1875

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S. Weir Mitchell

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A SERIES

OF

AMERICAN CLINICAL LECTURES

EDITED BY

E. C. SEGUIN, M.D.

Volume I. No. IV.

REST IN THE TREATMENT OF NERVOUS DISEASE.

BY

S. WEIR MITCHELL, M.D.

NEW YORK:

G. P. PUTNAM'S SONS,
FOURTH AVE. AND 33D ST.
1875.
REST IN NERVOUS DISEASE:
ITS USE AND ABUSE.*

BY
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You, gentlemen, who have so often heard me dwell on the value of rest in certain diseases, and have seen how sternly in others I have urged the weary patient to move about, and to forsake the bed—you, I say, will not feel surprised that I should wish to group together the thoughts, maxims, and advice in which, from time to time, I have sought to convey my ideas on this fertile subject.

I am the more anxious to do this because I have often been misunderstood in regard to it, and am quoted by men who have not known the details of our treatment as having won this or that triumph over disease by merely putting the patient in bed, while, as you well know, it is the way we deal with the case after we have made sure of rest that makes this same rest a help or a hurt.

Then, too, it is well to say something of it for younger men, to whom it is a great stumbling-block in early practice, for the reason that they often find it hard to make a patient submit to long repose in bed, and quite as hard sometimes to get another out of bed.

When there is to come of rest sudden ease to a pained limb or

* The substance of this lecture was delivered at different times at the Infirmary for Nervous Diseases of the Orthopædic Hospital in Philadelphia.
an aching back, you quickly enlist the patient on your side: but when you propose to any one, man or woman, who can still walk, however feebly, to go to bed for a month or two, you must be able to make him or her feel sure that it is the best or only way towards cure. And this asks that you, in turn, have a firm trust in your own judgment, and a strong will to follow out its decrees. You must have, in a word, what the French call "the courage of your opinions."

Think, now, what it asks of your patient to yield to such advice, and to yield with that calmness of trustful belief which alone will secure the rest of mind we want no less than the rest of bone and muscle and nerve. Sometimes I wonder that we ever get from any human being such childlike obedience. Yet we do get it, even from men. As to women, for some reason they take more kindly to rest than do men, and will stay in bed, when once there, as long as you wish, and longer sometimes. Indeed, he who says to a woman, "You are ill. Remain in bed for a month"—takes on himself a grave duty, and may not have the luck to get her afoot again, which is a thing to be thought of when trying some of these perilous therapeutics on your future patients. This is one reason why, in any case, and most of all in a woman's, whether we shall say walk much, little, or none at all, is so grave a question. It seems to the young physician easy to say to a woman who has been in bed for a month, and is able enough to get up: "Now the time has come for you to leave your bed." He finds, perhaps, that the woman has gained a set belief that she cannot get up, and that to give back to her the assurance of her ableness to walk is no light or ready task.

But suppose that in one of the forms of diseases of which I shall soon speak you have made up your mind to use rest. It will be well then for your patient that you should have formed some clear idea as to what rest is—what it can do, what it cannot do, and how far it may give rise to evil or end in good.
Rest and unrest have had their days and fashions in medicine; but be you sure that he who can tell when the one is wanted, and when the other, is a man who is a master in the ways of healing. Surgeons and doctors for a long while have been using rest as one means of curing disease. Not by any means all of them have distinct views as to what it is they do when they put at rest a limb or the whole body; and yet this is what we most want to know. Unhappily, we lack as yet some of the factors needed to work out this hard equation; and until these are given we must in part only guess at the physiological results of rest, for to-day no man can tell me fully what is the difference in the products of the life of a limb at positive rest and in active motion. In fact, most that we know on this matter is purely empirical, and is in the shape of coarse clinical results. Still, even these teach certain things which you will do well to bear in mind. First of all is the thought, which should be ever with us, that few medical means are without their evil side. In our efforts to help, we too often harm, and we must take prudent care always that, in causing the largest share of good, we give rise to the least amount of ill. The one goes with the other as surely as shadow with light. To no medical measure does this caution more apply than to the use of rest.

Let us take the simplest case—that which arises daily in the treatment of joint-troubles or broken bones. We put the limb in splints, and thus, for a time, check its power to move. The bone knits, or the joint gets well; but the muscles waste, the skin dries, the nails may for a time cease to grow, nutrition is brought down, as an arithmetician would say, to its lowest terms, and when the bone or joint is well we have a limb which is in a state of disease. As concerns broken bones, the evil may be slight and easy of relief, if the surgeon will but remember that when joints are put at rest too long they soon fall a prey to a form of arthritis which is the more apt to be severe the older the patient is, and may be easily avoided by frequent motion of the joints, which, to be healthful,
exact a certain share of daily movement. If, indeed, with per-
fect stillness of the fragments we could have the full life of a limb in
action, I suspect that the cure of the break might be far more rapid.

What is true of the part is true of the whole. When we put the
entire body at rest we create certain evils while doing some share of
good, and it is therefore our part to use such means as shall, in every
case, lessen and limit the ills we cannot wholly avoid. How to reach
these ends I shall by and by state, but for a brief space I should like
to dwell on some of the bad results which come of our efforts to
reach through rest in bed, all the good which it can give us, and to
these points I ask your thoughtful attention, because upon the care
with which you meet and provide for them, depends the value
which you will get out of this most potent means of treatment.

When you put patients in bed and forbid them to rise or to make
use of their muscles, you at once lessen appetite, weaken, in many
cases, digestion, constipate the bowels, and enfeeble circulation.
To say how all this arises, would need, not a lecture, but a book,
and I can only hint at what I might call headings for thought.
Defect of circulation is the main business to think about. A
man in bed has his heart-beats brought down in number and also
in force. Then there is for him no longer the constant momentary
pumping out of blood from active muscles, and these aids to the
heart failing, the distant local circulations suffer, and the blood flows
around the muscles and not through them, and the skin ceases to
be flushed by exercise and becomes pale and shrunken. To be
small one moment and large the next is a condition of health for
the vessels, and this fails with the want of exercise, so that when a
man lies in bed the vessels lose tone, and when he gets up of a
sudden, this is seen in the way the blood column enlarges the
lower vessels, and leaving the head, causes faintness. Of these well-
known facts I remind you only that you may the more fully see
why I dwell so much on the means which must be used with rest
in order to take from its avoidable evils.
I was struck with the extent to which these evils may go, in the case of Mrs. P., æt. 52, who was, as you may remember, in Ward 2. She was brought here from Jersey, having been prone in bed fifteen years. I soon knew that she was free of disease, and had stayed in bed at first, because there was some lack of power and much pain on rising, and at last because she had the firm belief that she could not walk. After a week's massage I made her get up. I had won her full trust and she obeyed, or tried to obey me like a child. But she would faint and grow deadly pale even if seated a short time. The heart beats rose from 60 to 130, and grew feeble; the breath came fast, and she had to lie down at once. Her skin was dry, sallow, and bloodless; her muscles flabby, and when at last, after a fortnight more, I set her on her feet again, she had to endure for a time the most dreadful vertigo, and alarming palpitations of the heart, while her feet, in a few minutes of feeble walking, would swell so as to present the most strange appearance. By-and-by, all this went away, and in a month she could walk, sit up, sew, read, and, in a word, live like others. She went home a well-cured woman.

Think, then, when you put a person in bed that you are lessening the heart-beats some 20 a minute, nearly a third; that you are making the tardy blood to linger in the by-ways of the blood-round, for it has its by-ways; that rest prone, binds the bowels, and tends to destroy the desire to eat; and that muscles in rest too long get to be unhealthy and shrunken in substance. Bear these ills in mind, and be ready to meet them, and you will have answered the hard question of how to help by rest without hurt to the patient.

But what is it that rest does for your sick man? We have seen, in brief, how it hurts; how does it help? When first I came to ask myself this question, I found that though in many cases I was sure of its usefulness, I was by no means sure why it gave rise to such helpful results; nor am I now much better off in this matter.
as concerns some of the diseases in which I am most secure of aid from it.

As regards a broken limb, the simplest case of all, it is plain that we gain chiefly an absence of deformity, and that rest is not needed to get mere union, which would usually take place whether the limb moved or not; unless the motion was very frequent and very free. In animals, the bones knit without splints, but nature secures absence of much motion, early in the case, by punishing movement with pain.

For the many disorders in which I or others have used rest, we shall find a great number and variety of reasons why this means is good, and perhaps my best way to teach you how it helps, will be to take up in turn these forms of trouble, and state with each the reasons why it is bettered by rest. But before doing this, I should remind you that rest is a relative term, and that we cannot, or, at least, that we can rarely get entire repose, and that, in fact, arrest is not what we want. We can only slow the works, and not stop them. Then, also, I ask you to keep in mind that the rest I talk of to-day is mechanical rest—stillness; and that we often bring about partial physiological rest by drugs, as when we compel sleep; or reduce the number of heart-beats; or make one organ active in order to make less the task of another. A very fair sample of this is in the treatment of certain stomach troubles. Here, for instance, is one from my note-book, of this way of helping a gastric neuralgia. A well-built woman, aged about thirty, some years ago came to me from the country with a history of long emotional trials, ending in an agony of pain every time she ate. The first mouthful swallowed began the torment. We ran through a host of drugs and diets, from raw soup to milk—allike in vain. Then, thinking she might have an ulcer, I gave simple emetics, and studied with care what came up, but all with no gain. So at last I said I will rest the stomach; I therefore gave pepsin, acids, and beef-soup together by the rectum, which was thus made into
a stomach. Meanwhile, although she could walk about, I put her in bed, because it is easiest when prone to keep the enemas, and because at rest she would use up least tissue, a point of moment when using so unnatural a way of feeding. Six weeks of this cured her of what I think was a neuralgia brought on by the functional activity of the stomach. There was some over-sensitive region in the centres, which suddenly translated into the language of pain the impressions which came to it from the acting stomach. The stomach and the sensorium, or so much of it as is in relation with the stomach, were put in splints, if I may so speak, and by-and-by got back their normal tone.

Following out this train of thought, let us go on looking at the neuralgias, and see why rest helps some of them, as it surely does. There is now in the ward for women a German girl, who has a neuralgia of the lower branch of the right fifth nerve. It never troubles her much unless she eats, talks, or laughs; in other words, moves the jaw, though even this is not needed, because if I handle the right corner of the mouth, push, stretch, or pinch it, the pain comes on at once. Neither in eating was it at first the jaw-motion alone that ensured the coming of pain, for even the act of swallowing would do it. Two things cause it to appear: the functional use of the mouth and throat, and any motion of certain parts about the angle of the mouth, where the neurility is given in part by the terminal threads of the nerve which has the pain. We might say that motion alone was the pain cause, but in some cases laughing or crying—normal convulsions of the face do not arouse the pain, and only talking can do it; or, as in a case we saw here last year, only swallowing, or, perhaps, as in a third case, the functional activity of the stomach, although there was no dyspepsia, and the first cause of the neuralgia was a disease of the upper jaw-bone. From all which we learn a lesson useful in other nerve pains, but useless here, because people must eat and digest, and will talk and laugh; and our lesson is this,
that many neuralgias wake into fresh torment, owing to mere motion of parts, sometimes not close to them, and also to the functional use of parts near them, or related to them.

I once treated a case of infra-maxillary neural pain by rest. I forbade laughing and talking, and gave only fluid food. These means made less the number of fits of pain, which were usually about fifty a day. On the first day of rest they became thirty-three, and in four days came down to eleven, but these were very bad, as if with lessening the number we had made greater the pain. I found in this case that rest only helped, but did not cure, nor is it ever much more than an aid to other means. Could we have put a stop to swallowing, no doubt we should have done still better, for the more often she swallowed, the worse grew the pain. Motion of the part, then, increases nerve pain, and motion or active function of parts far from it, may do the same. No one can yet say why this is as regards the fifth nerve. The motions we speak of do not all of them mechanically disturb the nerve. In many cases they cannot. No doubt there are close relations in the sensorium between the centres which get impressions of all kinds from face, and throat, and mouth, and stomach, and when one little centre becomes irritable from disease, or the steady acting of an outside cause of disorder, like a pinched nerve, it soon begins to feel morbidly, through other ganglia, the normal impressions which every functional act brings to them, and through them to it.

Now this is not an explanation; it is only a way of stating the facts, but it is a way which perhaps may aid you to see them in a clearer light. Suppress, by rest, the number of normal excitations which reach the over-sensitive nerve-cells, and you suppress some of the causes of pain, because an excitable centre feels all things as pain, and grows more and more sensitive, like a man in anger whose wrath is fed by everything.

The use of these facts gets to be plainer in neuralgias of the
limbs. Some of you will recall a case of neuralgia from a wound of the median nerve-branches in the hand, which you saw last year. The irritations lasted long, and were so constant that the whole of the sensory centres belonging to the arm got at last to be distressingly alive to outside impressions, so that the faint messages sent to the brain from the motions of distant muscles in the forearm and arm were all felt in the centres as pain. This patient spent her life in keeping the member at rest. At last, by a nerve-section, the cause of trouble was cut off, and the central nerve-cells by slow degrees ceased to feel as pain the thousand every-day impressions, which are all the time, and in health without our knowledge, passing from the outside tissues to the centres within. This will, I hope, make plain to you one reason why rest, utter stillness, by making fewer the irritations of the too sensitive centres, is good as an aid to treatment. Now and always you will do well to keep in mind that there are no nerves of pain, but that whether an impression from without is to be that of a hurt or not, depends first on the grade of impression—in health only severe injury causing pain; second, on the state of the centre, which may be tuned up to feel a feather-touch as pain; and perhaps, third, though this is less clear, upon the state of the carrier, the nerve-trunk. But whenever any morbid state increases the power to feel pain, no cause is more potent than unrest of the part; no help towards cure more certain than rest.

As I have pointed out before, motion increases the pain of neuralgia because it puts the part in function, and the mode in which this cause of pain acts is not easy to see through; but motion has grosser effects in its direct mechanical influence on diseased nerves.

I cannot recall ever having pointed out to you here any instance of this, but I have seen it often. In my book on nerve injuries, I describe a case of nerve-wound of the sciatic, in which the man was quite easy unless he stood up, when at once a violent pain darted down the nerve, and with a cry he fell on the floor. This
poor fellow had a local neuritis at the exit-point of the sciatic nerve.

Now let us look at the case of C. P., in the male ward. He has a severe sciatica, with all the usual symptoms. When he stands on the well leg, he has little pain, but if he rests on the lame limb, he has pain at once, and this goes on getting worse. This must be due to the squeeze which the contracting muscles give to the tender nerve, and more at the sciatic notch and under the great gluteal muscle than elsewhere, for in the notch lie two muscles, the pyriformis and the gemellus superior, both of which swell out and harden as we stand. I saw, four years ago, the sciatic notch at the after-death examination of an old German woman, in whom pain on motion was the most striking fact of an old sciatica. In her case, as probably in many such cases, the nerve-sheath was swollen and full of serum, so that the nerve was, so to speak, crowded in its way through the foramen, which, of course, made the least added pressure sore to bear. I believe that more so-called sciaticas are really cases of neuritis than is usually thought to be the case, and when the nerve is inflamed, another factor comes in to make mischief. Healthy nerves are meant to stand a good deal of stretching and pressure before they suffer or lose function, and just how far this may go, I have experimentally shown; but a nerve long inflamed becomes hard and inelastic, and I cannot help thinking this must help to make motion painful. I used to watch with interest last year a patient of my colleague's, Dr. Sinkler. He was in Ward No. 3, and had, we thought, a neuritis of the sciatic. When going up-stairs, he never used the lame leg to mount with, because this act tightened the nerve over the edge of the notch. If, when standing, I made him swing the thigh forward with the leg extended, he had great pain, and extreme backward motion in the same position also gave still more distress for like reasons. A mere glance at the relations of the nerve to the notch and to the pyriformis and gemellus superior muscles will make all this
clear enough, and will show you why entire rest with the
limb in a midway-position is of all the easiest. So true is it,
that you will treat in vain old sciaticas while they are up and
about. Whatever else you do, put your patient at rest, and
let it be complete. In some cases I have seen very good re-
results from the use of splints, or from so encasing the hip with
plaster, or collodion, strips, as to limit movement. I should like
well enough to say something as to the other means of treating
sciatica, and as to the steady use of ice-bags in old cases, but
there are many good ways of helping this malady, though, as I
have urged, no one of them will prosper while the sufferer is afoot.

There is another form of neural pain which is very rare, but is
so good as showing the effect of motion, and the uses of rest, that
I am tempted to refer to it before speaking of rest in graver dis-
ease. The action of writing brings on in a few people one of four
states, a spastic condition, known as writer’s cramp, loss of power,
a choreoid disturbance, or, very rarely, pain. I saw some time
since a case in which there had been loss of power and cure, then
choreoid troubles and cure, and lastly, extreme pain on writing, not
in the fingers, but in the back of the hand. At first it went away
soon after the patient ceased to write, but by-and-by it stayed, and
at last, when it grew severe, it was kept up by any motion of the
fingers. I simply placed the hand in a sling, and soon saw it get
well, though I was forced to forbid the use of the pen, and to ad-
vise change of business to some out-door work. In common
writer’s-cramp, rest is the only help, and I, for my part, have seen
no good come of any other treatments. Let such as believe in
them try them without rest, and one such cure will end my doubt.

I am more anxious to say a few words as to the use of rest in
certain central maladies, and in some disorders to which women
are subject, disorders which I can more readily describe than
label, and which I often find it easier to treat with success than to
paint with clinical clearness.
Let us take first one of these forms of disorder with which you are all familiar in this house, and which we have yet to see a failure to cure. The cases I speak of, some doctors like to call hysteria, but hysteria is the nosological limbo of all unnamed female maladies. It were as well called mysteria for all its name teaches us of the host of morbid states which are crowded within its hazy boundaries. But whether or not the condition known by this much abused name be present or not in the cases I am about to speak of, this at least is clear, that it is not the key to their treatment, nor the main cause of them.

Let us take a case. Mrs. B. was brought to me on a couch from a distant New England State. She began adult life with certain over-work of the brain, a long, steady strain, backed by unusual mental force, and a certain vigor of will. Then she married early, and nursed in turn three children far beyond the common time of breast-feeding. Meanwhile, the claims of society, family, charity, and mental culture were all alike met, and at last, somewhat of a sudden, she gave way, lost flesh, came to weigh ninety-five pounds in place of one hundred and twenty-five pounds, or one hundred and thirty pounds, had pain in the back, steady dyspepsia, and great weakness. Everything tired her; to eat, to read, to digest, to move; and the least effort quickened her pulse, caused headache, and flushed cheeks, and at last pallor of face. There were no hysterical signs, but she had ceased to menstruate for at least three years, although I could find no womb-disease. Her look showed no anemia able to explain her state, but the white corpuscles were one-third too many. The almost painful sense of tire was the main symptom, and it showed not only in what she said, but in her look of strange fatigue. Tied, as it were, to her chair or couch, she still strove to fill her place in life, but what it cost was seen in the lines of lassitude left on her face by this life of desperate effort.

As to treatment, she had tried everything, lived on tonics, and
gone from doctor to doctor. When I saw her she could not walk more than a few steps, and her normal arm-pit temperature was but 96.5° to 97.5°.

It was clear to me that this woman, for reasons not plain, had never been able to get her tissues back to the standard of health. A twenty-mile walk would put your spinal ganglia in the state of exhaustion, which fell on hers after five minutes' use of her legs. Functional use of head or spine in health slowly and moderately flushes the part used, a simple provision for quick repair. But in this woman, the flush, I fancy, came almost at once, and the tire pain, which we all know, came also. The same remark applied to her mental efforts. Tire and pain went almost along with the functional action. Just, in a word, what you see in over-worked, busy, worried men was her state. Action suddenly dilated the vessels, and not slowly and in small degree. Over-distended vessels mean malnutrition, and so we have an endless series of evils, tied each to each in mischief-making sequence.

In her case I carried my treatment to an almost absurd extreme. She was put in bed, and left it for no purpose. At first she was even moved by her maid when she wanted to turn in bed. She was fed and washed by others, and forbidden to read or use her hands, and even to talk. Then she took iron as before freely, malt extract, a bottle a day, wine, raw beef, and plenty of butter, was fed, in fact, every two hours—at first little, then, after a while, more, and at first chiefly by the rectum, especially with cod oil.

But to be thus still, means, as I have said, feeble blood currents, stagnation in unused muscles, pale skin, disorder of the sluggish portal blood-round. And here is the gist of the treatment. You must get the effect of exercise without its ills. Exercise without exertion is what we want, and this was the way it was had. Every day she was masséd, thoroughly; and skin, muscles, and belly kneaded until they flushed, and tingled with blood, and for the time rose in temperature two to four degrees.
day each muscle was made to contract by faradic currents, and so she failed to feel the effect of disuse of the muscles. She was forbidden to exercise and yet had exercise, and she was fed largely but with watchful care.

At the thirtieth day she menstruated; at the close of two months she had gained thirty pounds, and was at once able to walk upstairs to the attic; and down to the front-door untired, and in a month more, to go where she pleased, and do what she pleased. This sickly, feeble, wasted creature had become a handsome, wholesome, helpful woman, and so remains to this day, with only a constant gain in vigor.

These cases vary, of course, endlessly, but their essence is a state of reduced nutrition, which no mere tonic will cure while they are afoot and living on their capital. The main symptoms are the state of painful tire, the low temperature, the great or less anæmia, the quick pulse, the excess of white blood. I have treated in this house, under the eyes of some of you, many such cases, in some instances blurred, as it were, by other symptoms, and sometimes in women whose every disease was painted on the puzzling background of hysteria. I should hesitate to say, as I do, that I have had no failure, if it were not that some of you have yourselves seen every case, and have wondered with me at the marvel of the coming back of life and bloom and power, and happiness.

The amount of feeding, of massage, and of faradic muscle ex-

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* This symptom of ordinate sense of fatigue is found in many forms of disorder in women. The worst cases to handle are girls, with what is called spinal irritation by some, and spinal anæmia by others. The first name conveys to us nowadays, the idea of a group of symptoms—the second asserts a belief as to the cause of such symptoms. It has no clinical support. In these women there is at one time pallor of face, and the next minute islands of vasal dilatation. Perhaps the centres suffer like changes. I am not sure, and can offer as to this no other proof of value. It were easy to write long about this, and to be decoyed into more than a lecture.
ercise, which each case will bear and prosper under, is a matter to
be told early in the case by watching the pulse, the temperature,
and the appetite. In these cases the pulse is always rapid. If it
fall, if the temperature rise, above all if there be the least gain
in flesh, I know that I am on the right path, and am not mov-
ing on it too fast, but if these symptoms be reversed, and if the
patient ceases to be hopeful, and looks weary, then, I lessen the
passive exercise and wait a little, but above all I listen to what my
masseur or masseuse tells me of the ease with which the limbs
flush, of the readiness with which the muscles grow firm under
the kneading fingers, for in this matter the rubbers get to have a
very shrewd judgment. As to the rectal feeding, which I rarely
omit, I say little, as it is now well understood. It should always
include cod-liver oil. There is only this to be borne in mind: most
medical men feed by the bowel when they cannot by the mouth;
I like to use both ends at once.

It has long been my practice to insist that patients in the early
stages of spinal congestion, meningitis, and chronic myelitis, es-
pecially in the very well localized forms the latter disease may as-
sume, should lie down whenever they are in-doors. If I can car-
ry my point, I like very much to put these cases in bed, and at
perfect rest for a few weeks, and my reasons for doing so are these:
Erect posture, and walking heavily, tax the spinal ganglia, and
never more so than when every step is labor. The prone position
puts them at rest. It is easiest to repair when the machine is not
in full action, and so rest is to be wished for in a disordered spine.
Besides which I could tell you case on case of these troubles, in
which some sudden fatigue has brought about an abrupt increase
in the gravity of the disease, while I have never seen ill come of
rest even though it caused no distinct gain.

In cases of chronic meningitis, such as I have seen come of
injury, or from the downward passage of cerebral meningitis after
sunstroke, rest, with counter-irritants, is almost the only very good
means; rest, long and complete, is the one utmost want. Nor
need I say much as to the treatment by pure rest of the meningo-
myelitis of Pott's disease, in which you have all seen the most per-
fect success in this house from the use of the prone position with­
out the classical treatment by the hot iron, which is certainly some­
times useful, but in many cases needless, despite Charcot's recent
and most authoritative statement.

I come last in my hasty review to a class of cases in which the
use of rest is entirely my own idea, and in which I am sure I have
gotten results of great value—results which happily you have seen
with me in this very hospital. I allude to the use of rest in loco-
motor ataxia, in its early stages of pain chiefly and most surely,
but also in any case of posterior sclerosis before it has gone too far.
You will ask me what I mean by this last phrase, "gone too far;"
and I answer that it is vague, because I really am, as yet, unable
to set the limit beyond which rest is useless. I have seen it
strangely relieve old cases of ataxia in which there was pain, and
with the relief of pain there was also unhoped-for relief of other
symptoms.

A number of years ago, a gentleman, æt. fifty, took a long sea-
bath at Newport, and became thoroughly chilled. Next day he
had a sharp attack of pain, here and there in the legs, like dagger
stabs. A week later came another onset of like torment, and,
after these, the attacks became common, so that at last no day went
by without its share of pain. Two years passed before the ataxic
symptoms grew into distinct form. Ten years after his first pain,
while the constant subject of horrible torture, he fell in alighting
from a street rail-car, and tore the internal lateral ligaments of the
right knee. This injury kept him in bed three months, and dur­
ing this time his pains grew fewer, and also less severe, and at last
left him, to return no more, while also his ataxic symptoms were
in a great measure changed for the better, and, indeed, so re­
mained up to his death from pneumonia some years later. Five
years ago one of my ataxic patients, who had also intense neuralgia, broke his leg, and, resting in bed for some weeks, left his pains between the sheets, as he said, and knew them no more.

Next I came to know of a gentleman who broke first his thigh and then his leg, and, resting in bed a long while, had also the good luck to get up cured of his ataxic neuralgia. A like case of one simple fracture with the same results came to my knowledge still later; and by this time I began to see that rest—perfect, entire rest—had some curious power to aid the state of pain which makes one of the early, and often one of the constant distresses of ataxia.

Finally, in this very house, Mrs. B., a confirmed ataxic, with intense neuralgia, fell in walking, and broke her thigh, an event which put her in bed for six weeks.

She said to me one day: "It was worth while to break my leg, because now I have no pain." You will, some of you, recall her, as she was long an inmate of the women's ward. This case at length opened my eyes, and I felt ashamed not to have seen the full truth before.

In one of the male wards of this same hospital was a bad and very painful case of ataxia in the early stage. To test the correctness of my belief as to the value of absolute rest in relieving ataxial neuralgia, I kept him several weeks in bed. The result as to control of the pain was surely very remarkable. Before going to bed he could not walk without aid, nor could he stand for even a moment with closed eyes. The pain was inconstant, but never left him two days without extreme torment. Six weeks of almost absolute rest enabled him to stand a few moments with shut eyes, to walk unaided up and down the room, and to assure me of his entire freedom from pain since the seventh day in bed.

I do not think these cases can be looked upon as mere coincidences of pain ceasing about the time of the injury. I should rather conclude that exercise has power to flush the ganglia
used in movement just as thinking brings blood to the brain and raises its temperature, and that this afflux of blood, or, at all events, the mere functional activity, is in some way injurious and irritating to the diseased centres. This will seem at least a reasonable view if we recall what I have said as to the influence of motion upon certain facial neuralgias. Even where there is no tender point, talking or chewing will often cause increase of pain, or awaken pain afresh. Thus, I have lately seen a case of frightful torment in the upper jaw, which was due to acid dyspepsia, and was cured when this state was relieved. The stomachal condition had created, however, a state of the nerve centres of the fifth nerve of such a character that if the patient attempted to talk or laugh, it presently resulted in a severe fit of pain, nor is this a very rare or merely curious example. Considering the spinal posterior ganglia and columns and the related sensorial centres above them, as in ataxia, ready to pass into the state which gives rise to pain, it seems likely enough that exercise may be efficient in bringing it on. Exercise does not only mean motion in a physiological view of its totality of results, but it also involves the passage centripetally of a host of impressions generated in the moving tissues, and of necessity passing up to the central sensory ganglia. The centres of motion and of sensation are, therefore, active during movement, and are then alike excited, so that we may, with these facts in view, see why motion may excite sensory organs.

It seems, then, that in the painful stage of locomotor ataxia motion is probably injurious, and that rest in bed is for like reasons useful.

In my original paper in the *American Journal of Medical Science* I stated that probably the bones of ataxics are brittle. I have since heard of a case in which both arms of an ataxic were broken after death while lifting his body to put it in the coffin; and, quite lately, Charcot, in alluding to my paper, has given a number of
cases which prove beyond a doubt that my suspicion as to the fragility of the bones of ataxics was correct.

You who have followed my clinics well know that I utterly disbelieve in the cure of posterior sclerosis. I have seen ataxic symptoms from spinal congestion and hysteria relieved, nay cured; but I am sure that no one has yet seen a cure of ataxia from sclerosis of the posterior columns of the spinal marrow. Hence I venture to offer my treatment by rest as well worth a trial in the outbreak of the disease. Perhaps in the very earliest stages it might do more than merely relieve pain or stay for a time the unrelenting march of the disease.

During the war of the Rebellion, my friend Dr. Hammond, then the able and far-seeing Surgeon-General, placed under my care wards for nervous disease, in which I had the good fortune to see a host of strange and curious cases. Among them were some which are rarely met with in civil practice, although they are clinically represented by the cases of writer's-palsy, hammer-palsy, loss of power in the legs from use of the sewing-machine treadle, and the like. The cases I refer to were the most brilliant examples of treatment by rest that I have ever seen, and may fitly serve to close this lecture.

There were brought to us a number of these cases, which we soon learned to know almost at sight. They were men who had been over-marched—worn out by the use of their legs. Commonly these were people who had been scurvy-stricken, or victims of ague, and who, with vast force of will, had striven to keep up with retreating columns, or had, day after day, marched great distances, until at last they had literally given out, and been amazed to find that, on taking to bed, they were unable to rise again.

It was usually a pure exhaustion without sensory troubles, although a slight lack of feeling sometimes went with it. There were no bladder troubles as in congestion, and neither pain nor wasting, but simply loss of power.
We soon learned to treat these cases by rest in bed, with porter, beef soup, and strychnia. It was curious to see how promptly and completely they came up; and my colleagues, Drs. Morehouse and Keen, will still, I am sure, recall the amazement with which we saw their ready cures.

I have tried in this lecture to make clear my views as to the evil and the good of rest, but I have failed to satisfy myself if I have not set in strong light the fact that the ills which go with this useful means of treatment are capable of being met and dealt with to the good service of cases of disease. Rest can be made to help. Rest also can hurt, and he who deals with it as a means of cure must not fail to bear in mind the modes by which we can secure the light without the shadow, the good without the harm.