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Contributors

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CERTAIN SYMPTOMS OF NERVOUS EXHAUSTION.

By GEORGE M. BEARD, M. D.,

Fellow of the New York Academy of Medicine, Member of the American Neurological Association, etc.

(Read before the New York Academy of Medicine, April 4th, 1878.)

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Under the term, *Neurasthenia*, (*νευρον*, nerve; *a*, privative; and *σθενος*, strength (lack of nerve strength), I described a number of years ago* a functional nervous disease of modern, and largely, though not entirely, of American origin. It is a malady that has developed mainly during the last half century, although scattering cases appeared before that time. At present, in the Northern part of this country, this disorder is exceedingly frequent, and is the cause of much distress; and yet, like many other important and interesting phenomena of the nervous system, it has been neglected by the profession, and abandoned utterly to tenth-rate popular medical treatises, and the advertisements of charlatans.

Neurasthenia—poverty of nerve force—is to be distinguished from simple anæmia—poverty of blood—with which it is frequently combined; and also from hysteria to which it often leads. One may be nervously exhausted without being anæmic. Some of the worst sufferers are full-blooded and fleshy, and of considerable muscular development; indeed, some of our noted athletes have been afflicted in this way.

*In a paper read before the New York Medical Journal Association, in 1869, and subsequently published in Beard & Rockwell's *Medical and Surgical Electricity*, first edition.

to become an important and permanent affliction, and to overshadow other symptoms of the neurasthenic state, it is called spinal irritation; but strictly, it is a symptom like cerebral irritation not properly a disease as such, although, as a matter of convenience, there can be no harm practically in describing it as a disease. In regard to this symptom of nervous exhaustion these points are noticeable: First, its great frequency in the higher classes, especially among women. I suppose if one should go through Fifth Avenue, of New York city, and examine the spines of all the ladies between fifteen and forty-five years of age, he would find in quite a percentage of cases, that at times, there would be tenderness either of the whole length of the spine, or more likely, at certain points, as the nape of the neck, and between the shoulder blades and on the middle lumbar vertebræ. This condition would be found at times in those who do not call themselves invalids, and who are not under medical treatment. It would furthermore be found that with some of these cases there would be tenderness of the scapula or hip bones, of the breast bone, and, indeed, of the whole surface of the body. This general hyperæsthesia, like the local hyperæsthesia of the spine, appears and disappears under any subjective or objective exciting causes, and is attended usually by a feeling of debility, and oftentimes, though not always, by backache, headache, insomnia and mental depression.

The transient nature of this symptom of spinal and general irritation is shown by the fact that it may disappear often on application of electricity. Many women always have spinal irritation during the period of menstruation.

General or Local Itching.—Itching occurring without any visible change in the appearance of the skin, is a common experience; but is not regarded as pathological, unless it be quite severe and persistent. In certain nervous states, it becomes an element of positive distress. Itching of the scalp sometimes immediately follows any prolonged and exhausting intellectual exertion. I know a man who was once troubled with a general prickly feeling all over the body, and was sufficiently annoyed thereby to take treatment for it. Certain regions of the face, arms and legs may be the local seats of itching, which varies with the general condition of the

nervous system. A lady patient of mine, of neurotic inheritance and temperament, was liable to terrible attacks of itching on a limited region of the arm; which attacks followed quickly, almost instantly, after nervous disturbance, and were not accompanied by the appearance of prurigo.

Abnormalities of the Secretions.—In nervous exhaustion, the eyes may become moistened more readily than in health, and under a very slight emotion of pleasure or of pain. The flood-gates seem, as it were, to stand ajar, and on trifling agitation, the tears flow forth. In grave cerebral disease, this symptom is common enough, but in functional disease—simple nervous exhaustion—it is even more common.

In nervous debility, also, the sebaceous glands may refuse to do their duty; the hair and beard become dry and stiff, and much pomade is needed. The hair then falls off or becomes grey in patches. Dryness of the skin in this state is a symptom familiar to all, likewise is excessive and morbid perspiration in the axilla, or in the hands or feet, or other parts of the body. Clamminess of the hands is, in young men, almost diagnostic of sexual exhaustion. In this state, also, there may be a suppression of the spermatic secretion—so that desire and power are wanting; with the improvement in nervous vigor, the secretion reappears. Likewise frequent and obstinate constipation of the nervously exhausted is oftentimes a result of suppressed intestinal secretion.

Tenderness of the Teeth and Gums.—Attacks of tenderness of all the teeth, accompanied by a whitish appearance of the gums, I have noticed in nervous exhaustion. In these attacks, which may result from over-work or excess, all the teeth may be very tender on pressure, although none of them are decayed. Here, then, is another opportunity to study with the naked eye the pathology of spinal irritation. In nervous exhaustion, whether complicated with anæmia or not, there may be tenderness of any part of the body or of the whole body. Tenderness of the head is cerebral irritation; of the spine, spinal irritation; of the tip of the spine, coccydynia; of the breast, irritable mammae; of the ovaries, irritable ovaries; of the teeth, here described, dental irritation; of the womb, uterine irritation; of the stomach, nervous dyspepsia; of the heart, irritable heart; of the eyes, neurasthenic asthenopia;

of the whole surface of the body, general hyperæsthesia; and all these various symptoms and expressions, without doubt, have a common pathology in nervous exhaustion.

Vague Pains and Flying Neuralgias.—The so-called “growing pains” in the young are probably of this class; the force in the system is insufficient to maintain growth without suffering a degree of impoverishment which expresses itself by a subdued growl of pain.

Waving, beating, rolling sensations are often felt by the neurasthenic, even when not exactly hysterical. Shooting neuralgic pains in the limbs, or nearly all parts of the body, cause much suffering with this class of patients. Sometimes flying neuralgias are confounded with the neuralgia of incipient locomotor ataxia, which they, in some respects, resemble, but are not as violent, and do not have so much of the boring character.

Flushing and Fidgetiness.—Patients of this class oftentimes easily flush and easily faint; the inhibitory action of the sympathetic is readily interfered with by any slight emotion. Fidgetiness and nervousness, inability to keep still—a sensation that amounts to pain—is sometimes unspeakably distressing. Although it cannot be defined, it may be an accompaniment of growing pains, and is one of the myriad results of spinal irritation. Sometimes in writing, the hand and arm become so nervous and fidgety, that to continue writing would be the severest torture. When the legs feel this way, the sufferer must up and walk or run even, though he be debilitated and is made worse by severe exercise. A gentleman once under my care could not sit still in the chair long enough to take an application of electricity.

Tremulous and Variable Pulse and Occasional Palpitations.—In the nervous, the rapidity and quality of the pulse-beats may vary in many ways during the process of counting. Frequently the pulse of the nervously exhausted is compressible, and almost always it is more rapid than normal, ranging between 75 and 90, frequently going up to 95 and 100 and more. In exceptional instances, nervous exhaustion has a very slow pulse, in the neighborhood of 40 or less.

Sudden Giviny Way of General or Special Functions.—The treacherousness of nervous exhaustion is one of its most con-

stant characteristics; its symptoms lurk in ambush and burst upon us when least looked for, when we fancy ourselves utterly and forever delivered from their presence. The neurasthenic patient cannot, therefore, trust himself a half hour or even a moment in advance. In the morning, he may be, or feel, able to walk five miles; in the afternoon, from no traceable cause, it may be a task to cross the street. Even in the midst of any labor—mental or muscular—his strength gives out as suddenly as if he were struck by lightning. I knew a man prostrated for two years with profound neurasthenia, who, if he rose and crossed the room, might become absolutely aphonic. Two ladies have been under my care who could walk readily for perhaps a block or more, when instantly, and without warning, their legs would give way beneath them.

Special Idiosyncrasies in Regard to Food, Medicine and External Irritants.—When the nervous system becomes exhausted, it is apt to develop various idiosyncrasies not before observed; some of them are of high interest. Opium, for example, is likely to aggravate insomnia in many neurasthenic patients, instead of putting them asleep, unless, indeed, very large doses are used. Formerly opium was our chief—almost our only dependence when we wished to put one asleep. Now we scarcely think of using it for that purpose in the treatment of the nervous, except when there is severe pain to be relieved. Opium for the nervously exhausted prevents sleep almost as much as coffee. So frequent is this idiosyncrasy, that were it not for the bromides and cannabis indica and electricity, we would be utterly disarmed in the presence of these cases.

In regard to alcohol, some are so susceptible that a drop of any form of liquor is instantly and injuriously felt in some part of the system. Others, on the other hand, lose all unpleasant susceptibility to alcohol, and can bear it in incredible quantities, and may sometimes be profited by it. A lady whom I know, had for years been passing through a series of symptoms of nervous depression that our most honored experts had failed to relieve. One day an ignorant and, I believe, irregular practitioner came into her house, and without inquiring into her case at all, told her in a rough and author-

itative manner to get the best of claret and drink it freely. The chance shot, sent in the dark and without aim, struck the very centre of the bull's eye; the lady bought the best of claret, drank it with astonishing freedom, and found that it did for her what the best expert skill of our city had failed to do.

Coffee often acts badly with these cases. The other day a young man, who consulted me for sexual exhaustion with nervous dyspepsia, told me if he drank a single cup of coffee in the morning he was unable to attend to his business with comfort, and could not calculate or write correctly.

Incidentally, I will remark that *the development of idiosyncrasies, through nervous sensitiveness, acquired or inherited, is the real philosophy of hay fever*—a malady which, as I have shown in my work on that subject, has increased as culture and civilization have increased, and which is found usually in those who have had some other nervous symptoms. As an effect of this inherited or acquired nervo-sensitiveness, there appears in one person an idiosyncrasy against bright sun-light, so that exposure to it brings on the symptoms of hay fever; in another, a similar idiosyncrasy as to dust—the most common of all the excitants of this disease; in another, against fresh hay; in another, against ipecac or other drugs; in another, against old hay; in another, against the odor of roses, or other flowers; in another, against the pollen of corn, or of some of the grasses, or of certain weeds or Roman wormwood, or golden rod; in another, against some one of the common fruits—as grapes, apples, pears or peaches, or strawberries, or raspberries, or watermelons; and so on infinitely—new developments appearing every year. On this theory, I based the nerve treatment of hay fever, and predicted that by means of electricity, strychnine, arsenic and other sedative and tonic remedies, we should be able to greatly relieve and break up this distressing disorder. Last year this prediction was fulfilled not only in my own practice, but also in that of other physicians.*

Another idiosyncrasy developed by nervous exhaustion is *sensitiveness to cold or hot water*. A patient of mine could never bear to even dip his hands in hot water, so disagreea-

*Hay fever regularly decreases as we go South. In the Gulf States it is comparatively rare, although it is found here and there in every State. In this respect also, it follows the analogy of other nervous diseases to which it is allied.

ble were the sensations it produced; the same patient was abnormally ticklish and timid.

Dr. Harris, in a recent article on functional nervous troubles,* relates a case of a man of middle life, who, on getting up in the morning, would feel entirely well; but as soon as he had washed and wiped his hands they would begin to burn, tingle and ache very much, as when brought near the fire after exposure to snow. After a few seconds, they would begin to swell, and would continue to swell for five or ten minutes to such a degree that he could not close or use them. In the course of an hour or more the swelling would go down, but would recur whenever he rubbed his hands. The phenomena disappeared in a week without treatment.

Sensitiveness to Changes in the Weather is a very often observed symptom of nervous debility; depression of the nerves makes the body a good barometer. For twenty-four hours and more before a storm comes on, the aching and worn nerves foretell in every part of the physical organism what is coming. The sky may be clear, but the spirits are cloudy. The tenderness of bunions and corns, the aching and stiffness of rheumatic and neuralgic sufferers, the general gloominess and misery of the exhausted before and during bad weather are not imaginations, but realities as truly as small-pox or the measles, and quite as much worthy of professional study and consideration.

Patients of this class are oftentimes made profoundly worse by the depressing atmosphere of dog days, and generally by the extreme heat of our summers. The latter half of August is especially severe on these cases.

A Feeling of Profound Exhaustion Unaccompanied by Positive Pain.—Attacks of a sensation of absolute exhaustion, as though the body had not strength to hold together, comes on very often in the nervously exhausted. This feeling of exhaustion, though not exactly pain in the usual sense of the word, is yet, in many cases, far worse than pain. These attacks may come on suddenly without warning, and may suddenly disappear. In the morning, one may be able, or

**St. Louis Medical and Surgical Journal*, April, 1878. Dr. Harris assumes that many of the cases that he relates are of exclusively malarial origin, and that such symptoms are only seen in malarial regions. In this supposition he is quite in error.

feel able, to run on a wager; in the afternoon of the same day sitting quietly in a chair seems to be an exhausting effort to which every nerve and bone and muscle is unequal. The *going-to-die* feeling is quite common in these cases, and at first causes alarm. It may be experienced either in the day or at night, on going to sleep, or on awaking from sleep. This symptom, like many of these symptoms, appears at puberty and at the change of life; it indicates that the system is straining under the burden placed upon it.

Ticklishness.—Nearly all persons are susceptible to the form of irritation that we call tickling; but in nervous exhaustion this susceptibility may become a severe annoyance. A gentleman once under my treatment for many of the symptoms described in this paper—spinal irritation being prominent—was so ticklish on the breast, stomach and abdomen, that it was very difficult—indeed, quite impossible—to apply electricity to those parts with any satisfaction.

Desire for Stimulants and Narcotics.—When the nervous system loses, through any cause, much of its nervous force, so that it cannot stand upright with ease and comfort, it leans on the nearest and most convenient artificial support that is capable of temporarily propping up the enfeebled frame. Anything that gives ease, sedation, oblivion, such as chloral, chloroform, opium or alcohol, may be resorted to at first as an incident, and finally as a habit. Such is the philosophy of many cases of opium or alcohol inebriety. Not only for the relief of pain, but for the relief of exhaustion, deeper and more distressing than pain, do both men and women resort to the drug shop. I count this as one of the great causes of the recent increase of opium and alcohol inebriety among women. Frequently an inherited tendency to inebriety is utterly latent, and does not break out until affliction, or some form of worry or distress, robs the brain of its nerve force. Very many cases illustrative of this have been published by my friend, Dr. T. D. Crothers, now superintendent of the Walnut Hill Asylum for Inebriates, Hartford, Conn.

Insomnia.—The wakefulness of the nervous is a symptom at once common and distressing, and is sometimes rebellious to all our bromides, and even to chloral. Sometimes it is the

very first symptom of nervous disturbance, expressive of a mild phase of difficulty, and disappearing as the disease gets worse. In other cases, it is constant and obstinate from first to last. This symptom may yield to electricity when other medication has no power.

Nervous Dyspepsia (Dyspepsie Asthenique).—It is one of the peculiarities of nervous dyspepsia that it abhors a vacuum; is always much worse when the stomach is nearly or quite empty. Patients so afflicted need to take light meals, and to take them frequently—perhaps very many times daily.

In cases—not a few—nervous dyspepsia is the first noticeable symptom of nervous exhaustion—the earliest sign that the body is giving way; and for years, the stomach may be functionally disordered before the brain, or spinal cord, or other parts or organs show signs of yielding; hence the quite common belief that dyspepsia leads to softening of the brain. The true philosophy is that nervous dyspepsia is a symptom of the same general pathological condition as all the orders of symptoms here noted, and it may follow as well as lead this multitudinous army. A literary gentleman whom I once met gave a history of nervous exhaustion from over-confinement, that after some years broke out through the pneumogastric nerve, causing profound and obstinate dyspepsia that for a long time made him a complete invalid; the symptoms were almost as bad as those of cancer of the stomach, and yet the disturbance was entirely functional, and the patient improved. Flatulence with annoying rumbling in the bowels, these patients complain of very frequently; also nausea and diarrhœa.

Partial Failure of Memory.—Memory is a measure of mind. When rightly studied, it is perhaps the most delicate of all neurometers or indicators of the nervous force in health and in disease. With the growth of the brain in childhood, memory grows, and it declines with the slow decay of normal old age. Partial failure or treacherousness of memory is not not only a sign, but in some cases, one of the very first signs of exhaustion of the nervous system. Business men find that they cannot depend on their memories as formerly; they forget details of engagements—sometimes those of importance—and thus are variously inconvenienced.

Sexual Exhaustion, or that form of nervous exhaustion that is noticed in young men who over-excite or over-use the genital function, in the natural or unnatural way, is usually, if not always, accompanied by failure of memory; but other forms of nervous exhaustion in both sexes, offer the same symptom.

Deficient Mental Control.—Inability to concentrate the intellect on any task, as in writing or thinking, is a notable symptom. The mind wanders away in every direction, and when brought back by an effort of the will, is liable to be soon again lost in reverie.

In some cases, the exercise of concentration, or even slight attention, is exceedingly irksome and painful, causing distress sometimes in the head, sometimes in the back or extremities, or other parts of the body.

Seminal Emissions—Partial or Complete Impotence.—Occasional seminal emissions in the healthy and unmarried are physiological—that is, they are not symptoms of disease, but normal and necessary results of abstaining from sexual intercourse. Such involuntary discharges, when excessively frequent, are both results and causes of disease, indicating an abnormal, usually an exhausted state of the nervous system, and in turn re-acting on the nervous system, increasing the very exhaustion that causes it. Such, in general, is the philosophy of all, or nearly all, cases of frequent involuntary seminal emissions.

An attack of *acute* disease of any kind may leave the system, during convalescence, in a state where seminal discharges may take place with far greater than the normal frequency; on return to health, this symptom, with all other symptoms of debility, disappears.

Chronic neurasthenia is often accompanied, as one of its symptoms, by seminal emissions, even in those who are married; indeed, some of the most persistent cases I have seen have been in married men.

Impotence—partial or absolute—when it appears as an effect of neurasthenia, as it frequently does, usually recovers with the improvement in the nerves, sometimes without special treatment.

Changes in the Expression of the Eyes and Countenance.—In sexual exhaustion, downcastness of the features, aversion

of the eyes, and general sheepiness of manner, with dark circles beneath the eyes, are symptoms that have long been obscured, but these signs, taken individually, are not pathognomonic of any special form of nervous exhaustion, since they appear in nervous and digestive debility, however caused. It is, however, undeniable that these symptoms, in their entirety, do occur very frequently in the debility associated with sexual disorder, and may, perhaps, be set down as distinctive of that form of nerve disorder.

The mere expression of the eye is modified by disease in a way that it is hard to analyze or describe. How a night's debauch affects the expression is well known. In chronic nervous exhaustion from any cause or combination of causes, this expression of debility may become chronic—a permanent state that is revealed at once on meeting and addressing the sufferer.

A lady whom I once treated for numerous nerve difficulties, and who entirely recovered, told me that as she got better the whites of her eyes were of a clearer blue, and consequently, to her delight, more attractive. This fact was observed by several of her friends as well as myself.

Mental Depression with General Timidity.—In disease, as in health, fear is one of the symptoms of weakness—an emotion with which the instinct of self-preservation environs every form of incapacity. In our half-awakened moments at midnight, a slight noise causes the heart to beat rapidly, for we are conscious of not having full possession of our powers to meet any attack or danger. The nervously-exhausted man is always in this state, physically insolvent, and unequal to efforts that require much vital expenditure. In that form of nervous exhaustion known as sexual exhaustion, senseless timidity is one of the diagnostic features; fear of society, fear of the indefinite future, unwillingness to enter upon any enterprise, inability to look one squarely in the face, downheartedness and indefinite distrust. Patients of this kind will walk up and down before a physician's office many times before venturing to enter. This timidity becomes a serious matter in business, making success very difficult. One of my patients troubled with cerebral exhaustion, of very large wealth, and great business experience, tells me that, desiring once to borrow, on

perfect security, some money for a certain business purpose, he walked several times up and down the front of the office of the capitalist whose aid he sought, before he could summon the strength to go in.

The mental depression of the nervously exhausted is largely independent of external conditions, although it may be aggravated by them—especially by bad weather; a certain amount of blood and nerve force is needed for happiness.

A very eminent theologian and preacher, who consulted me three or four years ago, told me that when he had charge of a parish, the responsibility of sitting in his pulpit and listening to a travelling agent, exhausted him more than preaching himself, for the reason that he continually feared that the stranger would say or do some indiscreet thing.

Responsibility of any kind, without any labor, even when unconscious, may powerfully affect the system, and in various ways. Thus a young man whom I knew, who was badly troubled with seminal losses, causing great nervous exhaustion, resolved to try the woman cure, and made regular appointments with a lady friend. It was a new experience for him, and he professed to have no pleasure in the sexual act, and felt somewhat timid and distrustful about the matter. The consequence was that the responsibility of meeting his appointment would always cause him to have free passages from the bowels, although generally he was very constipated.

Morbid Fear of Special Kinds (Agoraphobia and Astraphobia). Fear of leaving home, of going out of the house, of going anywhere alone, of crossing a ferry, of crossing an open square, of going through a narrow alley, of going away from the neighborhood of shops or open places of refuge, are some of the phases that this symptom develops. This symptom is not very common, but when it does occur, it is very annoying and sometimes quite obstinate. It is a ludicrous and absurd symptom, but it may occur in persons of intelligence and ability and good sense. It is analogous in some respects to the utter helplessness that some experience when standing on an elevation; the will is put to rout completely, and cannot rally at the call of reason.

I was consulted not long ago by a physician, who was so harassed by this symptom of nervous exhaustion that he was unable to attend to his practice. His physical strength was sufficient, but on account of the agoraphobia, he could not go any distance from his office with any comfort. He would be working in his garden, but when requested to go a mile, or even less, to see a patient, he could not respond. On walking out with him one morning, I observed that he turned the corners often so as to keep about such a distance from the hotel, where he was stopping. Under electrical and other treatment, the physician is improving, and is attending to his profession.

Dr. C. L. Mitchell tells me of a gentleman who was so badly agoraphobic that he was unable to leave his house, without company, and accordingly he paid a man \$20,000 to be his constant companion. There have been men who, by this symptom, have been kept as close prisoners as though within the walls of a penitentiary. In some instances, though not in all, this strange symptom seems to be traceable directly to sexual excess of some kind.

Sometimes very bad cases of this malady entirely recover. I have known three persons who were unable to cross the Brooklyn Ferry, and all got well in a few weeks or months.

My friend, Dr. D. E. Smith, of Bronxville, N. Y., tells me of a lady who is unable to cross Harlem river on the cars, and consequently cannot visit New York city.

I have now under my care a lady in whom the agoraphobia takes the form of inability to go to church. It was in church that she was first taken with a peculiar and hard-to-be-described lightness of the head; and she now feels that she could do almost anything else rather than attend church. Ability to do that she would regard as the best and strongest sign of recovery. A young business man, who was first attacked with bad symptoms in his factory, dreaded to enter the building, until, under electrical treatment, he recovered.

The term *astraphobia*, or fear of lightning, I have applied to that form of nervousness that is painfully affected before and during thunder storms. Headaches, neuralgias of various kinds, depression, spasms, are some of the symptoms

of this state, which, in some instances, is hereditary, and runs in families.*

Fear of Society is a phase of morbid fear that is common enough in all forms of nervous exhaustion, but is, perhaps, most often noticed in sexual complications. With fear, blushing of a senseless but overpowering character is often combined; the victims are ashamed to enter the presence of ladies—to enter the presence of any one; they cannot look any one in the face, but in conversation keep their eyes turned down or aside.

Sick Headache and Various Forms of Head Pain.—Sick headache is both a symptom and a safety-valve. If one must be nervous, an occasional attack of sick headache, if it be not too severe, is an excellent way for this nervousness to manifest itself, and, no doubt, saves other and worse affections. When sick headaches suddenly and permanently leave us, there may be reason to beware, though not probably in all cases. Some years ago, I had under my care, for a short time, a case of shaking palsy that had followed a sudden and apparently causeless cessation of sick headache. When sick headache leaves us, as a result of improvement of the nervous system through treatment or hygiene, it is so far forth a good sign.

Like most of the symptoms of nervous exhaustion I am here describing, sick headache is experienced mostly between the ages of fifty and fifteen. Rarely, or never, do young children have it, and it usually stops before old age. It is a symptom that belongs to the perturbable and active years, and may quickly show itself when, from any cause, the nervous system is depleted of its force.

Pain and Heaviness in the back of the head and over the vertex and through the whole head, very commonly attend the neurasthenic state—especially when the brain is congested; but many also appear where there is no evidence of an excess of blood on the brain. Lightness of the head is also a common complaint; also a symptom usually defined as “I cannot tell how I feel.”

Here I may remark that very much has been said, is now said, and for a long time probably will continue to be said of

*Beard & Rockwell's *Medical and Surgical Electricity*, 2d ed., p. 456.

circulatory disturbances as the pathology of all these and kindred symptoms; and when such a symptom is declared to depend on cerebral or spinal anæmia or hyperæmia, it is supposed that we have solved all the problems that relate to it. For a number of years, I have been contending that circulation is a result of innervation. The brain and spinal cord, impoverished of nerve force, are unable to maintain the balance of the ebb and flow of the blood of the arteries and veins; consequently anæmias and congestions arise that may be transient or more or less permanent. But the disease is not the anæmia nor the hyperæmia (although both anæmia and hyperæmia, when they occur, may and do induce certain symptoms peculiar to themselves); but it is the neurasthenia—the nervous exhaustion, the decline in the quantity or quality of nerve force—that presides over the circulation, although it cannot, like the blood, be weighed, measured, analyzed or studied under the microscope. This view, though scarcely listened to, and not at all understood, when first pressed, is now slowly gaining its way among the neurologists, both of Europe and America.

There may be anæmia of the nerve-centres without exhaustion, as after hæmorrhages; and there may be sudden congestion of the spinal cord, from taking cold, or of the brain from various causes—but these are not the conditions of which I am here speaking. They occur in those who are not nervously exhausted; indeed, congestions are more likely to occur in the plethoric and strong; they come rather under the head of acute and traumatic disorders.

Disturbances of the Nerves and Organs of Special Sense.—Nervous exhaustion often causes dilatation of the pupils—sometimes dilatation of one pupil and contraction of the other. These conditions are temporary and changing—not permanent—as in certain organic diseases.

Another malady of the eye is what I may call neurasthenic asthenopia, or the irritable eye, from nervous exhaustion, not depending on any muscular or accommodative trouble, but symptomatic purely, revealing nothing to the ophthalmoscope or other tests of modern ophthalmology, but none the less painful, distressing and sometimes exceedingly obstinate.

This disease of the eye, symptomatic of nervous exhaustion, I observed and called attention to a number of years ago, but could find no formal recognition of it in the standard textbooks of ophthalmology. But, very recently, Dr. Mathewson, in conversation on the subject, tells me that this third form of asthenopia is now, under various names, coming into recognition in the journals and societies devoted to diseases of the eye.

An attack of this neurasthenic asthenopia—which is oftentimes so severe that reading or writing, or sewing, are accomplished only with great pain, and the eyes are painful and tender on pressure even when not used—an attack of this kind may last half an hour, or three hours, or three months; and, like analogous states in other parts of the body, with which it is often accompanied, may come and go very suddenly. In looking at the eye when in one of these attacks, we observe often a passively-congested state of the conjunctiva. This congestion is a result—not the cause—the effect of the nervous irritation, and comes and goes under exciting causes. Such, without question, is the pathology of cerebral irritation, of spinal irritation, of irritation of the mammæ, the ovaries and testes, and of sick headache and many other forms of neuralgia. The notion which has been advocated—that this neurasthenic asthenopia, or irritable eye, is peculiar to women, and always reflected from the uterus, and therefore to be called uterine asthenopia, is but an adumbration of the truth; for the malady, though most common in women, like all this family of symptoms, is found in both sexes; the very worst cases I have ever seen have been in males. Several of my cases have been examined by our best experts in ophthalmology. This form of eye weakness is quite susceptible to the influence of psychical contagion. A number of years ago it spread through many of the colleges and seminaries of the country—in some instances compelling young men to abandon their plans of liberal education.

Musce Volitantes, or floating specks before the eyes, often annoy even the slightly nervously exhausted; in these cases, the ophthalmoscope is only of negative assistance. Under exciting causes, the specks suddenly appear and disappear. The liability to them may be a habit of one's life.

Noises in the Ears in the shape of sudden explosions or pulsations, to say nothing of other varieties of tinnitus aurium, are quite common in cerebral exhaustion, especially when attended with congestion. These explosions may come on without any warning, while one is sitting quite still, and there is no apparent exciting cause. These symptoms may occur even when there is no perceptible disease of the auditory apparatus, and may disappear as suddenly as it appears. A feeling of fulness and oppression in the head sometimes attend these symptoms. Subjective odors of various kinds—as of ozone or phosphorous; also abnormal subjective tastes—bitter or sour; likewise fleeting symptoms of cerebral exhaustion are observed.

Localized Peripheral Numbness and Hyperæsthesia.—In any portion of the periphery—the face, the arms, the ends of the fingers, the thighs, the legs and the toes—there may be, in nervously exhausted patients, persistent numbness of a definitely localized character, or excessive sensibility, similarly localized. In some cases, this local peripheral hyperæsthesia amounts to a very distressing disease. I was once consulted by a physician who had hyperæsthesia of the left hand, caused apparently by local injury acting on a nervous diathesis. The condition was very obstinate, and caused much distress. I once had under my care a lawyer who had a burning feeling in the thumb and fingers of the right hand, with pain sometimes running up the arm. At first I suspected that the symptoms were premonitory of writer's cramp. The patient went to Europe and took various treatments under the direction of Charcot and other neurologists without important benefit; but is now able to pursue the routine of his profession. I have now under my care a gentleman who has had, for a long time, a sensation of numbness and burning at the ends of his thumbs, at the bottom of the heels, and around the legs and ankles. These symptoms are accompanied by the usual symptoms of cerebral exhaustion and congestion—pain in the head, a feeling of fulness and pressure, and mental depression. Sometimes there are flying, stinging, pricking sensations in the feet and legs, that caused one European physician to make the diagnosis of "flying gout." With hygiene and electrical treatment, this patient has improved in

a manner most encouraging; and what is of chief interest just here, the improvement in the peripheral symptoms has exactly kept pace with the improvement in the brain symptoms, showing their common nature.

Symptoms of this kind excite fear and dread—oftentimes as indicating grave and structural brain disease, or as premonitory of apoplexy; but in the majority of cases, they are the results and signs of functional—not structural trouble, and occur in people who live to old age.

I have seen a number of cases where there was numbness on a limited area of the thigh, and all have recovered or permanently improved without a very bad history.

Among other special symptoms coming under this head, I may mention a *crawling or creeping* as of insects just beneath the skin—a sensation as though a pin or many pins were just touched to the skin; a tendency for the legs and arms to “go to sleep,” under far slighter pressure than in the normal state of health, is observed in cases of this class. Sitting a very short time in a hard chair, riding in an omnibus, or car or carriage may cause the foot to get asleep, when, in entire health, no such effect would have been produced by the same cause.

I have now under my treatment a man who often wakes up at night with a strong but transient sensation of numbness in the little finger and inner side of the third finger, confined to the track of the ulnar nerve. In other cases, other nerves of the arm may be involved, and all the fingers may be numb. Numbness of this kind usually goes away after a little shaking and rubbing. It is more likely to come on at night from lying on the arm; but in the daytime, also, it may occur when the arm rests for a few moments over the back of a chair. When one is specially exhausted or worried from any cause, this transient and local numbness is more likely to show itself. The pathology of this state is probably, if not certainly, an obstruction in the passage of the nerve force through mechanical pressure. In the highest health, sufficient pressure will produce this condition, and if the pressure be kept up, permanent paralysis may occur; but in nervous exhaustion, when the nerve force moves slowly and with very little *vis a tergo*, much slighter pressure suffices

to obstruct its passage—just as water, flowing slowly through a rubber tube, can be checked by a gentle touch of the finger, but if flowing rapidly and with great force, needs a stop-cock.

General and Local Chills and Flashes of Heat.—Disturbance of circulation both follows and accompanies disturbance of innervation. Creeping chills up and down the spine are commonplace; but there are symptoms allied to this not so familiar. Thus Dr. J. H. Sterling had under his treatment, at one time, a lady whose knees were literally as cold as ice—that is, they felt to her as cold as though they were packed in ice. I knew of a case where there were limited and small areas of heat and cold sensations on the arms. I have also known cases where the ankles were cold, even when other parts of the body were comfortable. After fatigue or worry, the penis and scrotum, as well as the ears, or one ear, and one foot or both feet, and one hand or both hands, may be cold to the touch—even in warm weather, and in a hot room, or when thickly wrapped up. Patients in this state are, indeed, like Harry Gill, very, very cold, no matter what they put on; the skin may be almost blistered, as they stand near the fire, and yet chills are running all over them.

Long writing, which may produce symptoms of writer's cramp in others, may, in the nervously exhausted person, cause coldness of the fingers, hand or arm, especially when the arm is elevated. Yet more minutely may this symptom of coldness be localized; spots as small as the point of a pin apparently—especially on the face—may be pinchingly or stingingly cold—this sensation quickly appearing and quickly disappearing.

Local Spasms of Muscles.—What are called “fibrillary contractions,” and which sometimes occur in progressive muscular atrophy, are also noticed in the various shades of nervous exhaustion. An individual muscle or part of a muscle may twitch occasionally or frequently, so as to cause considerable annoyance, and in some cases, unnecessary anxiety. As these vibrations occur in the orbicularis, and other muscles of the face, these spasms are very familiar; they come and leave without warning, and suddenly. I was once conversing on nervous diseases with a well known physician,

when, all at once, the orbicularis of one of his eyes began to twitch vigorously; he said it was the first time in his life that he had experienced anything of the kind; he regarded the use of tobacco as the probable cause.

The stomach, in nervous dyspepsia, may be the seat of similar spasms, which may follow any excitement or emotion, as of fear or responsibility. A sensation like that of a reverse aura seems to go downward to the pit of the stomach from the nerve centres, and excites spasm, apparently, of the muscles of the stomach itself.

I close with these suggestions:

First.—The above detailed symptoms are not imaginary, but real; not trifling, but serious; although not usually dangerous. In strictness, nothing in disease can be imaginary. If I bring on pain by worrying, by dwelling upon myself, that pain is as real as though it were brought on by an objective influence. Modern science is built up in a degree by observations of phenomena that all the ancient and medieval world regarded as beneath observation. Is not the observing and right interpreting of subtle, obscure, elusive and out-of-the-way phenomena of disease the best test of scientific skill?

Secondly.—These symptoms of nervous exhaustion are, in a measure, interchangeable—antagonistic to each other—and nervous exhaustion is itself antagonistic to many other diseases—especially of the acute and inflammatory sort. Diseases prevent disease; diseases cure disease; diseases are antidotes to disease. Sufferers from chronic neurasthenia are safer in the midst of epidemics than others are; they are not subject, as are the robust and full-blooded, to violent and fatal fevers; and when attacked, they are more likely to survive. To this numerous class of sufferers, it is, then, a consolation that their disease is itself medicine and hygiene. Opium-eaters, I am told, are comparatively exempt from malaria, and in the East pass unharmed through the epidemics of cholera.

Likewise alcohol inebriates do not usually suffer from ordinary nervous exhaustion. Excesses of any kind that injure us in one way may save us from being injured in other ways. Alcohol seems to act as an internal counter-irritation.

The *interchangeableness* of these symptoms is also note-

worthy. In nervous exhaustion, nothing is constant except inconstancy. The symptoms chase each other like the shadows of summer clouds across the landscape. The moment one leaves, another and several stand ready to take their place. In a single day, one may go through the whole gamut of all these notes of disease.

Thirdly.—The *periodical and rhythmical* character of some of these symptoms is of much interest.

While this paper is being revised, I have been consulted by a clergyman of middle life, who, with many other symptoms of neurasthenia, is troubled with attacks of special and peculiar depression, lasting for about a day, more or less. These attacks are ushered in usually by a feeling of mental exaltation; then come diplopia, with other abnormal phenomena of vision, and so on through quite a regular series of nervous symptoms. Prostration from heat was the original cause of the attacks, which are now brought on by any mental or physical exhausting or disturbing influence. The patient finds that a drop or two of belladonna taken during the stage of exaltation will always break up the attack, and now he always carries a bottle of that remedy in his pocket. I once had under treatment a young man who had attacks of nervous depression every day about noon; they lasted but for a short time, but were as periodic as chills and fever—and like chills, and like the preceding case, passed through definite stages.

Fourthly.—Nervous exhaustion is compatible with the appearance of perfect health.

For this reason, as well as on account of the slippery, fleeting and vague return of their symptoms, patients of this class get but trifling sympathy. Sometimes they are fat and hearty, and have a ruddy, vigorous, strength-suggestive bearing; sometimes also they grow fatter as they grow worse. Noticeably the disappearance of symptoms in the stomach, and the appearance in their stead of symptoms in the brain and spinal cord, is followed by increase in weight that deceives the friend, the physician, and even the patient himself. Thus it happens that patients get the least sympathy when they most need it.

Four years since, a prominent politician consulted me for

a medley of nervous symptoms induced by sunstroke—a not uncommon cause of neurasthenia. He was an enormous, herculean man, but gave a history that would well have befitted the most delicate and hysterical woman.

Fifthly.—Nervous exhaustion is a modern disease, and pre-eminently an American disease, and in this country is chiefly found in the North and East. This disease must, therefore, be studied here; we cannot, as in so many other diseases, look to Germany for light and information—for in Germany this condition is comparatively unknown, and in France and England is far more rare than with us. It is a disease almost exclusively of the well-to-do classes, and can, therefore, be satisfactorily studied only in private practice. Medical treatises founded entirely on hospital and dispensary experience are of little service to those who desire guidance in the analysis of this or of kindred disorders.

Sixthly.—The treatment of nervous exhaustion should be in general of a sedative and tonic character; should not be exclusively applied to any one of these special symptoms, but to the whole condition—to the main trunk and not to the separate branches. Electricity in central and general applications with both currents, varied and abundant food, passive exercise, as *massage*, in some cases, absolute rest in bed, in others, mild, active exercise, and the judicious use of such remedies as relate to the nerve-centres, counter-irritation by very small blisters, or the actual cautery, dry cold to the urethra through the cooling catheter, for the special form known as sexual exhaustion; fats, fish and phosphates of various kinds—and internally, cannabis indica in small doses, combined with the bromides, strychnine, of course, with calabar bean, the preparations of zinc and arsenic, gelseminum and bromohydric acid, caffeine, malt and oil—under this system of treatment, adapted with care and study for individual idiosyncrasies, and combined with right hygiene, the majority of cases of neurasthenia can be permanently relieved, if not substantially cured.