

those of bulbar section serve to establish the identity of the direct mechanism which presides over the manifestation of these effects. The pancreas plays the rôle of an inhibitor of the liver by means of its central nervous regulators."

This theory of Chauveau's, which I have not stated quite as fully as the author gives it, calls our attention to the unity of diabetes. It is complicated. It is based on analyses of the blood and experiments on the nervous system, both of which methods of experimentation give opportunity for error. Nevertheless, it furnishes a better explanation of all forms of diabetes than anything yet advanced and will be useful in suggesting further work.

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RELAXATION AS A CURATIVE AGENT.

BY ANNIE PAYSON CALL, BOSTON.

MANY diseases are either caused by or accompanied with unnecessary tension, and in addition it might be said that many diseases cause tension. This tension, which is involuntary but can be voluntarily dropped, disturbs the natural equilibrium of the forces of the body, and will not allow Nature to do her perfect work. The antidote is relaxation; and this being the case, certainly relaxation is not given the place that should be accorded to it among the natural curatives. Neither is it yet recognized to be as effectual an aid to the better working of medicine, as exercise, fresh air, nourishment, and so-called rest, which is often very far from relaxation. These four are accepted natural curatives; but their good effects may be greatly enhanced by systematic relaxation, which renders the body more susceptible to their influence.

Take the simple instance of severe pain, which of itself directly excites contraction. A very slight effort of the will to relax the suffering part often brings almost immediate relief. It is because of their relaxing power that warm applications are made. If these in return were assisted by the natural voluntary relaxing of the patient, each might help the other greatly and save much unnecessary suffering. With severe pain contraction is so abnormally instinctive that it seems at times to relieve it, but after such relief there is always a reaction which means increased suffering.

Many forms of indigestion result from contraction, and nothing else, and it is marvellous that medicine should have any effect in such cases, when it is steadily thwarted by an extreme tension on the part of the patient, a tension which might be dropped voluntarily.

Of course indigestion of this sort can become chronic, when the tension is continued long enough to get beyond medicine or natural cures.

The semi-invalids who come week after week for more medicine and expect it to do its work and cure while they are steadily resisting it, are familiar occupants of a physician's office. But it does not, apparently, occur either to the patient or the physician that the patient can be taught not to resist, by as normal a process as a child is taught the use of its fingers on the violin — or the voice is given its natural freedom, that it may express itself in song.

It is an almost equally familiar fact that there are invalids, so-called, in whom the original disease has entirely disappeared, but the brain impression is almost, if not quite as strong as during the disease, and the patient is ignorant of the fact that he has recovered. The disease habits here often take some form of tension, the dropping of which helps the patient to reach a normal state, although there must be at the same time some mental effort.

Nervous tension is often so immediately connected with some mental impression that in order to relieve it the greatest tact is required. For instance, you cannot say to a man, "My dear sir, you are quite well if you will only behave as if you were." That would throw him back more decidedly upon the sick-list; but you can lead him little by little until he sees the state of his own case, believing this to be entirely his own discovery, and so takes pleasure in removing all abnormal habits and curing himself.

So it is with many cases of nerve trouble which arise from an over-worked, over-excited, or over-anxious brain. One form after another of mental strain the patient *must remove himself* before he can really begin to get rid of the tension that is keeping him ill. The triviality of these nervous anxieties is most remarkable, but of course they should be looked upon as mere forms of tension and dropped, just as one might study a muscle that is unnecessarily contracted and train it to a natural freedom. On the other hand, their triviality can never be truly impressed upon the patient unless he is led to discover it himself. A blunt effort at persuasion merely increases the tension, and this same tension, of course, retards the recovery.

A nervous invalid of this sort should be trained always objectively, as far as possible. Without such training, a man, or more especially, a woman, may be kept ill unnecessarily long, through the action and reaction of an anxious mind and tired nerves. The anxiety seems real and so works upon the tired nerves. The tired nerves are a physical reality and not only increase the anxiety but, in nine cases out of ten, cause it. The tension is continued and the patient is kept ill, and neither fresh air, exercise, nourishment, sleep, nor medicine can help a man, to any extent, where his own will persists in permitting his abnormally anxious brain and tired nerves to play back and forth one upon the other. This condition is more common with women than with men. Some women seem to take pleasure in overloading and emphasizing their anxious brains, in lacerating their tired nerves and then taking a daily, almost hourly, unhealthy observation of both. This, of course, is due to the more sensitive nervous temperament of the woman. But it is like rubbing a wound and then expecting it to heal, or perhaps in this case there is even a grim enjoyment of the non-healing process. And all so unnecessary if one would learn to

look the other way, while nourishment, fresh air, exercise, sleep, and a normal relaxation are doing their own work with the assistance of whatever medicine may be needed.

Beside this nervous fatigue, there are many forms of nervous contraction from apparently no immediate organic cause, which might be greatly helped by gaining the power to relax normally. As an instance may be given a case of a woman who had suffered for years from an inability to articulate clearly and a want of power to direct her muscles. She could not make herself understood by any one, and at times would fall full length upon the floor, so uncertain was her balance. Physicians had told her that there was no cure, and after thirty years of this unfortunate state, she has now learned not only to balance herself on both feet, but to stand and rest easily upon one, and has gained the power of communicating with others with a perfect articulation.

The fact of the possibility of dropping unnecessary tension seems to be little recognized by many physicians. A short time since a very prominent doctor in one of our large cities, informed a man who applied to him for help in a spasmodic contraction of the throat, that he could not help him in any way: but added, "Nothing worse will happen than that you will faint away, and you will be all right then, for your throat will relax." It never occurred to him that the man, who had an excitable, nervous temperament, somewhat over-strained, might learn to relax his own throat, and save the inconvenient relief of fainting at times for the purpose of regaining his breath.

Unnecessary contraction, while more immediately recognized in such cases as the above, may be found, although by no means to so great an extent, in many diseases that have not a directly nervous cause. Various forms of congestion are accompanied with contraction. Fever may be increased by an excitement which causes contraction, and decreased by quietly giving up to it and letting it have its way. And so one form of disease after another could be named, which is increased by the accompanying contraction and would be correspondingly abated by its removal.

With unnecessary contraction, nourishment has not its full effect, the digestion is labored, so that nervous force is used in the process of digestion which would otherwise be kept for new life. Fresh air has not its full reviving effect, for the circulation is impeded, and the blood cannot carry the oxygen so freely through the body. Vigorous exercise is not taken as easily when the muscles are not normally directed, neither is it as beneficial in its results. First, because of the waste of force in motion; second, because as a result of this waste, there is often more or less tension when resting, which does not allow the quickened circulation all the freedom required for its best result. With unnecessary tension, sleep is not so restful as it should be, for when one does not give way to a perfectly natural sleep, the waste cannot be supplied so rapidly. Where it should be all a building up, there is at the same time a using up of force, all the more trying because it is abnormal.

Fresh air, exercise, nourishment and sleep are Nature's curatives. To lead the patient to a greater freedom is only to open the way that these may have a more immediate effect. The freer the body, the quicker Nature can bring it to a state of health, whatever may have been wrong in the beginning, and this, of course, applies equally to the action of medicine.

A man takes ether not only to get relief from pain, but to be kept in a passive state which will enable the surgeon to do his work, unhampered by the contractions that would inevitably come from fear or pain.

There is no ether that will keep a sick man in a state of freedom and allow the disease to run its course and be over with, but there is a natural freedom which might come without ether if the patient had a little knowledge of how to gain it.

A disease has a natural course, even though it is a disease, so truly does order reign in spite of man's disorder, and to give it its freedom with the guide of the curatives, would lessen the possibility of after effects which are often worse than the disease, or of death itself.

It is, of course, impossible to train a very sick man to keep quiet and free and let the disease be taken care of by Nature and medicine, but it is quite possible to train one who is not very ill, so that he may be saved much unnecessary suffering. Even a very sick man, if he is in his right mind, may be helped by gentle and constant suggestion.

Of course, as a preventive, a training to natural freedom could be used illimitably, but the object of this article is only to call attention to its curative power. A sense of weight may be given to the whole body, through getting the impression of weight from the slow lifting of an arm — either by another's moving it gently so that it must gradually be passive, or by the patient's being taught to lift it himself from the shoulder — even an inch from the bed, and then dropping it. As this is repeated over and over, the impression grows and a greater sense of weight is spread over the whole body, which relieves the tension and gives a certain degree of freedom. In addition to this, is the quiet effect upon the brain, which comes from fixing the mind upon something so simple. The result of the idea of weight tends to spread the freedom over the entire body, unconsciously to the patient.

Great care must be taken that the sense of weight is weight alone and not pressure.

This same result sometimes comes more quickly by a very slow lifting of the head by the two hands of another. The extremely slow motion of head, legs, or arms always has a directly quieting influence and so leads to greater freedom.

The immediate effect upon the brain of breathing is very well known, and various forms of quiet, long, and short breaths, can be made most useful, especially if the patient is well enough for the simple concentration of counting, — for instance, inhale counting seven, exhale counting seven — rest (breathing naturally) counting seven — and repeat this seven times keeping his own count. This may be increased to nine, twelve, fifteen, twenty-four, and the resting periods may be doubly as long as the breathing.

This simple concentration is often difficult even for those who call themselves well, and is most useful in focussing the mind with many who have, or have had, nervous prostration. A return, after a long nervous illness, to a natural use of the mind in talking, in reading, or in the various daily affairs of life, is often difficult, when otherwise one might be perfectly well, and is made easier by this simple form of concentration in breathing, because through it the brain gets a better balance. Added to these, are other exercises in concentration, by which, through keeping the mind steadily for a very short time on various forms and motions of

nature, a strong brain impression is made and a healthier state of nerve brought about. These must be chosen with care and with special reference to individual needs, and are meant, of course, for help in nervous cases. They are successful often where the interest needs to be roused, and help comes as much from the way the exercise is given as from the exercise itself.

Having given an idea of weight and the deep breathing exercise according to the state of the patient, more or less can always be done in helping the power of direction, so that only the muscles needed will be used, even in turning over in bed or moving an arm or leg. Very great help is given through conveying an idea of what it is to free one's self from unnecessary mental tension.

Take a case, for instance, in which the patient is resisting constantly in his mind the fact of being ill. This resistance produces a tension of the brain, the effect of which is felt upon the entire body. Now if he can be shown, quite simply, that he must be perfectly willing to be ill, for that *will help him most to get well*, there is a counteracting effect at once and Nature and the doctor are given a better chance.

To be sure there are often instances where the patient instead of resisting the illness gives up to it too willingly. In that case he is resisting recovery and must no more be permitted to do so than to resist the illness. *Relaxation is necessary only in so far as it trains the body to a normal freedom and so enables it to find and hold its own equilibrium.*

It may be thought to be impossible to change a man's mental state to such a degree, but that depends upon how it is approached. As has been said before, all the tact of a diplomatist must be used in such training, as indeed in all training for a natural freedom.

The same is true of the resistance to various annoyances, great and small. Indeed irritability is one of the most fruitful causes of prolonging disease. The unwillingness in each case has the same effect upon the brain, and its counteraction brings immediate relief and so opens the way for a more rapid cure.

The process of relaxation as a curative may be briefly summed up thus: a greater freedom of the body to be gained through obtaining a sense of weight, quiet and deep breathing, and a power of natural direction and simple concentration.

It results in a freeing of the body, which will more certainly and rapidly permit a wholesome effect from fresh air, exercise, nourishment, sleep, medicine, and other curative processes.

Clinical Department.

TWO CASES OF PULMONARY CONGESTION AND OEDEMA OCCURRING DURING PREGNANCY.¹

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CASE I. Acute pulmonary congestion and oedema in patient six and one-half months pregnant. Death.

At 2 A. M., March 27, 1889, I was called to see Mrs. D., six and one-half months advanced in her first pregnancy. She had recently moved to Roxbury from a distant part of the city. Her pregnancy had been uneventful till the present illness.

¹ Read before the Boston Society for Medical Improvement, January 22, 1894.

During the afternoon preceding my summons she had been to see her physician, three or four miles away, because of a slight cough, and some difficulty of breathing, which had troubled her for a day or two. She retired as usual, slept for several hours, and then woke suffering from great dyspnoea and distressing cough. When I reached her she was sitting in a chair, in extreme distress, with alarming dyspnoea, rapid breathing, coughing and expectorating quantities of bloody serum. Her face was dusky, skin cold, and bathed with clammy perspiration. Her pulse was very rapid and feeble; the lungs filled with moist râles, and her condition betokened impending death. She lived but a short time, — not more than half an hour after my arrival.

Her physician informed me that there was nothing apparently serious in her condition when she called upon him the previous afternoon, and he was much surprised at her sudden decease.

CASE II. Sudden pulmonary congestion and oedema in patient six and one-half months pregnant. Induced labor. Recovery.

Mrs. M., six and one-half months advanced in her seventh pregnancy summoned me at 11 P. M., October 26, 1893, on account of severe dyspnoea.

She had been seen nine days before by Dr. G. W. Clement in a similar attack, when her husband came for him saying that he believed his wife was "choking to death." Dr. Clement informs me that he found her sitting in a chair, bent forward, coughing hard and raising bloody, frothy sputa. The chest was filled with moist râles, the pulse was quick and feeble, and her condition critical. He was with her some three hours before she was sufficiently relieved for him to feel that it was safe to leave her. She rallied under the use of stimulants and of pilocarpin *sub cute*. On subsequent examination he found a mitral systolic murmur of the heart, and albuminuria.

Being obliged to leave the city for several days Dr. Clement directed that I should be sent for during his absence, if there was need.

When first seen by me the patient was suffering from alarming dyspnoea and orthopnoea, frequent cough and expectoration of bloody sputa. Pulse 120, respiration 48. In about two hours, under the use of aromatic spirits of ammonia, nitro-glycerine, etc., she became easier, and I left her for the night.

October 27th. She was much more comfortable, and had slept somewhat. She reported an attack of acute rheumatism several years ago, and another last winter.

Examination of the heart showed marked mitral systolic souffle; not much enlargement of the organ. Some oedema of extremities. Urine abundant under the use of diuretics prescribed by Dr. Clement. Albumen, one-third bulk. Epithelial and granular casts.

The patient said that she had not felt any foetal movements since the attack of dyspnoea ten days ago. No foetal heart heard on auscultation. She has had two premature births of dead children at about seven months, since birth of last living child four and one-half years ago.

October 29th. Has had some return of the paroxysms of dyspnoea. In view of the recurrence of the attacks and the continued tendency thereto, and the cardiac and renal disease, it seemed to me that the patient's condition was critical so long as the foetus remained in utero. Accordingly, under antiseptic precautions, I introduced a catheter through the cervix