Library of Congress.

Chap. AC901

Shelf M5

UNITED STATES OF AMERICA.
THE CONSTRUCTION
OF THE
NERVES,
And Causes of
NERVOUS DISORDERS:

WITH

A Regimen and Medicines which have proved successful.

By J. HILL, M.D.

Publish'd at the Desire of some who found Benefit from this Method.

THE SECOND EDITION.

LONDON:
Printed for R. BALDWIN, in Pater-Noster-Row.
M DCC LVIII.
[Price One Shilling and Six-pence.]
This, and the Management of the Gout, being the Author's first Medical Works, were, through diffidence, originally publish'd with the imaginary Names of Uvedale and Grime.
THE
Construction of the NERVES,
And Causes of
NERVOUS DISORDERS.

CHAPTER I.
Of the nature and construction of the nerves.

I have been desired by some persons, whom I have had the honour to attend in nervous cases, to publish a plain and practical account of those disorders; with the methods which have in these instances proved in some degree successful. I could with the task had devolved upon a more experienced hand; but since it is not undertaken in this light by another, I shall endeavour, from what dissections have shewn me of the minuter parts of anatomy, and from the observations I have had opportunities of making on persons afflicted with
with nervous disorders, to explain the nature of those complaints, so far as their seat and causes are the object of our senses; and to lay down, upon the principles of that enquiry, a method of conduct with regard equally to management and medicine; which, however imperfect, will so far as it extends, I hope be useful.

By nervous disorders, physicians understand those distemperatures of the human frame, which arise from some imperfection or discomposure of the nervous system; whether it be in the separate nerves which are spread throughout all parts of the body, or in that great collection of them which forms the brain; their proper source and origin.

This is an extensive view of these distempers, comprehending even epileptic and apoplectic fits: but by nervous disorders in the present enquiry, we mean only those lesser complaints, TREMORS, NUMBNESS OF THE LIMBS, FAINTNESS, LOWNESS OF SPIRITS, and such other cases as are not distinguished under the name of particular diseases.

To understand these disorders, we should first know the nature of the nerves themselves: a subject, in which anatomy has yet made but imperfect discoveries. Perhaps the time is at hand, when they will be
be more perfectly known: if the Hunters of the age, will take into their researches in the human frame, that assistance from glasses, which has acquainted us with the parts of the minutest insects: perhaps this great point will be soon thoroughly understood.

What I persuade myself I have seen is this. The brain is composed of two distinct parts, appearing to the naked eye, to be two different substances; but by the assistance of glasses, I have plainly seen that the one is a continuation of the other, tho' in a different form. The brain is the source and origin of the nerves; and its structure must be known, or they cannot be understood.

The two parts of it are called 1. the cortical, and 2. the medullary. The cortical part is plainly composed of vessels, and these are no other than continuations of the arteries sent from the heart: it is the nature of arteries in other parts of the body, to unite themselves at their extremities, with the beginnings of the veins; and thus the blood sent through them is carried back to the heart, whence it returns again down the arteries in a continued course of circulation.

But this is not the case altogether in the head: the extremities of many of the arteries
teries sent thither, do not join any veins, but are continued into the substance of the cortical part of the brain: there we can see them pursuing their course in various meanders; and the whole substance is indeed plainly made up of vessels.

All these vessels are continued to the medullary part of the brain; where they lose their vascular figure, and are blended together in the form of a fine pulp.

This is the medullary substance of the brain, and of this pulpy matter are formed the nerves, which run through all parts of the body. This I have seen: that others have not distinguished it, is owing solely to their not having applied powerful microscopes to that purpose, in which they may be of all others the most useful; the examination of the human frame.

The vessels of the cortical part of the brain, dissolve at their extremities into this soft and delicate substance; which is enclosed by proper membranes to keep it together: and this substance, which is thus elaborated from the arterial blood, is the constituent matter of the nerves. It is collected within the skull, and a part of it is continued down the hollow of the back bone: and it is in various places collected into the heads or beginnings of the nerves which
which are sent out from it in pairs, through holes opened by nature for that purpose, in the bone; and are continued to the various parts of the body.

Every nerve, even the smallest that can be an object of sight, is (according to what I have seen) a complex body; composed of many delicate tubes, wrap’d round by a cellular membrane. Each tube has a thick coat and a very small hollow: and they are all largest at the source, and run gradually diminishing throughout their whole progress, till they terminate too minute for sight. The substance of the coat of each tube is cellular, like that of the membrane which invests them all; and there run across the hollow from side to side in each tube, many delicate white fibres.

Thus are the nerves of the human body constructed: whether or not they contain a fluid in the cavity of the tubes, I cannot determine from the evidence of sight; for these observations can only be made with very thin slices of them, from which any fluid, if they had contained such, would be lost; and which must, for due observation, be also laid before the microscope in water.

Nerves are universal in the animal frame, and they are peculiar to it. They may be
be found in the minutest insects; but there is nothing like them in plants. They form, perhaps, the proper distinction between those two great classes of nature: and they are the organs of sensation. Bodies may receive nourishment without them, and may grow; nay, they may by various glands, secrete and prepare peculiar juices, different in taste, quality, and colour; but they cannot feel. Hence it is that vegetables have a kind of life; but without sensation.

The ingenious have found in plants, parts analogous to all those of animals, except the nerves. The root they have called the stomach; and the stalk the bone; the leaves the lungs; and the base of the stem the heart. The filaments in the flowers they have named spermatic vessels; the antherae, or knobs which terminate them, testicles; and the farina sperm: the rudiment of a seed vessel they have named the ovary of the plant, and the seeds they have found analogous to eggs. But in all this minute detail, in which, tho' fancy has its share, there is yet a great deal of reality, they have not discovered any part which bears the least resemblance, either in form, or office, to the
the brain, or nerves of animals.

These then are the parts of an organized body, which are singular in animal nature: nor is this research without its use. We have organs peculiar to ourselves which are nerves; and we have a quality peculiar to ourselves, which is sensation: It is natural to believe, this quality depends upon those organs; and material observation fairly confirms the system of an abstracted philosophy.

We have reason therefore to adopt the opinion that sensation depends upon the nerves; and we see by this of how great importance they are in our nature: they are the organs by which external objects affect us; and they are the material seat of reason. They are essential to the several parts of the body, to which they belong: for these, if the nerves be hurt no longer, preserve their animal nature: the part to which a nerve is conveyed, loses sensation if that be destroyed; and consequently when those on which the organs essential to life depend, are wounded, the animal perishes. On cutting the nerve sent to any part, that part becomes incapable of motion; and dividing those which administer to the organs of voice, the creature is made dumb: wounds in the brain and spiral mar-
marrow, for the same reason, dividing certain nerves, are mortal.

To explain in what manner sensation and perception are received and conveyed, would be to say how soul acts upon body; a question to be left for metaphysicks: but 'tis easy to conceive, that parts formed, as the nerves appear to be by these observations, are calculated for the most delicate motions. The cellular substance of the outer membrane must be liable to compression and inflation, contraction and dilatation from the very slightest external force; and its motions of either kind must necessarily influence the tubes within. Their substance being also cellular, will be liable to the same easy changes; nor were the intermediate fibres given for nothing. Perhaps also a fluid is contained in them, and it is natural and reasonable to believe there is, tho' we have not yet seen it. Why should we think their cavities were given in vain? It is not the course of nature. It has been thought that the motions of the nerves were like those of strings, stretched to a certain degree, which on being struck in one part, vibrate throughout; and our countryman Cheyne has written a very ingenious treatise on this system. But the result of observation has got the better of these
these reasonings from fancy; and Haller, the first man of the world for such enquiries, has proved most evidently, that the nerves cannot have these vibrations, because they are not fixed to hard parts at both ends, nor capable of that degree of tightness; and because many of them are in their course fastened to solid parts, which would stop the course of that motion. To these demonstrations Monro, the light of our northern world, subscribes; and Fleming has written to the same purpose very early, and very much to his honour.

From these reasonings, and from what actual observation offers to confirm them, we may determine that the nerves are neither so constructed, nor so placed, that they can have vibrations: and since they do not contract themselves when cut asunder, nor is any part of them affected by the wound, but that beyond it, reckoning from the brain, we may conclude safely, that far from being vibratory, they are not even elastic; and that they really perform their several offices by means of a fluid; the limb losing sensation beyond the place where they were cut, because that liquor is no longer conveyed to it.

Why should we suppose parts form’d of a fluid, should not contain a fluid? The arteries which give origin to the nerves con-
tinue their course thro’ life, to the cortical
substance of the brain; and their use can be
only to secrete a fluid for them; which is
delivered to them at their origins, and
which preserves a natural communication
between the nerves, the brain, and even the
blood-vessels. This way it is easy to un-
derstand all the operations of the nerves,
which without this are inexplicable.

C H A P. II.

Of the occasions of disorders of the nerves.

The nerves, which are bodies of a
tender and delicate structure, are con-
veyed from the brain and spinal marrow,
as we have described through all parts of
the body; and in their course are lodged
by nature between, beneath, and under
cover of the muscular flesh. This serves
as a soft bed for them, and surrounding
them every way, preserves them from
injuries. It keeps them in a perfect
state, so long as itself is in a healthy con-
dition, affording them in a proper degree
of warmth and moisture, and giving
their fluid a free and unrestrained course
through all parts of the body.

This is the condition of the nerves in a
state of health; and it is not necessary to
have recourse to any alteration in them-
elves,
selves, to account for many of their disorders. Their course must be free, in order to their performing their natural office, which rests upon a perfect communication of their fluid with the brain: sensation and perception depend on this; and consequently whenever their course is interrupted, or their contexture is disordered by heat or pressure, they will perform those offices irregularly; and not only bodily uneasiness must follow, but a disordered mind. Lowness of spirits, or extravagant fancies; vain terrors, and unreal joys, are the lighter symptoms of this disorder; and the most extrem is madness.

Nature has given a construction to the nerves, delicate in the highest degree; as is also their office, that of receiving and conveying sensation; and in proportion, as a machine is more delicate, it is more tender and more easily put out of order. The cellular substance and tubular compages of the nerve are necessary in its extrem and most minute parts, that it may be affected by any impression, and in the whole continuation of it, that the effect of such impression may be conveyed regularly and unaltered to the brain: the course of it must also be free for this reason: but the nerve from its natural structure is liable to be easily compressed, and the
the muscular flesh, among which it runs, is subject to swell; and this must compress it.

Thus the flesh is swelled in certain temperatures of the air; and the nerves accordingly suffer.

The sensations received by the extrem parts of a nerve, cannot be conveyed thence to the brain, otherwise than by means of a free course of its fluid; and this free course will be prevented, if the nerve be in any place flattened or compressed; as it will be, and must be, in this condition of the muscular flesh. We find by repeated experiments, that the tying up a nerve has the same effect as the cutting it off: and the nerve is in a condition approaching to that of being tied, when it is in any part pressed together by the muscular flesh.

The compression not being so violent, the effects are less in proportion; but they differ only in degree. The part in this case is numb'd; and the whole system of the nerves being thus affected together, the imagination is disturbed, from their ill performance of their office.

Any thing that comes into contact with the nerves, may stop or disorder the free course of their fluid: the flesh is everywhere in contact with them, therefore it may
may disorder them throughout; and as there is only a certain state wherein it is proper to preserve them in order, in any other it may interrupt them in their functions.

On this foundation, many disorders of the nerves may be attributed to a cause not hitherto regarded, the distemperature of the circumambient flesh. But they have also affections of their own, and are subject to disorders, in which the flesh has no share.

This gives us a division of nervous disorders into two kinds, which I do not remember to have met with in medical writers, but which is of great importance toward their cure. When the disorders of the nerves are owing to an unhealthy or unnatural condition of the flesh, the disease can only be attacked rationally by those remedies, which will reduce the body in general to a proper state; but when the nerves themselves are disordered, peculiar remedies must be sought for them.

I do not presume to write for the information of physicians; but to the nervous patient this distinction will be of the highest importance. He will easily distinguish whether the disease be in the nerves themselves, or in the other parts of the body; and a great deal will be in his
his own power, when he has made that distinction.

If it be asked, why some persons are more subject to disorders of the nerves than others? The answer is as plain as to that question, why some people are more subject than others, to the gout, or a consumption: the conformation of the body differs in various persons; and they are accordingly subjected to peculiar diseases; of which this is one. This condition of body is sometimes hereditary; but like all other accidents of the same kind, which are hereditary, it may also be acquired. Debauchery in strong liquors, gluttony, or excessive venery, may cause nervous disorders: and the father's memory may be reproached for the faults and follies of the son.

In general, those who have the nervous system naturally in the highest perfection, are the most liable to have it disordered: for that greatest perfection infers the greatest tenderness and delicacy. This condition of the nerves gives the most perfect sensibility, but the fine machine is easily disordered. Those who possess it should understand its value; and allow a due attention to its frail condition.

While the body is in health, and this elegant part with the rest, enjoys its original con-
condition, these persons feel a continual ease of mind, free thought, and clear discernment: but when accidents from intemperance, or from whatever other source, disorder either these delicate parts themselves, or the flesh among which they pass, trouble and a disturbed imagination follow; the body becomes languid or numb'd, and the mind suffers with it: the reason is unable to pursue a train of thought, the head is disordered, and a confusion follows, which is at once the object of the imagination and the senses. A confusion, which, like the darkness of Egypt, can be felt. The lightest accidents occasion to persons in this state a sensible distress, and the whole frame feels with this peculiar system.

C H A P. III.

Of nervous disorders arising from a foreign cause.

Whatever disturbs or impedes the course of that fluid, by means of which sensible objects affect the nerves, and thence convey the motion to the brain, disorders them, and interrupts their proper functions. The consequences are pain in head, where the originations of those nerves lie, and a disturbed imagination. There
There is a certain state of the muscular flesh, which is the condition of health, and while it enjoys this, the nerves have an uninterrupted course. This healthy state consists in two articles, a due dilatation, and a proper warmth, and it is necessary to the nerves performing their office perfectly, that the flesh be and continue in this condition: but many things disorder the flesh; and the nerves suffer with it.

Whatever can add a fullness to the vessels, may disturb these tender organs; for with that fullness of the vessels the flesh swells; and, swelling, it presses on the spongy substance of the nerve, alters its form in the part affected, and interrupts or stops the course of its fluid.

Two things give fulness to the vessels, intemperate meals, and the effect of colds, the first originally and naturally, the other secondarily, by obstructing the great evacuation by the pores.

A full meal always affects the nerves, for some time after, in delicate habits; and therefore people of delicate nerves should be abstemious. Therefore people of delicate nerves should be abstemious. This is certain, that the faculties of the mind are naturally strongest in those who are most temperate; and that they will be ren-
rendered more clear and effective in any one by this moderation.

It is not only by swelling the muscular flesh and obstructing the passage of the nerves, that debauches in food and wine produce these disorders: the absolute heat they occasion is also a powerful principle. The motion of the blood is increased; and motion is heat: the consequence of a full meal is a temporary fever; and this while it lasts, has in its degree, the same effect upon the nerves as any other feverish disposition. In fevers the flesh having a violently increased heat, communicates it to the nerves; and they are affected by it wonderfully. The air in their cellular sub stance is rarified; the moisture necessary to the due performance of their offices is in part dried away, and hence arises a complicated disorder in them, the effect of which is light headedness; a temporary species of lunacy.

The same effect is produced by a full meal, or by a cold, though in a less degree. The motions of the nerves are disturbed, and there arises a confused, tho' not a wild imagination; with actual pain.

In certain temperatures of the air, wood swells, and other inanimate substances are affected in the same manner: our flesh
flesh is subject to the same impressions, and from these arise the like symptoms: the mind feels with the body, and men are dull as well as inactive.

There are people who feel little from any of these changes; for their nerves being naturally less delicate, are not so easily disordered: but it is of great consequence to those, who are liable to these disorders, to know how to combat the effects of an unavourable atmosphere, and preserve themselves from this great source of their disorders.

They will feel in their own bodies, that the effect is the same in all these cases, though the remote cause be so different. It is that the swelling of the flesh presses unnaturally and improperly upon the nerves; and interrupting their motion disturbs those sensations, which can only be perfect when they are free. Therefore whatever can prevent or abate this condition of the flesh, will prevent the disorder, even when the air alone should be the cause. Temperance at all times is necessary for those who are subject to nervous disorders; but in this state of the air it should be reduced to abstemiousness.

This will probably remove the occasion of the complaint in all: I have seen great effects from it in many; and never knew one
one instance, in which the attempt was wholly fruitless.

I am sensible there is in this account a great deal of novelty; perhaps also in the theory a great deal of error: but thus far facts seem to support it. I suppose objections will be made to it, but I hope they will be made with candour; that physicians, (for they only can make the objections) will remember they are gentlemen; that every thing was new once, and that there is no crime in endeavouring, though it be ineffectually, to advance useful knowledge.

C H A P. IV.

Of the disorders of the nerves which are absolutely in themselves.

In the affections of the nerves owing to the causes hitherto assigned, I have always found medicines unnecessary, at least what are called nervous ones: for generally abstemiousness will perform the cure. If evacuation be requisite, it is for the feverish or plethoric disposition of the whole habit; and the nerves are eased in consequence.

But besides these, there are very terrible disorders of the nerves, the cause of which is in those organs themselves. In some of these,
these, their construction seems to be imperfect, and they perform their office languidly; in others they over act their parts in the human frame; and their fault seems an extreme delicacy.

The first is the case of the torpid and dull, who are scarce affected by any thing; the other that of the tender and sensible, whom the falling of a cane shall cover with a cold sweat; or the hasty shutting of a door throw almost into convulsions. These persons are not exempted from the effects of those before named remote causes, which never fail to aggravate their symptoms; but the peculiar condition of their nerves is, that they are ill without them.

Abstinence alone cannot be a remedy for these: medicine must be called in; and in the latter case, which is the most common, of all medicines the most excellent is the root of Wild Valerian.

If I may be permitted to speak of these two cases, from what I have seen in my very limited opportunities of observation, they are altogether different in their nature and origin. And from what I have observed of the rise and progress of the symptoms, compared with the appearance in dissection, I should be led to think, that the seat of all nervous disorders lies
LIES IN THE MEDULLARY SUBSTANCE OF THE BRAIN; and that the various symptoms arise from the different nature of the distemperature which affects that part.

Let it be observed, that the first symptoms of nervous disorders are always perceived in the head; and that generally through the whole course of the disorder, the worst are also there.

Thus let us remember, that from this part of the brain, and its continuation in the backbone, are sent all the nerves of the body. The origin of the greater part is formed in and of the medullary substance of the brain; and throughout their whole progress they are indeed nothing more than continuations of it. They are properly so many extensions of the brain to various parts of the body.

The fluid which they contain is originally secreted in, and delivered to them from the brain; therefore the origin of its perfection or disorder, as disclosed in the nerves, must be sought only there.

I think, if I do not strangely deceive myself, that I have found in dissection the condition of the medullary part of the brain sometimes such as to declare its being loaded with a fluid of too tough a nature; and in other subjects appearing as if it had been penetrated by one too thin and acrimonious:
in both very different from the state of health.

These variations dissections shew; and sometimes in persons who have died in extreme cases, the membranes have been almost ossified. This may account for all the symptoms; and this only can: such a fluid as is secreted in the brain, such, and no other must be sent into the nerves; and its difference may occasion all their disorders, rendering them torpid when it is tough and thick, and irritating them too forcibly when it is thin and acrimonious.

C H A P. V.

Of nervous disorders attended with heaviness.

These distemperatures of the nervous system I apprehend arise solely from a tough, thick, and heavy fluid secreted in the brain, and thence sent into the nerves; instead of that delicate and spirited kind, intended by nature, and always formed in a state of health; by means of which sensation and perception being imparted to the nerves by external objects, are conveyed along them freely throughout their course.

This tough and heavy fluid is not suited to these delicate purposes; nor indeed so much as to enter into the smallest branches of the nerves: and hence proceeds an imperfect or disturbed
disturbed sensation, a confusion in the mind, and bodily pain.

The symptoms of nervous disorders arising from this cause, are dull headachs, sleepiness, and melancholy. These arise from the want of spirit and motion in the nervous fluid; and though in the beginning they are only symptoms of what is called by a general term a nervous disorder, yet if they be permitted to gather strength by long continuance, or indulgence, they will any one of them become very terrible; each, in that case, assumes the name of a peculiar disease; and none are more difficult of cure. We would not fright the nervous patient of this temperament, who is too apt to be terrified by vain alarms; but it is needful to give him in this case caution. While these symptoms are in the condition thus described, they may be removed; and there is no danger but through neglect. Age will give them strength, and so will intemperance, the parent of earlier age. Therefore the great articles are sobriety and timely care. Many have had recourse to drink under these circumstances, but the relief is only temporary; and the disease is always increased.

The headach which attends this condition of the nerves, is attended with heaviness and a sensation of cold; it begins by short fits, which
which as it gathers strength, becomes longer; and at last it will be in a manner continual. And if still neglected, it will produce deafness, loss of sight, and sometimes an absolute apoplexy.

The disposition to sleepiness is always attended with a dull pain in the head, and a confusion of thought; and if it be neglected, will strengthen itself into an absolute lethargy. The wanderings of the mind are always upon gloomy subjects, and they will in the same manner increase into that kind of lunacy called melancholy.

Dreadful as these diseases are in their confirmed state, they are all nervous in their origin; and there is not one in a thousand who fall into them, otherwise than by a neglect of what are simply called nervous disorders.

The other symptoms attending all these are the same, for they are all owing to one cause. The person is dull and inactive, subject to muse, without thinking; and to disregard every thing. The appetite is bad, the stomach is weak, wind is troublesome, and breathing difficult. Lowness of spirits is a constant attendant; and in the more advanced stages, dimness of the sight, vain suspicions, melancholy imaginations, and a disgust to every thing, a love of laziness, and a drowsy inactivity.

These are the original and peculiar symptoms
toms of this kind of nervous disorder; they differ altogether from those distemperatures of the same system, which shew themselves in an over-sensibility; and let them be carefully observed, to distinguish this case from that: for as they are of contrary origin, the medicines which would cure the one, will increase the other. Perhaps the little success of physic in nervous disorders, has been owing to a neglect of this distinction.

CHAP. VI.

The conduct and regimen in this disorder.

Medicines will be sometimes useful, and they should always be at hand, for those who have this condition of the nerves: and we shall say in the next chapter what are best. But good management will do more; and will often render these quite unnecessary.

A good air is the first requisite, and every thing will succeed the better for this early caution. Low grounds are no place for such a person; nor is the smok of London a small disadvantage. His residence should be upon an ascent, but not bleak; and there should be few trees about the place, and little standing water. He must by no means choose a solitary spot, for company is a medicine of great power, and the
the more he is inclined to shun, the more he ought to force himself to seek it.

This care is easy; but all must be considered in time. When fixed on such a spot, let his course of life be temperate and regular; and let him court cheerfulness as the deity of health.

Let him rise early, and as soon as the dew is off the ground, walk: let his breakfast be mother of thyme tea, it is as pleasant as that of the Indies, and will often supply the place of all other medicines. It is a common herb, the slopes of grass in Richmond gardens are covered with it, and elsewhere on like ground it is abundant; it should be gathered in June, while the buds have not opened into flower; and the leaves and tops are the useful part: they should be picked off and dried, and they will keep the year. Half as much as we use of tea will make a pleasant breakfast. The colour is a bright green, the taste light, high flavoured, and a little aromatic. It should be drunk with the finest sugar; and cream may be added at the patient’s pleasure. Bread and butter may be eat with it in the usual way, and he will have the benefit of one of the greatest remedies in the world, without the trouble or appearance of a medicine.

The faculty will read this with some surprise, for the herb is not used in their practice,
tice; but let the patient regard it carefully. I have seen, within these three years, two de-
perate cases cured solely by this medicine.

Before dinner let him walk again; and throroughly air but not fatigue himself; and let his dinner be light and moderate. Wine should be used as food, let him drink a little of what is good; and let no temptation lead him to excess.

After dinner he will be heavy, but by no means let him indulge sleep. If the tend-
ency to it be unconquerable as he fits, it is best to get up and walk. In the afternoon he may drink two or three dishes of very good plain green tea, made fresh, and not suff-
ered to stand to pall. The last dishes of tea are like the last runnings of an alembick in distilling: though the liquor have been ever so spirited, these are dead and sickly. The first made light infusion is stomachick, and assists digestion; but that which has stood long palls and nauseates.

Coffee must be avoided in these disorders. It comes too near the nature of a medi-
cine to be rationally admitted among foods; and it is always hurtful in this condition of the nerves.

Chearful conversation, no matter how fri-
volous, should fill the time till evening, and then a very little supper, and a little wine, should finish the day.
Malt liquors of all kinds must be avoided. German spaw water should be the only fluid drank beside wine; and in this, as well as the wine, the rule is moderation. Many deny suppers to low spirited people; but I write not from the dictates of others, but experience. The supper must be eaten a full hour before going to bed; and therefore it must come early: for as early rising is essential to health, the hour of bed must be proportioned.

The patient will, under this regimen, be denied no part of the common enjoyments of life, except evening entertainments, and late clubs: and these he must give up, if he ever expect to be cured.

When any particular symptoms become violent, a peculiar care must be taken of them. Thus when there is numbness in the limbs, a flesh brush must be used constantly and heartily. When a heaviness of the head is particularly troublesome, valerian snuff must be taken; and when headaches encroach, the feet must be held in warm water, half an hour before going to bed.

The valerian snuff is a medicine of great power. The root must be carefully chosen, and as soon as it is dried, must be reduced to a coarse powder. This is to be mixed with an equal quantity of rappee snuff; and the best time of taking it is a little before going
ing to bed: but it may also be taken at any
time, when the symptom against which it is
intended comes on.

Dimness of the sight is no uncommon
attendant of this disorder in the head, in
nervous cases; and we have an account in
the German ephemeredes of two cases, very
desperate in their kinds, absolutely cured by
this snuff alone: the one of a painter, who,
though near blind at fifty, worked after-
wards by help of it, till more than seventy
without spectacles; and the other of an hy-
terick patient, of the other sex, who was in
a cafe as deplorable, and received a great
and lasting benefit.

C H A P. VII.

Of the employment of the mind.

T H O U G H men of genius are most
liable to disorders of the nerves, the
mercantile part of the world, people at least
as useful however free from that pretension,
are not exempt from them; and when they
have disorders of that denomination, they
usually are of this peculiar kind. Genius
oftener throws the nerves into convulsions;
but attention naturally numbs their faculties.
The regimen of body must be the same
for both, but there is a great deal of dis-
tinction with regard to the conduct of the
mind.
Mind. The merchant, in this situation, should find some way to throw off the care of business; and though it cost him something, he will find it a cheap purchase: it is better to give up a fifth to a partner, than rob himself of half the remainder of his life, and and embitter even that he keeps. When he has shook off this load of care, let him take a house out of the smoke of London, but within the reach of an afternoon's ride. A place so situated, will never want company; and let him there devote himself to mirth and dissipation. The air, the remedies we shall add, and the management already directed, will perfect a cure; and he will find his former years were only a preparation for these: and that he never lived till now.

Genius in the same state requires a different conduct. The nerves are its immediate organs; and it is a spirit, that when roused will be employed: the application to a right purpose is in this point most essential of all others; for the relief or aggravation of the disease depend more upon this, than on all medicines.

An attention to the sublimer sciences, will be as dangerous to him, as the strict application to business would be to the merchant: To pursue an abstruse or mathematical calculation, is as bad as to mope over a ledger.
To attack the mysteries of religion, is to entail an everlasting dotage: and a turn to methodism is certain madness. But there are lighter studies, as useful as these are dangerous; and to apply to such, is to rouse the soul from her lethargy. Genius often lurks in men whose gloomy habit will disclose no spark of it; and that heaviness which is supposed a distemper of the mind, is merely a disease; the very disease of which we are treating here, in its peculiar organs the nerves. Genius must be solicited and provoked to shew itself in these, as it must be directed to a proper object in the others; and that physician will be happy, who can discover its natural bent and tendency.

Musick is often a sovereign relief: nor is the effect of the fiddle feigned in Italy, though the bite of the tarantula be imaginary.

This should be tried for the relief of persons in these species of nervous disorders, through its three stages, hearing, performing, and composition. The spirit which possessed Saul, was perhaps a nervous disorder of this kind; and the expression of the sacred writings only figurative: the harp of David cured it. It was an instance not unlike that of the Tarantati named before; among whom though none are
are bit, and many are impostors, yet there are, at least there originally were, some oppressed with this kind of nervous disorder, who fancied themselves bit by spiders; as others have thought they were transformed to cocks or squirrels, to mountains, and to barley corns. Mustick cured these, and was supposed to have been an antidote to poison.

The application of the mind to something that can stir and warm, and enliven the imagination, contributes vastly to a cure in all these cases; but it must be employed in concert with the regimen and medicines here directed, or its relief will be only temporary; and like that of spirituous liquors, it will leave the patient worse.

We have said genius often lies unseen in the human breast; there require circumstances to produce it; and I think, from what I have very lately seen, I may be justified in saying that nervous disorders are sometimes owing to this smothered principle of life and vigour.

In the search of objects in any particular case, if musick be found to have effect from the pleasure of hearing, let the patient be next taught to perform; but let it be on the violin, or some other instrument, that gives bodily exercise; and if this do not perfect
the cure, let him be tried at composition. These three thirds of attention to music, rise in a very exalted manner one above another, and in the last there is a fire and spirit which is absolutely inconsistent with the heavy nature of the disease, and which will never fail to conquer it.

It has been said, that our immortal Purcell was afflicted, in the younger part of his life, with this kind of nervous disorder; but that by giving way to all the fervour of his genius, as it was raised by composition, he threw himself into the opposite distemper
ture. Perhaps we might parallel this in latter time; but one truth is equal to a thousand: and none can doubt the effect of this method for a remedy, when they see it could by too much indulgence over-run the cure, and carry the person into the other extreme.

There might, a degree of genius equal to this, be exerted in painting; not in the humble portrait kind, wherein we at present principally excel, but in that which has its name from history: for the composition there admits all dignity; but it is not an art to which we can recommend the nervous patient; for it requires a sedentary life; and the smell of many colours is un

 wholesome.

There
There remains the third of the five arts, which we may with the utmost propriety to direct his pursuit.

Poetry is of the nature of composition in music, or history painting, but superior to both; more nervous, more affecting, more exalted: frequently a genius which might excel in this almost divine accomplishment, languishes in dull obscurity for want of knowing its own powers, for want of instigation, and applause. That, the highest excellence in this respect, is not incompatible with the utmost nervous depression, I am certain, from what I have seen: and though I have not been so happy to see the experiment of cure made in the full extent of this system, yet from what has here fallen in my way to observe, I am led to think it would be perfect.

That such genius may exist with the very worst state of this disorder, I could instance in a patient, whom I am not permitted to name; among whose papers I have seen passages exceeding all that I have read in poetry; and who has, at this time, outlines of three great works, which himself will not complete, and with which I know no one else worthy to meddle.

This is the natural business of genius; the great strokes are its proper production: and it is labour more than spirit that is required to
hunt after rhymes, and expletives to fill them.

The passages I have named are of the great and sublime kind; and principally upon gloomy subjects: but as a genius for poetry is not limited to one species, I have, and not without success, endeavour'd to divert its course to gayer objects; and hope to make this attention a great article in the cure of the disorder.

Thus a withdrawing the attention from dull or too grave objects, and directing it to such as are of a contrary character, is the great art in the conduct of the mind in these disorders; and the attention of the patient, his friends, and his physician must be employed to find the proper subject.

C H A P. VIII.

Of medicines for this state of the nerves.

In cases where the disorder has great strength, it will be proper to begin with a vomit: and for this purpose, twenty-five grains of powder of IPECACUANHA, in a glass of white wine, is the best medicine. It must be taken in the evening, and an infusion of chamomile flowers drank with it. Not water-gruel, as is a fashionable, but a foolish custom.
Two days after this, if the pulse declare a fulness of the vessels, let a little blood be taken away; but this should not be done, unless there be very apparent necessity.

If there be occasion for purging medicines, some of the rougher kinds should be preferred; but with due caution. Dr. Radcliffe was famous for these cases; and he gave half a dram of powdered jalap, with a scruple of cream of tartar, and five grains of ginger. This I have also experienced, and found it safe, easy, and effectual.

A tincture of foot and assafetida should always be kept in readiness for emergencies: and it may be thus made. Put into a large bottle a quart of French brandy, put to it two ounces of assafetida sliced thin, and three ounces of wood-foot, broke to pieces; let them stand together a fortnight, shaking the bottle twice a day; then let it stand again to settle, and pour off the clear tincture. A tea spoonful of this is a dose; it should be taken in a glass of wine and water; and it will be of great and immediate service in any sudden oppression.

A bottle of salts should also be kept always in readiness, and instead of the frivolous custom of scenting these with the fragrant essences, let some drops of oil of amber be added to this: it is intended for use, not fancy;
fancy; and though unpleasant, it will much sooner take effect.

This is the whole of the nervous patient's dispensatory, if his disorder be of this species. Thus far he may take care of himself: when he wants more, he should apply to his physician.

CHAP. IX.

Of nervous disorders, attended with an over exquisite sensibility.

The regimen, and the medicines directed in the preceding chapters, are calculated against a thickness and coldness in the nervous fluid; and a want of its free course, consequent on that condition. The disorders whereof we are now to speak arise from a cause quite contrary, and therefore require an opposite regimen. The nervous fluid in these is too thin and acrid; often it is also too abundant in quantity; and from these qualities the nerves over-act their part: the sensation is too quick; and they remind one of the poet's image of

Touch so tremulously, alive all o'er,
To smart and agonize at every pore.

The treatment of these disorders may be laid
laid down with the same regularity, as that of the others; and there is no fear of mistaking the case, for the symptoms are altogether different.

In these disorders of the nerves, the patient feels a shortness of breath after the least exercise, and a palpitation of the heart, with flutterings and tremblings of the limbs: he is affected with joy without a cause, or greatly over proportioned to the occasion; and occasionally with sinkings of his spirits: but they are different from those attending the other kind of nervous disorders, for they are mere faintnesses, not dull and gloomy. Flying pains in the head also attend this disorder, often violent but not lasting; and sleepless nights, with a wandering and violent imagination, are its proper and peculiar attendants.

These are the lightest of its symptoms: when confirmed by time and neglect, or aggravated by outrageous passions, or unfavourable weather, inconstancy of mind comes on, and a disturbed imagination, vain terrors, and romantick expectations, schemes violently adopted, and idly dropped again, with all the appearances of a frivolous and unsteady train of thinking.

In the extreme degree of this disorder, the symptoms, like those in the other kind, increase
increase in violence, and each assumes the name of a distinct disorder.

The pains in the head are attended with lasting giddiness, and at length bring on an absolute vertigo. This is in any circumstance a dangerous complaint; but if it affect the hinder part of the head, is scarce ever to be cured. The tremblings of the limbs strengthen themselves into convulsions, and are attended with unconquerable hiccoughs, or with outrageous and uninterrupted sneezings; the wakeful disposition degenerates into a coma vigil, a condition of raving between sleep and waking; and the wanderings of mind increase to raving madness. An epilepsy or apoplexy sometimes put a period to life, before this last most terrible catastrophe: but the consequence of neglect and indulgence under these disorders, is too often in the end one or other of those most terrible diseases.

Let so much knowledge of the nature of his case waken the patient into caution: he need not fear any part of the danger, if he will be upon his guard against it; for nervous diseases, though of all others they strengthen themselves most dangerously by neglect, are the most easily of all checked in their progress: relief in them being as easy, as an absolute cure is difficult.

C H A P.
CHAP. X,

Of the conduct and regimen proper in these disorders.

To give force to all other articles of regimen, let the patient breathe a proper air. Bleak hills are no situation for him, nor should any one who regards the care of his health, live in an absolute bottom. A place a very little elevated, and lying open to the south west, is the best spot; and if nature have not given a defence from the north and east, let this be done by a good plantation.

Early rising is proper, but let it not be too early; and in regard to diet, it should be lower than that in the other kinds of nervous disorders. Lamb, veal, and chickens are the best food, with mutton once in three or four days; not for its virtue but variety. Beef, if it ever be eaten at all, must be fresh, tender, and in small quantity; but it is better to let it alone entirely. What certain observation has shewn me farther on this head, is, that pork, full-grown geese, and wild ducks, are always improper; let these be therefore avoided; and from these, and the kinds allowed, a general rule, may be established, referring all the kinds of foods to one or another.
another species of these. Vegetables in general should be eaten very sparingly, and cabbage not at all; the most innocent of the fruits is the French bean, while very young; and the best root the turnep.

For drink, nothing is so proper as pale well brewed malt liquor. Wine should be avoided carefully; and any thing stronger than wine, is to be considered in these cases as poison.

Sauces in general are bad; and the richest are worst of all. Too large a quantity of butter is by no means proper; and many would be surprized if they calculated what they sometimes eat of this at table. When spices, anchovies, and gravy are added, the mischief to persons in this disorder is extreme.

Moderation in quantity of food is as essential, as a due care of the kind; and if the patient will observe these two rules, always to eat somewhat less than he could, and to eat it with a little salt on a dry plate, he would add greatly to the effect of his remedies.

Of all medicines in this disorder of the nerves, the greatest is the root of valerian; and as it will be doubly effectual if taken regularly and constantly: nothing is so proper as to introduce it at breakfast.

theres
There is no way in which this root gives its virtues better, than in an infusion of hot water. The taste, though not so agreeable as that of the wild thyme, is far from disagreeable; and with the addition of cream and sugar, and the sovereign effect of time and custom, it will become palatable enough.

As all depends upon a due choice of this root, in regard to its virtues, a great deal also does in regard to its palatableness. The water valerian, which is too often sold in its place, is of a dead, vapid, and nauseous taste, with a flavour after it is down, that is an absolute flint; but the true heath valerian root, when fresh dried and clean, is aromatic, and far less unpleasing.

A quarter of an ounce of this root will make four dishes of the tea; and after a time it may be made yet stronger. Much less than this will do in trifling cases; but this kind of dose is necessary, where the disease has strength.

After this breakfast, let gentle exercise and ingenious conversation take up the time till dinner. If the weather deny walking, let some piece of antient history, or some sedate treatise of morality, employ the attention without rousing the passions.

If amusement be required, let it be such as may be taken without fatigue; angling is
an excellent one; hunting is, on the contrary, as much to be avoided.

Of all the amusements of a rational mind, the study of nature is the first and greatest; and in that part of it which regards vegetables, the most inquisitive and curious will find an everlasting fund of knowledge and of pleasure.

A garden to a person afflicted with these disorders, will be many ways a source of health; the gentle exercise it will afford his body, will give motion without weariness; and the culture of flowers, and examination of the species and characters of plants, will employ all his attention without ruffling his temper: no passion can be raised by this but piety; and this is never turbulent, but when it is debauched by enthusiasm.

Dinner we have directed already; but it is essential to repeat the great lesson moderation. Cellus gives abstinence with water as the sovereign remedy for headachs, which have this original; and it is equally effectual against all disorders of the nerves, from the same cause. But too violent changes from the common course of life are often dangerous; and so strict a regimen I have never yet found necessary.

Let the patient abate a little from his accustomed quantity of strong liquors; and for
for his common drink, take small beer well made, and not new. Let him sit quietly an hour or more after dinner; and as for the afternoon, let conversation, with some little amusement, but not reading, render it agreeable.

Tea is not proper for nervous persons in this condition: coffee I have sometimes seen agree with them very well; but constitutions differ so much, that I have known it injure others.

The supper should be lighter, and less than the dinner; but a glass more of strong beer may be allowed at it. An hour or two after supper will be time enough to go to bed; for to those who sleep ill, and are not to rise early, we may allow more fitting up than to others. But let this be at home, for the night air abroad would be very hurtful.

In this course of life all kinds of intemperance must be avoided, high dishes would be more improper than wine; and an excess of venery worse than both. In all nervous cases a great attention should be laid upon this article of life; for either an absolute dilute, or too free indulgence, will not only aggravate, but often create the very worst symptoms.

It is the same with regard to all bodily exercises. Fatigue is sure to encrease the disorder; nor does it gather strength left in absolute
absolute idleness. When the patient finds himself more than ordinarily disposed to sit at home, let him for that very reason resolve to go out: he must not consider this as an intention of his mind, but as a symptom of his disorder. Let him resolve against it the more, the more he finds himself urged to indulge it. Clean linen and company will give him those spirits, which he only fancied he had lost at present; but which he would have lost in earnest by indulgence.

CHAP. XI.

Of the employment of the mind.

The imagination is easily ruffled in persons under this disorder, and the temper becomes violent; hasty in resentment, outrageous against trifles, and peevish without apparent cause. These are symptoms of the disease, and owe their origin to that degree of sensibility, which we have therefore called over-exquisite. To guard against these unreasonable fancies of the mind is to combat, in some degree, the distemper itself; they are its natural symptoms, and when indulged they aggravate the others, and become themselves more dangerous than any; by as much as a disorder of the mind is worse
worse than bodily disease. A great deal under this important head depends upon the patient himself: without his due care medicines will take little effect, but with it there will be no doubt of a cure.

The errors of the imagination consequent upon this disordered state of the nerves, may be reduced to two kinds. Vain sensibility, and wanderings of the mind. Against the first, the patient must assiduously accustom himself to that command of the imagination, which we call presence of mind; and to the other, he is to oppose resolution. We do not mean that these principles will cure tremors of the nerves, or take off the acrimony of their juices: but unless the powers of the reason be thus called in, and continually opposed to the natural effects of the distemper of these essential organs, they will be shook so forcibly, and affected so strongly by those commotions, that the best medicines cannot take effect. The nerves, whose distemper was the original cause of these wild fallies of the imagination, now become in their turn affected by them, and the mind indulging those irregularities which they first cauèd, now tears them to pieces.

All passions are mischievous in the highest degree to these nervous patients, and unhappi-
pily none are so ready to indulge them. If they hope a cure, prudence will direct to avoid the occasions of them as much as possible; and the second care will be to regulate their force when they are roused by accidents. Reason will declare it is not worth while to indulge these outrages at the expense of health; and let it be a first care to remember that doctrine.

Not only real passions of all kinds, anger, grief, joy, or love, equally shock and disturb the nervous system, but the very mimickery and representation of them has the same effect. Hence it is that players are, more than all other ranks of men, afflicted with nervous disorders. The best suffer most in this respect; because they feel most in their acting: but none are wholly exempt, that have any degree of merit in their profession.

The body is a mere machine; and is acted upon mechanically in all real as well as feigned excesses of the mind; and the passion which is well represented upon a stage, will affect the nerves of the actor, as much as if he were really influenced by it in his private character.

Therefore acting is one of the things to be absolutely forbid, if we expect a perfect cure: but when this sacrifice cannot be obtained,
tain'd, medicines will greatly palliate the symptoms; and the person who will knowingly continue the exercise of this profession, should pay a double attention to every other article of the directed regimen.

The excess of joy upon frivolous occasions is a reproach to the person who suffers it. Disordered nerves will give a tendency to this, but it is indulgence only that can give it strength. It is a very hurtful accident; and the reason should be called in always carefully to prevent it.

Vain terrors, though they appear less at the disposal, or in the power of the person, are really dependent upon a principle more under his command, than he may be at first aware. They attack him by surprize, and it is to that they owe their strength: the source of this surprize is absence, or what is more distinctly here called wandering of mind.

The attention is removed wholly from the present place and present objects; therefore any thing that happens suddenly concerning them surprizes. Another person, properly possessed of himself, remembering that there are doors to rooms, is aware they may shut hastily; he therefore is not alarmed at the accident when it happens; but at the same time, to the nervous patient, whose thoughts are wholly
wholly detached from all that is about him, the shock is equal to that of thunder, or an earthquake; and takes the same effect, as those horrible commotions do on healthful people.

The mental remedy therefore is resolution; and this must be attempted constantly, and continually; for practice alone can give it strength. The patient must endeavour to be present with his company, and to keep the objects in his mind which are before his eyes: the more difficult this may appear, the more necessary it is to be done: and he must always watch these rovings, and instantly resolve to bring back, and fix his imagination.

The sovereign remedy is some book, which can command the attention, without influencing the passions. There are people whose minds wander from the present place, without going anywhere else (if I may be allowed the expression) but it is not of these we speak: this is the vacancy of an idiot, not the distraction of an unnerved mind. The persons afflicted with these disorders are always capable of reasoning; and some book upon a moral, or other sedate subject, should be always in their pockets. It will be easy, by this means, to recall the imagination when in private; and the same resolution will answer the purpose, by forcing an attention to the persons present when in company. In either
ther case, the recollection being awakened, the symptom for that time is over; and the expedient is as easy whenever it returns. There is more in these little managements of oneself, than any will suppose who have not tried them. Nervous cases of this kind are always flight at first; and it is indulgence and neglect of care, and remedies which give them strength. Let no one who begins his cure upon these principles, be discouraged by the difficulty of the first attempts; he may be assured, every repetition will be easier.

C H A P. XII.

Of medicines for these disorders of the nerves.

If chemistry had never been known, perhaps the mischief that had been prevented, would have stood as a fair equivalent for all the good we have obtained from it. The medicines we receive from this source are rough; and of all persons, those afflicted with nervous disorders of these kinds, should avoid them. Their constitutions will no more bear shocks from internal remedies, than from outward objects; and I could give one melancholy instance of a disorder of the nerves, which an innocent trifle would have cured, inflamed by a few doses of these medicines to an absolute, and I am afraid incurable
curable madness: Let the patient take care: I expect it more from him, than the physician: the beaten track of practice is too closely followed.

Cinnabar, and all the other mercurials, however recommended, or by whomsoever authorized, I have found extremely hurtful. The scrapings of a pewter plate, though a less artful, is scarce a less mischievous medicine: and on the other hand, their folly is hardly less than their beastliness, who expect good from the dung of animals, from rotten human skulls, from the moss that has grown upon them *, or from the ill-preserved remains of human carcasses, which they call mummy. Reason banishes these detestable medicines, which decent delicacy should never have admitted. They were always shocking to the imagination; and they are now known to be void of efficacy.

Instead of the mischiefs or the follies of this practice, the patient may be told, that in all nervous disorders of this kind, so far as my limited opportunities have permitted me to be a judge, two simple and innocent

* The dung of peacocks has been poured down many throats; and there are now laid in a mossy corner, in the phisick garden at Chelsea, pieces of human skulls, that the mos's from the ground may creep over them, and it was believed that it had thence great virtue.
medicines will perform a cure; herbs of our own growth, and which himself may manage: these are valerian and mistletoe. If violent symptoms should at any time come on, let him fend for a physician: a nervous person is not exempt from other diseases: nor is this treatise written to set aside the service of the faculty; which would be an attempt equally weak and wicked; but to acquaint the patient how he may, in the common course of things only, recover and preserve his health.

The use of valerian in the manner of tea, has been directed already among the articles of diet; and there is no way so well of taking it for a continuance: but I would always advise the patient to keep by him a stronger tincture of the same root, to which he may have recourse on any sudden or violent attack; at any time when he finds an uncommon oppression, or on any day when the temperature of the air is most unfavourable.

It should be made thus. Cut to pieces six ounces of wild valerian root gathered in June, and fresh dried. Bruise it by a few strokes in a mortar, that the pieces may be split, but it should not be beat to powder: put this into a quart of strong white wine, cork the bottle, and let it stand three weeks, shaking it every day; then press it out, and filter
filter the tincture thro' paper. A large spoonful of this is a dose; and I have seen the effects of it surprising.

Mistletoe is a plant of a tough and vicious quality, and is beyond all other medicines qualified to take off that acrid state of the nervous fluid, which is one great cause of these disorders. Reason, and an examination of the plant, agree to strengthen this opinion; and experience under, not my weak hands alone, but the most respectable names join to confirm it. Sir John Colbatch has said of this plant, that the bark is not a more certain remedy for agues, than it is for even that dreadfullest of all nervous diseases, (the apoplexy alone excepted) the falling sickness.

Whether this strong expression be true, in its strictest sense, I will not take upon me to determine; but what I have seen of the effects of mistletoe, convinces me, that it is a very valuable and effectual medicine.

It is a plant which grows not on the earth as others, but on the branches of trees; and those who have written of it, have principally recommended that of the oak; as if purposely to make difficulties in obtaining it: for it is very rarely seen upon that tree. Careful observation has shewn me, on the contrary, that its virtues are its own, and have no dependance on the branch whereon it grows.
grows. The leaves and the outer rind contain its principal strength: and there is no way of taking them so proper as in powder. Let the plant be gathered in May, and the leaves and bark dried carefully in the free air, without sun; till they are brittle. Let them be then reduced to a fine powder, and kept in that form. As much of this powder as will lie upon a shilling should be taken at first twice a day, when the stomach is most empty; fasting two hours after it; then once a day, and afterwards every other, or every third day, till there is no more need of medicines.

This and the valerian tea should be the great articles whereon dependance is laid; and they must be taken for a length of time. There is no rational objection to this, for their taste is not unpleasant; nor have they any sensible effect upon the body, beside their immediate operation on the nerves: and with these, and the regimen here proposed, the patient may be safely left to his own care.