. By these repeated observations, he hoped that he had been led to a probable conjecture as to the nature of the malady, and that analogy had suggested such means as might be productive of relief, and perhaps even of cure, if employed before the disease had been too long established. He therefore considered it to be a duty to submit his opinions to the examination of others, even in their present state of immaturity and imperfection.

To delay their publication did not, indeed, appear to be warrantable. The disease had escaped particular notice; and the task of ascertaining its nature and cause by anatomical investigation, did not seem likely to be taken up by those who, from their abilities and opportunities, were most likely to accomplish it. That these friends to humanity and medical science, who have already unveiled to us many of the morbid processes by which health and life is abridged, might be excited to extend their researches to this malady, was much desired; and it was hoped, that this might be procured by the publication of these remarks.

Should the necessary information be thus obtained, the writer will repine at no censure which the precipitate publication of mere conjectural suggestions may incur; but shall think himself fully rewarded by having excited the attention of those, who may point out the most appropriate means of relieving a tedious and most distressing malady.

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# CHAPTER I.

## DEFINITION—HISTORY—ILLUSTRATIVE CASES.

### SHAKING PALSY. (*Paralysis Agitans.*)

Involuntary tremulous motion, with lessened muscular power, in parts not in action and even when supported; with a propensity to bend the trunk forwards, and to pass from a walking to a running pace: the senses and intellects being uninjured.

THE term Shaking Palsy has been vaguely employed by medical writers in general. By some it has been used to designate ordinary cases of Palsy, in which some slight tremblings have occurred; whilst by others it has been applied to certain anomalous affections, not belonging to Palsy.

The shaking of the limbs belonging to this disease was particularly noticed, as will be seen when treating of the symptoms, by Galen, who marked its peculiar character by an appropriate term. The same symptom, it will also be seen, was accurately treated of by Sylvius de la Boë. Juncker also seems to have referred to this symptom: having divided tremor into active and passive, he says of the latter, “ad affectus semiparalyticos pertinent; de qualibus hic agimus, quique *tremores paralytoidei* vocantur.” Tremor has been adopted, as a genus, by almost every nosologist; but always unmarked, in their several definitions, by such characters as would embrace this disease. The celebrated Cullen, with his accustomed accuracy observes, “Tremorem, utpote semper symptomaticum, in numerum generum recipere nollem; species autem a Sauvagesio recensitas, prout mihi vel astheniæ vel paralysios, vel convulsionis symptomata esse videntur, his subjungam[1].” Tremor can indeed only be considered as a symptom, although several species of it must be admitted. In the present instance, the agitation produced by the peculiar species of tremor, which here occurs, is chosen to furnish the epithet by which this species of Palsy, may be distinguished.

### HISTORY.

So slight and nearly imperceptible are the first inroads of this malady, and so extremely slow is its progress, that it rarely happens, that the patient can form any recollection of the precise period of its commencement. The first symptoms perceived are, a slight sense of weakness, with a proneness to trembling in some particular part; sometimes in the head, but most commonly in one of the hands and arms. These symptoms gradually increase in the part first affected; and at an uncertain period, but seldom in less than twelvemonths or more, the morbid influence is felt in some other part. Thus assuming one of the hands and arms to be first attacked, the other, at this period becomes similarly affected. After a few more months the patient is found to be less strict than usual in preserving an upright posture: this being most observable whilst walking, but sometimes whilst sitting or standing. Sometime after the appearance of this symptom, and during its slow increase, one of the legs is discovered slightly to tremble, and is also found to suffer fatigue sooner than the leg of the other side: and in a few months this limb becomes agitated by similar tremblings, and suffers a similar loss of power.

Hitherto the patient will have experienced but little inconvenience; and befriended by the strong influence of habitual endurance, would perhaps seldom think of his being the subject of disease, except when reminded of it by the unsteadiness of his hand, whilst writing or employing himself in any nicer kind of manipulation. But as the disease proceeds, similar employments are accomplished with considerable difficulty, the hand failing to answer with exactness to the dictates of the will. Walking becomes a task which cannot be performed without considerable attention. The legs are not raised to that height, or with that promptitude which the will directs, so that the utmost care is necessary to prevent frequent falls.

At this period the patient experiences much inconvenience, which unhappily is found daily to increase. The submission of the limbs to the directions of the will can hardly ever be obtained in the performance of the most ordinary offices of life. The fingers cannot be disposed of in the proposed directions, and applied with certainty to any proposed point. As time and the disease proceed, difficulties increase: writing can now be hardly at all accomplished; and reading, from the tremulous motion, is accomplished with some difficulty. Whilst at meals the fork not being duly directed frequently fails to raise the morsel from the plate: which, when seized, is with much difficulty conveyed to the mouth. At this period the patient seldom experiences a suspension of the agitation of his limbs. Commencing, for instance in one arm, the wearisome agitation is borne until beyond sufferance, when by suddenly changing the posture it is for a time stopped in that limb, to commence, generally, in less than a minute in one of the legs, or in the arm of the other side. Harassed by this tormenting round, the patient has recourse to walking, a mode of exercise to which the sufferers from this malady are in general partial; owing to their attention being thereby somewhat diverted from their unpleasant feelings, by the care and exertion required to ensure its safe performance.

But as the malady proceeds, even this temporary mitigation of suffering from the agitation of the limbs is denied. The propensity to lean forward becomes invincible, and the patient is thereby forced to step on the toes and fore part of the feet, whilst the upper part of the body is thrown so far forward as to render it difficult to avoid falling on the face. In some cases, when this state of the malady is attained, the patient can no longer exercise himself by walking in his usual manner, but is thrown on the toes and forepart of the feet; being, at the same time, irresistibly impelled to take much quicker and shorter steps, and thereby to adopt unwillingly a running pace. In some cases it is found necessary entirely to substitute running for walking; since otherwise the patient, on proceeding only a very few paces, would inevitably fall.

In this stage, the sleep becomes much disturbed. The tremulous motion of the limbs occur during sleep, and augment until they awaken the patient, and frequently with much agitation and alarm. The power of conveying the food to the mouth is at length so much impeded that he is obliged to consent to be fed by others. The bowels, which had been all along torpid, now, in most cases, demand stimulating medicines of very considerable power: the expulsion of the fæces from the rectum sometimes requiring mechanical aid. As the disease proceeds towards its last stage, the trunk is almost permanently bowed, the muscular power is more decidedly diminished, and the tremulous agitation becomes violent. The patient walks now with great difficulty, and unable any

longer to support himself with his stick, he dares not venture on this exercise, unless assisted by an attendant, who walking backwards before him, prevents his falling forwards, by the pressure of his hands against the fore part of his shoulders. His words are now scarcely intelligible; and he is not only no longer able to feed himself, but when the food is conveyed to the mouth, so much are the actions of the muscles of the tongue, pharynx, &c. impeded by impaired action and perpetual agitation, that the food is with difficulty retained in the mouth until masticated; and then as difficultly swallowed. Now also, from the same cause, another very unpleasant circumstance occurs: the saliva fails of being directed to the back part of the fauces, and hence is continually draining from the mouth, mixed with the particles of food, which he is no longer able to clear from the inside of the mouth.

As the debility increases and the influence of the will over the muscles fades away, the tremulous agitation becomes more vehement. It now seldom leaves him for a moment; but even when exhausted nature seizes a small portion of sleep, the motion becomes so violent as not only to shake the bed-hangings, but even the floor and sashes of the room. The chin is now almost immoveably bent down upon the sternum. The slops with which he is attempted to be fed, with the saliva, are continually trickling from the mouth. The power of articulation is lost. The urine and fæces are passed involuntarily; and at the last, constant sleepiness, with slight delirium, and other marks of extreme exhaustion, announce the wished-for release.

### Case I.

Almost every circumstance noted in the preceding description, was observed in a case which occurred several years back, and which, from the particular symptoms which manifested themselves in its progress; from the little knowledge of its nature, acknowledged to be possessed by the physician who attended; and from the mode of its termination; excited an eager wish to acquire some further knowledge of its nature and cause.

The subject of this case was a man rather more than fifty years of age, who had industriously followed the business of a gardener, leading a life of remarkable temperance and sobriety. The commencement of the malady was first manifested by a slight trembling of the left hand and arm, a circumstance which he was disposed to attribute to his having been engaged for several days in a kind of employment requiring considerable exertion of that limb. Although repeatedly questioned, he could recollect no other circumstance which he could consider as having been likely to have occasioned his malady. He had not suffered much from Rheumatism, or been subject to pains of the head, or had ever experienced any sudden seizure which could be referred to apoplexy or hemiplegia. In this case, every circumstance occurred which has been mentioned in the preceding history.

### Case II.

The subject of the case which was next noticed was casually met with in the street. It was a man sixty-two years of age; the greater part of whose life had been spent as an attendant at a magistrate's office. He had suffered from the disease about eight or ten years. All the extremities were considerably agitated, the speech was very much interrupted, and the body much bowed and shaken. He walked almost entirely on the fore part of his feet, and would have fallen every step if he had not been supported by his stick. He described the disease as having come on very gradually, and as being, according to his full assurance, the consequence of considerable irregularities in his mode of living, and particularly of indulgence in spirituous liquors. He was the inmate of a poor-house of a distant parish, and being fully assured of the incurable nature of his complaint, declined making any attempts for relief.

### Case III.

The next case was also noticed casually in the street. The subject of it was a man of about sixty-five years of age, of a remarkable athletic frame. The agitation of the limbs, and indeed of the head and of the whole body, was too vehement to allow it to be designated as trembling. He was entirely unable to walk; the body being so bowed, and the head thrown so forward, as to oblige him to go on a continued run, and to employ his stick every five or six steps to force him more into an upright posture, by projecting the point of it with great force against the pavement. He stated, that he had been a sailor, and attributed his complaints to having been for several months confined in a Spanish prison, where he had, during the whole period of his confinement, lain upon the bare damp earth. The disease had here continued so long, and made such a progress, as to afford little or no prospect of relief. He besides was a poor mendicant, requiring as well as the means of medical experiment, those collateral aids which he could only obtain in an hospital. He was therefore recommended to make trial if any relief could, in that mode, be yielded him. The poor man, however, appeared to be by no means disposed to make the experiment.

### Case IV.

The next case which presented itself was that of a gentleman about fifty-five years, who had first experienced the trembling of the arms about five years before. His application was on account of a considerable degree of inflammation over the lower ribs on the left side, which terminated in the formation of matter beneath the fascia. About a pint was removed on making the necessary opening; and a considerable quantity discharged daily for two or three weeks. On his recovery from this, no change appeared to have taken place in his original complaint; and the opportunity of learning its future progress was lost by his removal to a distant part of the country.

### Case V.

In another case, the particulars of which could not be obtained, and the gentleman, the lamented subject of which was only seen at a distance, one of the characteristic symptoms of this malady, the inability for motion, except in a running pace, appeared to exist in an extraordinary degree. It seemed to be necessary that the gentleman should be supported by his attendant, standing before him with a hand placed on each shoulder, until, by gently swaying backward and forward, he had placed himself in equipoise; when, giving the word, he would start in a running pace, the attendant sliding from before him and running forward, being ready to receive

him and prevent his falling, after his having run about twenty paces.

### Case VI.

In a case which presented itself to observation since those above-mentioned, every information as to the progress of the malady was very readily obtained. The gentleman who was the subject of it is seventy-two years of age. He has led a life of temperance, and has never been exposed to any particular situation or circumstance which he can conceive likely to have occasioned, or disposed to this complaint; which he rather seems to regard as incidental upon his advanced age, than as an object of medical attention. He however recollects, that about twenty years ago, he was troubled with lumbago, which was severe and lasted some time. About eleven or twelve, or perhaps more, years ago, he first perceived weakness in the left hand and arm, and soon after found the trembling commence. In about three years afterwards the right arm became affected in a similar manner: and soon afterwards the convulsive motions affected the whole body, and began to interrupt the speech. In about three years from that time the legs became affected. Of late years the action of the bowels had been very much retarded; and at two or three different periods had, with great difficulty, been made to yield to the action of very strong cathartics. But within the last twelvemonths this difficulty has not been so great; perhaps owing to an increased secretion of mucus, which envelopes the passing fæces, and which precedes and follows their discharge in considerable quantity.

About a year since, on waking in the night, he found that he had nearly lost the use of the right side, and that the face was much drawn to the left side. His medical attendant saw him the following day, when he found him languid, with a small and quick pulse, and without pain in the head or disposition to sleep. Nothing more therefore was done than to promote the action of the bowels, and apply a blister to the back of the neck, and in about a fortnight the limbs had entirely recovered from their palsied state. During the time of their having remained in this state, neither the arm nor the leg of the paralytic side was in the least affected with the tremulous agitation; but as their paralysed state was removed, the shaking returned.

At present he is almost constantly troubled with the agitation, which he describes as generally commencing in a slight degree, and gradually increasing, until it arises to such a height as to shake the room; when, by a sudden and somewhat violent change of posture, he is almost always able to stop it. But very soon afterwards it will commence in some other limb, in a small degree, and gradually increase in violence; but he does not remember the thus checking of it, to have been followed by any injurious effect. When the agitation had not been thus interrupted, he stated, that it gradually extended through all the limbs, and at last affected the whole trunk. To illustrate his observation as to the power of suspending the motion by a sudden change of posture, he, being then just come in from a walk, with every limb shaking, threw himself rather violently into a chair, and said, “Now I am as well as ever I was in my life.” The shaking completely stopped; but returned within two minutes' time.

He now possessed but little power in giving a required direction to the motions of any part. He was scarcely able to feed himself. He had written hardly intelligibly for the last three years; and at present could not write at all. His attendants observed, that of late the trembling would sometimes begin in his sleep, and increase until it awakened him: when he always was in a state of agitation and alarm.

On being asked if he walked under much apprehension of falling forwards? he said he suffered much from it; and replied in the affirmative to the question, whether he experienced any difficulty in restraining himself from getting into a running pace? It being asked, if whilst walking he felt much apprehension from the difficulty of raising his feet, if he saw a rising pebble in his path? he avowed, in a strong manner, his alarm on such occasions; and it was observed by his wife, that she believed, that in walking across the room, he would consider as a difficulty the having to step over a pin.

The preceding cases appear to belong to the same species: differing from each other, perhaps, only in the length of time which the disease had existed, and the stage at which it had arrived.

# CHAP. II.

## PATHOGNOMONIC SYMPTOMS EXAMINED—*TREMOR COACTUS—SCELOTYRBE FESTINANS*.

It has been seen in the preceding history of the disease, and in the accompanying cases, that certain affections, the tremulous agitations, and the almost invincible propensity to run, when wishing only to walk, each of which has been considered by nosologists as distinct diseases, appear to be pathognomonic symptoms of this malady. To determine in which of these points of view these affections ought to be regarded, an examination into their nature, and an inquiry into the opinions of preceding writers respecting them, seem necessary to be attempted.

I. *Involuntary tremulous motion, with lessened voluntary muscular power, in parts, not in action, and even supported.*

It is necessary that the peculiar nature of this tremulous motion should be ascertained, as well for the sake of giving to it its proper designation, as for assisting in forming probable conjectures, as to the nature of the malady, which it helps to characterise. Tremors were distinguished by Juncker into Active, those proceeding from sudden affection of the minds, as terror, anger, &c. and Passive, dependant on debilitating causes, such as advanced age, palsy, &c[2]. But a much more satisfactory and useful distinction is made by Sylvius de la Boë into those tremors which are produced by attempts at voluntary motion, and those which occur whilst the body is at rest[3]. Sauvages distinguishes the latter of these species (*Tremor Coactus*) by observing, that the tremulous parts leap, and as it were vibrate, even when supported: whilst every other tremor, he observes, ceases, when the voluntary exertion for moving the limb stops, or the part is supported, but returns when we will the limb to move; whence, he says, tremor is distinguished from every other kind of spasm[4].

A small degree of attention will be sufficient to perceive, that Sauvages, by this just distinction, actually separates this kind of tremulous motion, and which is the kind peculiar to this disease, from the Genus Tremor. In doing this he is fully warranted by the observations of Galen on the same subject, as noticed by Van Swieten[5]. “Binas has tremoris species[6] Galenus subtiliter distinxit, atque etiam diversis nominibus insignivit, tremor enim (τρόμ &) facultatis corpus moventis et vehentis infirmitate oboritur. Quippe nemo, qui artus movere non instituerit tremet. Palpitantes autem partes, etiam in quiete fuerint, etiamsi nullum illis motum induxeris palpitant. Ideo primam (*posteriorem*) modo descriptam tremoris speciem, quando quiescenti homini involuntariis illis et alternis motibus agitantur membra, palpitationem (πάλμον) dixit, posteriorem (*primam*) vero, quæ non fit nisi homo conetur partes quasdam movere tremorem vocavit.”

Under this authority the term palpitation may be employed to mark those morbid motions which chiefly characterise this disease, notwithstanding that this term has been anticipated by Sauvages, as characteristic of another species of tremor[7]. The separation of palpitation of the limbs (*Palmos* of Galen, *Tremor Coactus* of de la Boë) from tremor, is the more necessary to be insisted on, since the distinction may assist in leading to a knowledge of the seat of the disease. It is also necessary to bear in mind, that this affection is distinguishable from tremor, by the agitation, in the former, occurring whilst the affected part is supported and unemployed, and being even checked by the adoption of voluntary motion; whilst in the latter, the tremor is induced immediately on bringing the parts into action. Thus an artist, afflicted with the malady here treated of, whilst his hand and arm is palpitating strongly, will seize his pencil, and the motions will be suspended, allowing him to use it for a short period; but in tremor, if the hand be quite free from the affection, should the pen or pencil be taken up, the trembling immediately commences.

II. *A propensity to bend the trunk forwards, and to pass from a walking to a running pace.*

This affection, which observation seems to authorise the being considered as a symptom peculiar to this disease, has been mentioned by few nosologists: it appears to have been first noticed by Gaubius, who says, “Cases occur in which the muscles duly excited into action by the impulse of the will, do then, with an unbidden agility, and with an impetus not to be repressed, accelerate their motion, and run before the unwilling mind. It is a frequent fault of the muscles belonging to speech, nor yet of these alone: I have seen one, who was able to run, but not to walk[8].”

Sauvages, referring to this symptom, says, another disease which has been very rarely seen by authors, appears to be referable to the same genus (Scelotyrbe, of which he makes *Chorea sancti viti* the first species); which, he says, “I think cannot be more fitly named than hastening or hurrying Scelotyrbe (*Scelotyrbem festinantem, seu festiniam*).”

*Scelotyrbe festinans*, he says, is a peculiar species of scelotyrbe, in which the patients, whilst wishing to walk in the ordinary mode, are forced to run, which has been seen by Carguet and by the illustrious Gaubius; a similar affection of the speech, when the tongue thus outruns the mind, is termed volubility. Mons. de Sauvages attributes this complaint to a want of flexibility in the muscular fibres. Hence, he supposes, that the patients make shorter steps, and strive with a more than common exertion or impetus to overcome the resistance; walking with a quick and hastened step, as if hurried along against their will. *Chorea Viti*, he says, attacks the youth of both sexes, but this disease only those advanced in years; and adds, that it has hitherto happened to him to have seen only two of these cases; and that he has nothing to offer respecting them, either in theory or practice[9].

Having made the necessary inquiries respecting these two affections, *Tremor coactum* of Sylvius de la Boë and of Sauvages, and *Scelotyrbe festinans* of the latter nosologist, which appear to be characteristic symptoms of this disease, it becomes necessary, in the next place, to endeavour to distinguish this disease from others which may bear a resemblance to it in some particular respects.

# CHAP. III.

## SHAKING PALSY DISTINGUISHED FROM OTHER DISEASES WITH WHICH IT MAY BE CONFOUNDED.

TREATING of a disease resulting from an assemblage of symptoms, some of which do not appear to have yet engaged the general notice of the profession, particular care is required whilst endeavouring to mark its diagnostic characters. It is sufficient, in general, to point out the characteristic differences which are observable between diseases in some respects resembling each other. But in this case more is required: it is necessary to show that it is a disease which does not accord with any which are marked in the systematic arrangements of nosologists; and that the name by which it is here distinguished has been hitherto vaguely applied to diseases very different from each other, as well as from that to which it is now appropriated.

Palsy, either consequent to compression of the brain, or dependent on partial exhaustion of the energy of that organ, may, when the palsied limbs become affected with tremulous motions, be confounded with this disease. In those cases the abolition or diminution of voluntary muscular action takes place suddenly, the sense of feeling being sometimes also impaired. But in this disease, the diminution of the influence of the will on the muscles comes on with extreme slowness, is always accompanied, and even preceded, by agitations of the affected parts, and never by a lessened sense of feeling. The dictates of the will are even, in the last stages of the disease, conveyed to the muscles; and the muscles act on this impulse, but their actions are perverted.

Anomalous cases of convulsive affections have been designated by the term Shaking Palsy: a term which appears to be improperly applied to these cases, independent of the want of accordance between them and that disease which has been here denominated Shaking Palsy. Dr. Kirkland, in his commentary on Apoplectic and Paralytic Affections, &c. cites the following case, related by Dr. Charlton, as belonging, he says, to the class of Shaking Palsies. “Mary Ford, of a sanguineous and robust constitution, had an involuntary motion of her right arm, occasioned by a fright, which first brought on convulsion fits, and most excruciating pain in the stomach, which vanished on a sudden, and her right arm was instantaneously flung into an involuntary and perpetual motion, like the swing of a pendulum, raising the hand, at every vibration higher than her head; but if by any means whatever it was stopped; the pain in her stomach came on again, and convulsion fits were the certain consequence, which went off when the vibration of her hand returned.”

Another case, which the Doctor designates as 'A Shaking Palsy,' apparently from worms, he describes thus, “A poor boy, about twelve or thirteen years of age, was seized with a Shaking Palsy. His legs became useless, and together with his head and hands, were in continual agitation; after many weeks trial of various remedies, my assistance was desired.

“His bowels being cleared, I ordered him a grain of Opium a day in the gum pill; and in three or four days the shaking had nearly left him.” By pursuing this plan, the medicine proving a vermifuge, he could soon walk, and was restored to perfect health.

Whether these cases should be classed under Shaking Palsy or not, is necessary to be here determined; since, if they are properly ranked, the cases which have been described in the preceding pages, differ so much from them as certainly to oppose their being classed together: and the disease, which is the subject of these pages, cannot be considered as the same with Shaking Palsy, as characterised by those cases.

The term Shaking Palsy is evidently inapplicable to the first of these cases, whichappears to have belonged more properly to the genus *Convulsio*, of Cullen, or to *Hieranosos* of Linnæus and Vogel[10].

The latter appears to be referable to that class of proteal forms of disease, generated by a disordered state of primæ viæ, sympathetically affecting the nervous influence in a distant part of the body.

Unless attention is paid to one circumstance, this disease will be confounded with those species of passive tremblings to which the term Shaking Palsies has frequently been applied. These are, *tremor temulentus*, the trembling consequent to indulgence in the drinking of spirituous liquors; that which proceeds from the immoderate employment of tea and coffee; that which appears to be dependent on advanced age; and all those tremblings which proceed from the various circumstances which induce a diminution of power in the nervous system. But by attending to that circumstance alone, which has been already noted as characteristic of mere tremor, the distinction will readily be made. If the trembling limb be supported, and none of its muscles be called into action, the trembling will cease. In the real Shaking Palsy the reverse of this takes place, the agitation continues in full force whilst the limb is at rest and unemployed; and even is sometimes diminished by calling the muscles into employment.

# CHAP. IV.

## PROXIMATE CAUSE—REMOTE CAUSES—ILLUSTRATIVE CASES.

BEFORE making the attempt to point out the nature and cause of this disease, it is necessary to plead, that it is made under very unfavourable circumstances. Unaided by previous inquiries immediately directed to this disease, and not having had the advantage, in a single case, of that light which anatomical examination yields, opinions and not facts can only be offered. Conjecture founded on analogy, and an attentive consideration of the peculiar symptoms of the disease, have been the only guides that could be obtained for this research, the result of which is, as it ought to be, offered with hesitation.

### SUPPOSED PROXIMATE CAUSE.

A diseased state of the *medulla spinalis*, in that part which is contained in the canal, formed by the superior cervical vertebræ, and extending, as the disease proceeds, to the *medulla oblongata*.

By the nature of the symptoms we are taught, that the disease depends on some irregularity in the direction of the nervous influence; by the wide range of parts which are affected, that the injury is rather in the source of this influence than merely in the nerves of the parts; by the situation of the parts whose actions are impaired, and the order in which they become affected, that the proximate cause of the disease is in the superior part of the medulla spinalis; and by the absence of any injury to the senses and to the intellect, that the morbid state does not extend to the encephalon.

Uncertainty existing as to the nature of the proximate cause of this disease, its remote causes must necessarily be referred to with indecision. Assuming however the state just mentioned as the proximate cause, it may be concluded that this may be the result of injuries of the medulla itself, or of the theca helping to form the canal in which it is inclosed.

The great degree of mobility in that portion of the spine which is formed by the superior cervical vertebræ, must render it, and the contained parts, liable to injury from sudden distortions. Hence therefore may proceed inflammation of quicker or of slower progress, disease of the vertebræ, derangement of structure in the medulla, or in its membranes, thickening or even ulceration of the theca, effusion of fluids, &c.

But in no case which has been noticed, has the patient recollected receiving any injury of this kind, or any fixed pain in early life in these parts, which might have led to the opinion that the foundation for this malady had been thus laid. On the subject indeed of remote causes, no satisfactory accounts has yet been obtained from any of the sufferers. Whilst one has attributed this affliction to indulgence in spirituous liquors, and another to long lying on the damp ground; the others have been unable to suggest any circumstance whatever, which, in their opinion, could be considered as having given origin, or disposed, to the calamity under which they suffered.

Cases illustrative of the nature and cause of this malady are very rare. In the following case symptoms very similar are observable, so far as affecting the lower extremities. That the medulla spinalis was here affected, and in its lower part, is not to be doubted: but this, unfortunately, was never ascertained by examination. It must be however remarked, that this case differed from those which have been given of this disease, in the suddenness with which the symptoms appeared.

*A. B.* aged twenty-six years, during a course of mercury for a venereal affection, was exposed to severely inclement weather, for several hours, and the next morning, complained of extreme pain in the back, and of total inability to employ voluntarily the muscles of the lower extremities, which were continually agitated with severe convulsive motions. The physician who attended him employed those means which seemed best calculated to relieve him; but with no beneficial effect. The lower extremities were perpetually agitated with strong palpitatory motions, and, frequently, three or four times in a minute, suddenly raised with great vehemence two or three feet from the ground, either in a forward or oblique direction, striking one limb against the other, or against the chairs, tables, or any substance which stood in the way. To check these inordinate motions, no means were in the least effectual, except striking the thighs forcibly during the more violent convulsions. No advantage was derived from all the means which were employed during upwards of twelvemonths. Full ten years after this period, the unhappy subject of this malady was casually met in the street, shifting himself along, seated in a chair; the convulsive motions having ceased, and the limbs having become totally inert, and insensible to any impulse of the will.

It must be acknowledged, that in the well-known cases, described by Mr. Potts, of that kind of Palsy of the lower limbs which is frequently found to accompany a curvature of the spine, and in which a carious state of the vertebræ is found to exist, no instructive analogy is discoverable; slight convulsive motions may indeed happen in the disease proceeding from curvature of the spine; but palpitating motions of the limbs, such as belong to the disease here described, do not appear to have been hitherto noticed.

Whilst striving to determine the nature and origin of this disease, it becomes necessary to give the following particulars of an interesting case of Palsy occasioned by a fall, attended with uncommon symptoms, related by Dr. Maty, in the third volume of the Medical Observations and Inquiries. The subject of this case, the Count de Lordat, had the misfortune to be overturned from a pretty high and steep bank. His head pitched against the top of the coach, and was bent from left to right; his left shoulder, arm, and especially his hand, were considerably bruised. At first he felt a good deal of pain along the left side of his neck, but neither then, nor at any other time, had he any faintings, vomitings, or giddiness.—On the sixth day he was let blood, on account of the pain in his shoulder and the contusion of his hand, which were then the only symptoms he complained of, and of which he soon found himself relieved.—Towards the beginning of the following winter, he began to find *a small impediment in uttering some words, and his left arm appeared weaker*. In the following spring, having suffered considerably from the severities of the winter campaign, he found *the difficulty in speaking, and in moving his left arm, considerably increased*.—On employing the thermal waters of Bourbonne, his speech become freer, but, on his return to Paris, the Palsy was increased, and the arm somewhat wasted.—In the beginning of the next spring he went to Balaruc; when he became affected with *involuntary convulsive motions all over the body.* The left arm withered more and more, *a spitting began*, and now it was *with difficulty that he uttered a few words.* Frictions and sinapisms were successively tried, and an issue, made by a caustic, was kept open for some time without any effect; but no mention is made of what

part the issue was established in.

Soon after this, and three years and a half after the fall, Doctor Maty first saw the patient, and gives the following description of his situation. “A more melancholy object I never beheld. The patient, naturally a handsome, middle-sized, sanguine man, of a cheerful disposition, and an active mind, appeared much emaciated, stooping, and dejected. *He still walked alone with a cane, from one room to the other, but with great difficulty, and in a tottering manner*; his left hand and arm were much reduced, and would hardly perform any motion; *the right was somewhat benumbed, and he could scarcely lift it up to his head; his saliva was continually trickling out of his mouth, and he had neither the power of retaining it, nor of spitting it out freely*. What words he still could utter were monosyllables, and these came out, after much struggle, in a violent expiration, and with such a low voice and indistinct articulation, as hardly to be understood but by those who were constantly with him. He fetched his breath rather hard; his pulse was low, but neither accelerated nor intermitting. He took very little nourishment, could chew and swallow no solids, and even found great pain in getting down liquids. Milk was almost his only food; his body was rather loose, his urine natural, his sleep good, his senses, and the powers of his mind, unimpaired; he was attentive to, and sensible of every thing which was said in conversation, and shewed himself very desirous of joining in it; but was continually checked by the impediment in his speech, and the difficulty which his hearers were put to. Happily for him he was able to read, and as capable as ever of writing, as he shewed me, by putting into my hands an account of his present situation, drawn up by himself: and I am informed that he spent his time to the very last, in writing upon some of the most abstruse subjects.”

This gentleman died about four years after the accident, when the body was examined by Dr. Bellett and Mons. Sorbier, who made the following report:

“We first examined the muscles of the tongue, which were found extenuated and of a loose texture. We observed no signs of compression in the lingual and brachial nerves, as high as their exit from the basis of the cranium and the vertebræ of the neck; but they appeared to us more compact than they commonly are, being nearly tendinous. The dura mater was in a sound state, but the pia mater was full of blood and lymph; on it several hydatids, and towards the falx some marks of suppuration were observed. The ventricles were filled with water, and the plexus choroides was considerably enlarged, and stuffed with grumous blood. The cortical surface of the brain appeared much browner than usual, but neither the medullary part nor cerebellum were impaired. We chiefly took notice of the Medulla Oblongata, this was greatly enlarged, surpassing the usual size by more than one third. It was likewise more compact. The membranes, which, in their continuation, inclose the spinal marrow, were so tough that we found great difficulty in cutting through them, and we observed this to be the cause of the tendinous texture of the cervical nerves. The marrow itself had acquired such solidity as to elude the pressure of our fingers, it resisted as a callous body, and could not be bruised. This hardness was observed all along the vertebræ of the neck, but lessened by degrees, and was not near so considerable in the vertebræ of the thorax. Though the patient was but nine and thirty years old, the cartilages of the sternum were ossified, and required as much labour to cut them asunder as the ribs; like these they were spungy, but somewhat whiter. The lungs and heart were sound. At the bottom of the stomach appeared an inflammation, which increased as it extended to the intestines. The ileum looked of that dark and livid hue, which is observed in membranous parts tending to mortification. The colon was not above an inch in diameter, the rectum was smaller still, but both appeared sound.—From these appearances, we were at no loss to fix the cause of this gradual palsy in the alteration of the medulla spinalis and oblongata.”

Dr. Bellett offers the following explanation of these changes. “I conceive, that, by this accident, the head being violently bent to the right, the nervous membranes on the left were excessively stretched and irritated; that this cause extended by degrees to the spinal marrow, which being thereby compressed, brought on the paralytic symptoms, not only of the left arm, but at last in some measure also of the right. This induration seems to have been occasioned by the constant afflux of the nutritive juices, which were stopt at that place, and deprived of their most liquid parts; the grosser ones being unable to spread in the boney cavity, by which they were confined, could only acquire a greater solidity, and change a soft body into a hard and nearly osseous mass. This likewise accounts for the increase of the medulla oblongata, which being loaded with more juices than it could send off, swelled in the same manner as the branches of trees, which will grow of a monstrous size, when the sap that runs into them is stopt in its progress. The medulla oblongata not growing so hard as the spinalis, was doubtless owing to its not being confined in an osseous theca, but surrounded with soft parts, which allowed it room to spread. The obstruction from the bulk of this substance must have affected the brain, and probably induced the thickening of the pia mater, the hydatids, and the beginning of suppuration, whereas the dura mater, being of a harder texture, was not injured[11].”

In some of the symptoms which appeared in this case, an agreement is observable between it and those cases which are mentioned in the beginning of these pages. The weakened state of both arms; the power first lessening in one arm, and then in a similar manner in the other arm; the affection of the speech; the difficulty in chewing and in swallowing; as well as of retaining, or freely discharging, the spittle; the convulsive motions of the body; and the unimpaired state of the intellects; constitute such a degree of accordance as, although it may not mark an identity of disease, serves at least to show that nearly the same parts were the seat of the disease in both instances. Thus we attain something like confirmation of the supposed proximate cause, and of one of the assumed occasional causes.

Whilst conjecturing as to the cause of this disease, the following collected observationson the effects of injury to the medulla spinalis, by Sir Everard Home, become particularly deserving of attention. It thence appears, that none of the characteristic symptoms of this malady are produced by compression, laceration, or complete division of the medulla spinalis.

“Pressure upon the medulla spinalis of the neck, by coagulated blood, produced paralytic affections of the arms and legs; all the functions of the internal organs were carried on for thirty-five days, but the urine and stools passed involuntarily[12].

“Blood extravasated in the central part of the medulla, in the neck, was attended with paralytic affection of the legs, but not of the arms[13].

“In a case where the substance of the medulla was lacerated in the neck, there was a paralysis in all the parts below the laceration, the lining of the œsophagus was so sensible, that solids could not be swallowed, on account of the pain they occasioned[14].

“When the medulla of the back was completely divided, there was momentary loss of sight, loss of memory for fifteen minutes, and permanent insensibility in all the lower parts of the body. The skin above the division of the spinal marrow perspired, that below did not. The wounded spinal marrow appeared to be extremely sensible[15].” *Philosophical Transactions*, 1816, p. 485.

In two of the cases already noticed, symptoms of rheumatism had previously existed; and in Case IV. the right arm, in which the palpitation began, was said to have been very violently affected with rheumatic pain to the fingers ends. The consideration of this case, in which the palpitation had been preceded, at a considerable distance of time, by this painful affection of the arm, led to the supposition that this latter circumstance might be the cause of the palpitations, and the other subsequent symptoms of this disease. This supposition naturally occasioned the attention to be eagerly fixed on the following case; and of course influenced the mode of treatment which was adopted.

*A. B.* subject to rheumatic affection of the deltoid muscle, had felt the usual inconveniences from it for two or three days; but at night found the pain had extended down the arm, along the inside of the fore-arm, and on the sides of the fingers, in which a continual tingling was felt. The pain, without being extremely intense, was such as effectually to prevent sleep: and seemed to follow the course of the brachial nerve. Whilst ascertaining the propriety of this conclusion, the pain was found to ramify, as it were, on the fore and back part of the chest; and was slightly augmented by drawing a deep breath.

These circumstances suggested the probability of slight inflammation, or increased determination to the origin of the nerves of these parts, and to the neighbouring medulla. On this ground, blood was taken from the back part of the neck, by cupping; hot fomentations were applied for about the space of an hour, when the upper part of the back of the neck was covered with a blister, perspiration was freely induced by two or three small doses of antimonials, and the following morning the bowels were evacuated by an appropriate dose of calomel. On the following day the pains were much diminished, and in the course of four or five days were quite removed. The arm and hand felt now more than ordinarily heavy, and were evidently much weakened: aching, and feeling extremely wearied after the least exertion. The strength of the arm was not completely recovered at the end of more than twelvemonths; and, after more than twice that time, exertion would excite the feeling of painful weariness, but no palpitation or other unpleasant symptom has occurred during the five or six years which have since passed.

The commencement, progress, and termination of this attack; with the success attending the mode of treatment, and the symptoms which followed, seem to lead to the conjecture, that the proximate cause of the disease, in this case, existed in the medulla spinalis, and that it might, if neglected, have gradually resolved itself into that disease which is the object of our present inquiry.

Some few months after the occurrence of the preceding case, the writer of these lines was called to a female about forty years of age, complaining of great pain in both the arms, extending from the shoulder to the finger ends. She stated, that she was attacked in the same manner as is described in the preceding case, about nine months before; that the complaint was considered as rheumatism, and was not benefited by any of the medicines which had been employed; but that after three or four weeks it gradually amended, leaving both the arms and hands in a very weakened and trembling state. From this state they were now somewhat recovered; but she was extremely anxious, fearing that if the present attack should not be soon checked, she might entirely lose the use of her hands and arms.

Instructed by the preceding case, similar means were here recommended. Leeches, stimulating fomentations, and a blister, which was made for sometime to yield a purulent discharge, were applied over the cervical vertebræ; and in the course of a very few days the pain was entirely removed. It is regretted that no farther information, as to the progress of this case, could be obtained.

On meeting with these two cases, it was thought that it might not be improbable that attacks of this kind, considered at the time merely as rheumatic affections, might lay the foundation of this lamentable disease, which might manifest itself at some distant period, when the circumstance in which it had originated, had, perhaps, almost escaped the memory. Indeed when it is considered that neither in the ordinary cases of Palsy of the lower extremities, proceeding from diseased spine, nor in cases of injured medulla from fractured vertebræ, any of the peculiar symptoms of this disease are observable, we necessarily doubt as to the probability of its being the direct effect of any sudden injury. But taking all circumstances into due consideration, particularly the very gradual manner in which the disease commences, and proceeds in its attacks; as well as the inability to ascribe its origin to any more obvious cause, we are led to seek for it in some slow morbid change in the structure of the medulla, or its investing membranes, or theca, occasioned by simple inflammation, or rheumatic or scrophulous affection.

It must be too obvious that the evidence adduced as to the nature of the proximate and occasional causes of this disease, is by no means conclusive. A reference to the test therefore which will be yielded by an examination of some of the more prominent symptoms, especially as to their agreement with the supposed proximate cause, is more particularly demanded. Satisfied as to the importance of this part of the present undertaking, no apology is offered for the extent to which the examination is carried on.

If the palpitation and the attendant weakness of the limbs, &c. be considered as to the order in which the several parts are attacked, it is believed, that some confirmation will be obtained of the opinion which has been just offered, respecting the cause, or at least the seat, of that change which may be considered as the proximate cause of this disease.

One of the arms, in all the cases which have been here mentioned, has been the part in which these symptoms have been first noticed; the legs, head, and trunk have then become gradually affected, and lastly, the muscles of the mouth and fauces have yielded to the morbid influence.

The arms, the parts first manifesting disordered action, of course direct us, whilstsearching for the cause of these changes, to the brachial nerves. But finding the mischief extending to other parts, not supplied with these, but with other nerves derived from nearly the same part of the medulla spinalis, we are of course led to consider that portion of the medulla spinalis itself, from which these nerves are derived, as the part in which those changes have taken place, which constitute the proximate cause of this disease.

From the subsequent affection of the lower extremities, and from the failure of power in the muscles of the trunk, such a change in the substance of the medulla spinalis may be inferred, as shall have considerably interrupted, and interfered with, the extension of the nervous influence to those parts, whose nerves are derived from any portion of the medulla below the part which has undergone the diseased change.

The difficulty in supporting the trunk erect, as well as the propensity to the adopting of a hurried pace, is also referable to such a diminution of the nervous power in the extensor muscles of the head and trunk, as prevents them from performing the offices of maintaining the head and body in an erect position.

From the impediment to speech, the difficulty in mastication and swallowing, the inability to retain, or freely to eject, the Saliva,

may with propriety be inferred an extension of the morbid change upwards through the medulla spinalis to the medulla oblongata, necessarily impairing the powers of the several nerves derived from that portion into which the morbid change may have reached. In the late occurrence of this set of symptoms, and the extension upwards of the diseased state, a very close agreement is observable between this disease and that which has been already shown, proved fatal to the Count de Lordat. But in this case, the disease doubtlessly became differently modified, and its symptoms considerably accelerated, in consequence of the magnitude of the injury by which the disease was induced.

# CHAP. V.

## CONSIDERATIONS RESPECTING THE MEANS OF CURE.

THE inquiries made in the preceding pages yield, it is to be much regretted, but little more than evidence of inference: nothing direct and satisfactory has been obtained. All that has been ventured to assume here, has been that the disease depends on a disordered state of that part of the medulla which is contained in the cervical vertebræ. But of what nature that morbid change is; and whether originating in the medulla itself, in its membranes, or in the containing theca, is, at present, the subject of doubt and conjecture. But although, at present, uninformed as to the precise nature of the disease, still it ought not to be considered as one against which there exists no countervailing remedy.

On the contrary, there appears to be sufficient reason for hoping that some remedial process may ere long be discovered, by which, at least, the progress of the disease may be stopped. It seldom happens that the agitation extends beyond the arms within the first two years; which period, therefore, if we were disposed to divide the disease into stages, might be said to comprise the first stage. In this period, it is very probable, that remedial means might be employed with success: and even, if unfortunately deferred to a later period, they might then arrest the farther progress of the disease, although the removing of the effects already produced, might be hardly to be expected.

From a review of the changes which had taken place in the case of Count de Lordat, it seems as if we were able to trace the order and mode in which the morbid changes may proceed in this disease. From any occasional cause, the thecal ligament, the membranes, or the medulla itself, may pass into the state of simple excitement or irritation, which may be gradually succeeded by such a local afflux and determination of blood into the minute vessels, as may terminate in actual but slow inflammation. The result of this would be a thickening of the theca, or membranes, and perhaps an increase in the volume of the medulla itself, which would gradually occasion such a degree of pressure against the sides of the unyielding canal, as must eventually intercept the influence of the brain upon the inferior portion of the medullary column, and upon the parts on which the nerves of this portion are disposed.

From this review, and assuming that the morbid changes in this disease may not be widely dissimilar from those which occurred in the case of Count de Lordat, the chance of relief from the proposed mode of treatment may appear to be sufficient to warrant its trial.

In such a case then, at whatever period of the disease it might be proposed to attempt the cure, blood should be first taken from the upper part of the neck, unless contra-i(n)dicated by any particul(ar) circumstance. After which vesicatories should be applied to the (sa)me part, and a purulent discharge obtained by appropriate use of the Sabine Liniment; having recourse to the application of a fresh blister, when from the diminution of the discharging surface, pus is not secreted in a sufficient quantity. Should the blisters be found too inconvenient, or a sufficient quantity of discharge not be obtained thereby, an issue of at least an inch and a half in length might be established on each side of the vertebral columna, in its superior part. These, it is presumed, would be best formed with caustic, and kept open with any proper substance[16].

Could it have been imagined that such considerable benefit: indeed, that such astonishing cures, could have been effected by issues in cases of Palsy of the lower extremities from diseased spine? although satisfied with ascribing those cases to scrofulous action, we are in fact as little informed respecting the nature of the affection, inducing the carious state of the vertebræ, as we are respecting the peculiar change of structure which takes place in this disease. Equally uninformed are we also as to the peculiar kind of morbid action, which takes place in the ligaments of the joints; as well as that which takes place in different instances of deep seated pains and affections of the

parts contained in the head, thorax, and abdomen, and in all which cases the inducing of a purulent discharge in their neighbourhood is so frequently productive of a cure. Experiment has not indeed been yet employed to prove, but analogy certainly warrants the hope, that similar advantages might be derived from the use of the means enumerated, in the present disease. It is obvious, that the chance of obtaining relief will depend in a great measure on the period at which the means are employed. As in every other disease, so here, the earlier the remedies are resorted to, the greater will be the probability of success. But in this disease there is one circumstance which demands particular attention; the long period to which it may be extended. One of its peculiar symptoms, Scelotyrbe festinans, may not occur until the disease has existed ten or twelve years, or more; hence, when looking for the period, within which our hopes of remedial aid is to be limited; we may, guided by the slow progress of the malady, extend it to a great length, when compared with that within which we should be obliged to confine ourselves in most other diseases.

But it is much to be apprehended, as in many other cases, that the resolution of the patients will seldom be sufficient to enable them to persevere through the length of time which the proposed process will necessarily require. As slow as is the progress of the disease, so slow in all probability must be the period of the return to health. In most cases, especially in those in which the disease has been allowed to exist long unopposed, it may be found that all that art is capable of accomplishing, is that of checking its further progress. Nor will this be regarded as a trifle, when, by reference to the history of the disease, is seen the train of harassing evils which would be thus avoided.

But it seems as if there existed reason for hoping for more. For supposing change of structure to have taken place, it is extremely probable that this change may be merely increase in mass or volume by interstitial addition, the consequence of increased action in the minute vessels of the part. In that case, should the instituting of a purulent discharge, in a neighbouring part, act in the manner which we would presume it may—should it by keeping up a constant discharge, not merely alter the determination, but diminish the inordinate action of the vessels in the diseased part; and at the same time excite the absorbents to such increased action as may remove the added matter; there will exist strong ground for hope, that a happy, though slow restoration to health, may be obtained.

Until we are better informed respecting the nature of this disease, the employment of internal medicines is scarcely warrantable; unless analogy should point out some remedy the trial of which rational hope might authorize. Particular circumstances indeed must arise in different cases, in which the aid of medicine may be demanded: and the intelligent will never fail to avail themselves of any opportunity of making trial of the influence of mercury, which has in so many instances, manifested its power in correcting derangement of structure.

The weakened powers of the muscles in the affected parts is so prominent a symptom, as to be very liable to mislead the inattentive, who may regard the disease as a mere consequence of constitutional debility. If this notion be pursued, and tonic medicines, and highly nutritious diet be directed, no benefit is likely to be thus obtained; since the disease depends not on general weakness, but merely on the interruption of the flow of the nervous influence to the affected parts.

It is indeed much to be regretted that this malady is generally regarded by the sufferers in this point of view, so discouraging to the employment of remedial means. Seldom occurring before the age of fifty, and frequently yielding but little inconvenience for several months, it is generally considered as the irremediable diminution of the nervous influence, naturally resulting from declining life; and remedies therefore are seldom sought for.

Although unable to trace the connection by which a disordered state of the stomach and bowels may induce a morbid action in a part of the medulla spinalis, yet taught by the instruction of Mr. Abernethy, little hesitation need be employed before we determine on the probability of such occurrence. The power, possessed by sympathy, of inducing such disordered action in a distant part, and the probability of such disordered action producing derangement of structure, can hardly

be denied. The following Case seems to prove, at least, that the mysterious sympathetic influence which so closely simulates the forms of other diseases, may induce such symptoms as would seem to menace the formation of a disease not unlike to that which we have been here treating of.

*A. B.* A man, 54 years of age, of temperate habits and regular state of bowels, became gradually affected with slight numbness and prickling, with a feeling of weakness in both arms, accompanied by a sense of fulness about the shoulders, as if produced by the pressure of a strong ligature; and at times a slight trembling of the hands. During the night, the fullness, numbness, and prickling were much increased. The appetite had been diminished for several weeks; and the abdomen, on being examined, felt as though containing considerable accumulation.

Before adopting any other measures, and as there appeared to be no marks of vascular fulness, it was determined to empty the bowels. This was done effectually by moderate doses of calomel, with the occasional help of Epsom salts; and in about ten days, by these means alone, the complaints were entirely removed.

Before concluding these pages, it may be proper to observe once more, that an important object proposed to be obtained by them is, the leading of the attention of those who humanely employ anatomical examination in detecting the causes and nature of diseases, particularly to this malady. By their benevolent labours its real nature may be ascertained, and appropriate modes of relief, or even of cure, pointed out.

To such researches the healing art is already much indebted for the enlargement of its powers of lessening the evils of suffering humanity. Little is the public aware of the obligations it owes to those who, led by professional ardour, and the dictates of duty, have devoted themselves to these pursuits, under circumstances most unpleasant and forbidding. Every person of consideration and feeling, may judge of the advantages yielded by the philanthropic exertions of a HOWARD; but how few can estimate the benefits bestowed on mankind, by the labours of a MORGAGNI, HUNTER, or BAILLIE.

FINIS.

## FOOTNOTES:

[1] Synopsis Nosologiæ Methodicæ.—Tom. ii. p. 195.

[2] Junckeri conspect. de tremore.

[3] Sect. V. Ubi autem solito pauciores deferunter ad eadem organa spiritus animales, imperfectæ ac imbecillæ observantur fieri eadem functiones, in motu tremulo et infirmo, nec diu durante, in visu debili, ac mox defatigato, &c.

Sect. XIX. Inæqualiter, inordinatè, ac præter contraque voluntatem moventur spiritus animales per nervos ad partes mobiles, in motu convulsivo, ac tremore, quassuve membrorum coacto.

Distinguendus namque his tremor quiescente licet ac decumbente corpore molustus a motu tremulo, de quo dictum. Sect. V. Quique quiescente corpore cessat, eodemque iterum moto repetit.

Sect. XXV. Coactus tremor debetur animalibus spiritibus inordinatè ac continuo, cum aliquo impetu ad trementium membrorum musculos per nervos propulsis: sive fuerit is universalis, sive particularis, sive corpus fuerit ad huc robustum sive debile, Sylvii de la Boe. Prax. lib. i. cap. xlii.

[4] Nosolog. Methodic. Auctore Fr. Boissier de Sauvages, Tomi. II. Partis ii. p. 54. 1763.

[5] Comment, in Herman. Boerhaav. Aphorismos. Tom. ii. p. 181.

[6] De tremore. Cap. 3 and 4. Chart, Tom. vii. p. 200-201.

[7] Sect. XVI. *Tremor palpitans*, Preysinger classis morborum. *Palmos* Galeni.

In tremoribus vulgaribus, æqualibus temporum intervallis, non musculus, sed artus ipsemet alternatim attollitur aut deprimitur, aut in oppositas partes it atque redit per minima tamen spatiola; in palpitatione verò sine ullo ordine musculi unius lacertus subito subsilit, nec regulariter continuoque movetur, sed nunc semel aut bis, nunc minimé intra idem tempus subsilit; an causa irritans in sensorio communi, an in musculo ipse palpitante Quærenda sit, ignoramus. *Nosologiæ Methodicæ*, Vol. I. p. 559. 1768.

But the adoption which Sauvages has made of this term, will not be regarded as an absolute prohibition from the employment of it here; since the *tremor palpitans* of Sauvages should be considered rather as a palpitation of the muscles, whilst the motion which is so prominent a symptom in this disease, may be considered as a palpitation of the limbs.

[8] Est et ubi musculi, recte quidem ad voluntatis nutum in actum concitati, injussa dein agilitate atque impetu non reprimendo motus suos accelerant, mentemque invitam præcurrunt. Vitium loquelæ musculis frequens, nec his solis tamen proprium: vidi enim, qui currere, non gradi, poterat[A].

[A] Institution, Patholog. Medicinal. Auctore. H. D. Gaubio. 751.

[9] Ad idem genus morbi altera species rarissima ab auctoribus prætervisa referenda videtur, quam non aptius nominari posse putem quàm scelotyrbem festinantem, seu festiniam.

Sect. II. *Scelotyrbe festinans*: est peculiaris scelotyrbes species in qua ægri solito more dum gradi volunt currere coguntur, quod videre est apud D. Carquet, et observavit Leydæ illustr. Gaubius. *Patholog. instit.* 751, et in loquela hæc *volubilitas* dicitur quâ lingua præcurrit mentem. Video actu mulierem sexagenariam hoc affectam morbo siccitati nervorum tribuendo; laborat enim rheumatismo sicco, seu ab acrimonia sanguinis, dolores nocte a calore recrudescunt, à thermis non sublevantur: ei præscripsi phlebotomiam, et præmissis jusculis ex lactucâ, endiviâ, et collo arietis, lene catharticum, inde vero lacticinia.

Est affinitas cum scelotyrbe, chorea viti, deest flexibilitas in fibris musculorum; unde motus breves edunt, et conatu seu impetu solito majori, cum resistentiam illam superare nituntur, velut inviti festinant, ac præcipiti seu concitato passu gradiuntur. Chorea viti pueros, puellasve impuberes aggreditur; festinia vero senes, et duos tantum hactenus observare mihi contigit. Quam multos autem videmus morbos, paucissimosque observamus. De theoria et pràxi nihil habeo quod dicam; etenim sola experienta praxin cujusvis morbi determinat, et ex hac pro felici vel infausto successu theoria dein elicienda est. *Nosolog. Methodic.* Auctore, Fr. Boissier de Sauvages. Tomi. II. Part ii. p. 108.

[10] Corporis agitatio continua, indolens, convulsiva, cum sensibilitate.—*Linn.*

Agitatio corporis vel artuum convulsiva continua, chronica, cum integritate sensuum. —*Vogel.*

This genus is resolved by Cullen into that of Convulsio. *Synops. Nosol.* 1803.

Dr. Macbride has given a very interesting and illustrative case of this disease.

“Hieranasos, or Morbus Sacer, so called, as being vulgarly supposed to arise from witchcraft, or some extraordinary celestial influence, is a distinct genus of disease, though a very uncommon one; the author once had an opportunity of seeing a case. The patient was a lad about seventeen, who at that time had laboured under this extraordinary disease for more than twelve years. His body was so distorted, and the legs and arms so twisted round it, by the continued convulsive working, that no words can give an adequate idea of the oddity of his figure; the agitation of the muscles was perpetual; but in general he did not complain of pain nor sickness; and had his senses perfectly, insomuch that he used to assist his mother, who kept a little school, in teaching children to read.” *A methodical Introduction to the Theory and Practice of Physic. By David Macbride, M.D. p. 559.*

[11] Medical Observations and Inquiries, Vol. III. p. 257.

[12] A coagulum of blood, the thickness of a crown-piece, was found lying upon the external surface of the dura-matral covering of the medulla spinalis, extending from the fourth vertebra colli to the second vertebra dorsi. The medulla spinalis itself was uninjured.

[13] The sixth and seventh vertebra colli were dislocated, the medulla spinalis, externally, was uninjured; but in the centre of its substance, just at that part, there was a coagulum of blood nearly two inches in length.

[14] The seventh vertebra colli was fractured, and the medulla spinalis passing through it, was lacerated and compressed.

[15] The spinal marrow, within the canal of the sixth vertebra dorsi, was completely destroyed by a musket ball. The person lived four days.

[16] Cork, which has been hitherto neglected, appears to be very appropriate to this purpose. It possesses lightness, softness, elasticity and sufficient firmness; and is also capable of being readily fashioned to any convenient form. The form which it seems would be best adapted to the part, is that of an almond, or of the variety of bean called scarlet bean; but at least an inch and a half in length.