An illustrated sketch of the movement-cure : its principles, methods and effects / by George H. Taylor.

AN

ILLUSTRATED SKETCH

OF THE

MOVEMENT-CURE:

Its Principles Methods and Effects.

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THE MOVEMENT-CURE;

ITS PRINCIPLES, METHODS, AND EFFECTS.

Source of Bodily Powers.

In health, the body affords, daily, a large amount of force or power. This assumes the various forms of *muscular* power, *mental* power, *sensibility*, *emotion*, &c.

These results are secured through the agency of a multiplicity of invisible, interior actions, of which the system furnishes the arena.

It is to these ultimate, elemental actions of the matters comprising the body, that we are always to look for the *causes* of ill health, and it is to these to which all means of correction, that is, remedial measures of whatever nature, are to be addressed.

If we study these minute interior actions upon which life in all its modifications depends, we find two distinct phases of activity, with their corresponding results.

One of the kinds of action here referred to, consists of the growth of parts, as cells, fibres, &c., but unlike vegetative life, there is no increase of weight and size because the growing forms are destroyed as fast as produced

The other kind of action is chemical. The food and air daily required to support the organic changes above referred to, producing and destroying vital forms, and evolving force or power, pass through a variety of chemical transformations,

and finally assume the forms of *carbonic acid*, *water* and *urea*, in which state, having completed their work, they readily find egress from the body.

Now, a prominent circumstance in ill health, is the diminution in the amount of force which the system evolves. An equally conspicuous fact is that the chemical products above enumerated as passing from the body, are diminished in amount as well as changed in quality In other words, a failure in the one particular is always accompanied by failure in the other. This coincidence shows the inter-dependence of these two classes of action.

Principles of Treatment.

These obvious primary facts afford us the key to the true principles of remedial treatment. The removing of ill health, or as it is generally phrased the curing of disease, consists, practically, in rendering the organic and the chemical actions within the body, perfect, in all its parts. No principle need be employed, no purpose entertained, differing in kind from what obtains in the system in health, in accomplishing its usual and habitual round of functional duties through life. The cells and fibres, which are the instruments of vitality, have always the same uniform chemical composition, their growth always proceeds in the same inscrutable manner, their destruction is always normally effected by the oxygen obtained from respiration, which always converts the vitalized materials to the same uniform simple chemical products that are returned to the atmosphere. The uniform product of all these changes, and the evident purpose of all, is the manifestation of the *powers*, bodily and mental, which we use and enjoy

The important point to which the invalids attention is directed, is the fact that *hardly any other of the chemical compounds that may be formed within the body are fitted to pass*

from it, because such other products have failed to reach the aeriform and fluid states. The mass which passes from the alimentary canal scarcely furnishes an exception to the above statement, since it is composed chiefly of material which has not been engaged in vital operations, but is mainly residual.

The *quantity* of materials which the system daily employs, consists of from one to two pounds of solid matters in the shape of food, which enters the system from the digestive canal; and something less by weight of oxygen, which the system extracts from the air, chiefly through the lungs by respiration. As before observed, it is the extreme chemical change of which these are susceptible in the system that is the uniform concomitant of health, when the greatest amount of vital force is evolved.

It is the various *intermediate* chemical changes which are possible in the system, that characterize diseases of various names. An interrupted, struggling vitality is now manifested, and the product of power diminished, notice of which is rightfully afforded in the sensations.

If the word *nutrition* be employed as it usually is, to denote the sum of the processes by which the system is duly replenished and its power maintained ; then *Health* would be the term to indicate the perfection and regularity of these processes, while *Disease* would imply their imperfection and incompleteness.

As the power of an engine is often controlled by the degree of freedom of the exhaust pipe of steam, so the amount of power a living body can afford, will depend on the degree of perfection with which the wasting matters are removed.

This will appear plain when it is understood that *no* power can be eliminated without change of matter—mainly through the instrumentality of the oxygen of respiration ; and if the change be imperfect, that is, if the oxygen be insufficient to reduce waste to the proper condition to pass the boundaries

of the system; it remains in some non-vital form, liable to the occurrence of spontaneous chemical change, certain to embarrass and impede the normal operations—clogging the vessels, accumulating at local points, and producing all the symptoms so constantly described to the physician, and treated by him as local disease.

How Drugs are Efficacious.

A drug is such, because it cannot enter into the composition of any vital structure, but on the contrary offers a more or less active antagonism to vital arrangements. This fact, renders drugs indirectly useful, for curative purposes, with various degrees of efficacy. For instance, certain of them mingled with the contents of the digestive cavity, will unfit the product of digestion for absorption, and by irritation of the canal cause its rejection. But respiration continues meantime, unabated, and shortly effects the object of reducing the non-vital constituents of the body to carbonic acid, water and urea. The effects on the health are often but wrongly ascribed to the drug. The *real* effect was to prevent nutritive matter from entering the circulation in quantities too great for ordinary reduction.

Stimulants, tonics, &c., cause the object to be attained in another manner. These substances, entering the circulation, and irritating the walls of the vessels, cause the latter to urge their contents forward and through the aerating capillaries with greater rapidity, thus exposing the fluids of the system to the more rapid and intense effect of oxygen, and thus secure, by another indirect method, the same ends.

Some drugs seem to act as direct auxiliaries to oxygen (iodides, chlorides, &c.,) in destroying matters resident in the system, illy protected or non-protected by vitality, against their chemical influence. While others still attain the

reputation of being remedial, because they seem to partially suspend vito-chemical changes—arrest waste, probably with out decreasing the use of oxygen in the system.

It will be observed that in either case, it is through the ordinary physiological channels that restoration of health is really secured, and not by any direct support received from, or direct curative effect produccd by this class of remedies; and that *curative* action is simply, physiological action.

The objections to this mode of aiding the sick are—

1. It affords the invalid little, perhaps *no* practical instruction. He is not less, but rather more liable to a recurrence of the old malady, or some other form of disorder. He is not shown what really makes him an invalid or what makes him well.

2. The delicate vital susceptibilities become worn, and perverted, by frequent contact with uncongenial substances which drugs are. A foundation is laid in the *feelings* for false judgment and bad habits. The use of drugs is a disease, difficult of cure, which is well proved in such instances as alcohol, opium and stimulants in general, and even tonics and cathartics.

General Effects of the Movement-Cure.

Reduction by Oxygen. The *increase of the oxydizing function*, previously referred to, is among the most important effects of the treatment. Every effort, of whatever part, is attended by an *increase* of the amount of air received by the chest, and consequently by an increase of the ultimate products of change, through which all matters concerned in vitality must pass. Every effort causes increased supply of arterial blood to the capillaries of the system. Every *pressure* and every *vibration* also aids in bringing in contact, elements seeking union.

Osmosis. All muscular contraction, all pressures and all vibrations, disturb the fluids of the body, increasing the flow in all the vessels. This is the particular condition requisite to secure the *transfer of nutritive fluids and of effete material,* the fundamental act in all nutritive operations.

Capillary Action. The Movement-Cure, *induces capillary contraction*; some of the processes are eminently capable of effecting this object. This drives the blood out of dilated, swollen, expanded capillary vessels, removes the tenderness, redness and pain of such parts, and causes them directly to assume the healthy condition. No remedy has been devised so effective in this particular; and internal portions of the body are as amenable to these effects as external.

Circulation. In invalids the circulation is unequally distributed, being detained in weaker and in internal parts, and restrained from external parts and extremities. The consequence of this is oppression and pain of central organs, and a pale or sallow bloodless skin and cold extremities. Movements produce a *demand* for more blood in parts acted on, and induce a flow thitherward to meet it, thus drawing the surplus away from the oppressed central portions of the system. Every patient of the treatment directly experiences the grateful effects here described.

Organic Life. The conditions favoring the production of the successive generation of cells, fibres, &c., of which the body is composed, are those above enumerated, all having reference to the actions of the primary elements of which the body is composed.

In the healthy, the initial step, the *motion* of the new material in act of formation, is spontaneous, being directed by the resident vital affinities, aided by the actual motion communicated to the atoms, by the mass itself.

But in case of disease, these vital affinities are weak and inadequate. Conflicting elemental attractions are present. At this point, if simple motion be communicated to elements seeking each others embrace, the vital attractions are aided by so much, and the healthy act of organization of the instruments of force, is at once accomplished in a normal and perfect manner. The consequence of the supply of conditions favoring the organizing act, that is, the act of forming organs, by means of movements, is a liberal *increase* of available power, indicating an increase in the production of the instruments through which power is manifested. The body evidently exists for the purpose of affording its various kinds of force, and life is valuable in some proportion to the amount it gives forth.

The correctness of the principles here enunciated, is confirmed, simply by reference to the effect upon muscular and nervous power, which is the constant result of the application of the movement treatment.

Mental Action as a Curative Aid.

The reader will perceive that the remedial treatment of diseases by movements, constantly employs the mind, both to instigate and to reinforce physiological action. In this fact the treatment has a decided and legitimate advantage over every other, for it does not depend for its efficacy, on the mere facts of chemistry modified by vitality, as in case of drugs, but employs freely the very product of vital action as displayed in the nervous system and especially in mental power, as the needed auxillary to that of the various organs that constitute the system. It makes the body the instrument of the mind, not only as affecting external objects, but also in the contribution of its energy, so as to secure the accomplishment of internal purposes. An active movement is not merely the contraction of a few muscles, but it is also the

opening wide of the channels of connection between a region of the body and the central source of power, in the mind and will. Hence every active movement not only conveys substantial nutrition to the acting part, but if well conceived, cultivates and strengthen *nerve*, centrally and peripherally, as well as muscle. It heightens the quality of physiological action, and enlarges its boundaries.

While the ordinary prescriber has chief reference to the control attainable through chemical influences by promoting waste, &c., in the system at large and in local parts, he hardly thinks to avail himself of the wholesome control the mind is capable of exercising over the organism. It is lamentable that only acknowledged charlatans propose anything of the kind, and they through some mysterious or imaginary process and not, as in the present case, by means of the patients own resources, increasing his own selfhood.

Health is evidently the full possession by the body of its powers. Death, is their separation. Disease, is a *tendency* to separation. Restorative means, then, should be such as will secure a stronger union between these two elements of being—such as would in a manner, gently win back, and fix the failing, departing powers.

If the fact of the aid and importance of the mind, for restorative action be admitted, the practice here commended it will be seen, assumes a higher place than do other modes.—The remedial treatment by movements seems to fill a heretofore unoccupied space. It supplies a connecting link between physical science and that bordering on metaphysical. Here is a point abundantly susceptible of cultivation, of expansion, and we cannot now conceive the extent to which beneficent results may be made to flow therefrom.

EFFECTS OF MOVEMENT-CURE, NOT ATTAINABLE BY OTHER MEANS.

The Movement-Cure increases *muscle*.

It increases *nerve*.

It developes *particular* muscles and nerves.

It increases tendon and bone.

It induces a freer flow of blood into particular regions and organs.

It increases respiration, enlarges the chest and increases the motion of its walls.

It expands a shrunk portion of the chest.

It corrects spinal curves.

It decreases the activity of special nerves and removes their morbid action in general.

It strengthens the nervous connection of the extremities with the central seat of power.

It warms the hands and feet and moistens the skin.

It increases the production of carbonic acid, water, and urea in the system.

It strengthens the alimentary tube, and increases the action of the bowels.

It relieves the heart of undue pressure.

It disposes of effete materials of the body, without disturbing function, or attracting attention.

It obviates the tendency to billious attacks.

It prevents attacks liable to afford permanent injury to the nervous system or any part of it.

It enables every part of the body to do its own work, and relieves each part of work that belongs to other organs.

It prevents and cures the Scrofulous diatheses.

It prevents injury to certain parts, from the gravatation of superimposed organs.

It is instructive. It, in general, opens up to the invalid the causes of his maladies, remote and direct, and so enables him to prevent their recurrence

Who are, and who are not proper subjects for the Movement Cure.

Persons suffering from chronic diseases of any kind, with whatever local manifestations, may be treated with advantage by the Movement-Cure. All such persons, when their complaints are properly analyzed, are found to be affected with local congestions, congestions of central organs, deficient respiration, deficient heat-making, irregularities coming from liver, spleen, spine, head, &c. Whatever form these distinctive physiological errors may culminate in, or name of disease be applied, the essential difficulty may be traced to some combination of the above conditions, and are therefore removable by the resources which the Movement-Cure brings.

No degree of weakness or disability is a bar to the successful application of the treatment, as the abundant resources of the treatment renders it capable of adjustment to persons of every degree of helplessness.

Persons having *acute disease*, on the contrary, cannot be treated by these processes. The very fact of acute action shows that nature has already chosen her method of relief.

Persons who do not expect and desire to learn concerning the *causes* which have conspired to render them invalids, so as permanently to avoid such causes are not desired. A resort to this treatment, is considered a pledge of improved self-management.

Persons who have lived and are living what is generally called a *fast life* in any respect, whose idea of the value of life is measured by the animal pleasures that may be pressed into its service, and who desire a return of health in order to renew these, are not desired.

Persons for whom any other means of cure will answer as well, are not desired.

Persons averse to observing the ordinary rules of treatment, are not desired.

Persons disposed to counteract the benefits of the treatment by dietetic improprieties, need not expect to recover by this treatment.

Persons whose life, with restored health, is not of value to its possessor and to those within the sphere of their influence, had better resort to some other mode of medical treatment.

Persons who expect their diseases to be healed in some occult, mysterious, or miraculous way, or in any way differing from the natural development of parts by processes established in the system and unchangeable while life lasts, will find nothing in the treatment to meet their case.

Active Movements.

The purpose of an active movement, is to convey to, and concentrate upon a selected point, the nutrition and energies of the system. Such a movement may accomplish a two-fold purpose, that of supplying a part, and of relieving another part more or less distant.

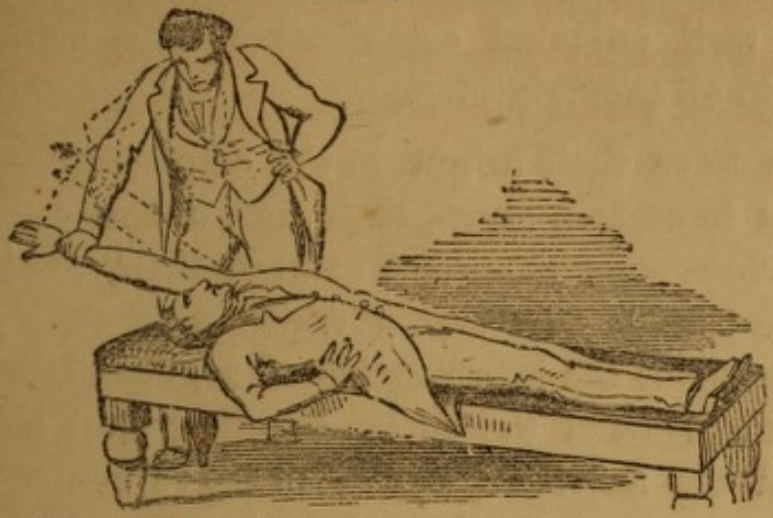
The mode of effecting this purpose is as follows:—The person to receive the application, is placed in an easy unconstrained position, sitting, lying, half lying, kneeling, or any convenient position that will suitably adjust all parts of the body to the purpose. The body is fixed either by the hands of an assistant, or by means of apparatus, so as to prevent as much as possible any motion of all parts of the body, except the acting part. The patient is in some cases directed to *move* the free part in a particular direction, the effort to do so is resisted by the operator, with a force proportionate to the exertion made—very nicely graduated to the particular condition of the part, and of the system at large. The resistance is *not* uniform, but varies according to the varying action of muscles, as perceived by the operator. In other cases the operator acts while the patient resists. The action is the same, but in one case the patient's acting muscles are shortened; in the other, lengthened. The operation is a sort of

wrestle, in which a very limited portion of the organism is engaged. The motion must be much slower than the natural movement of the part engaged, which fact strongly fixes the attention and concentrates the will. The act is repeated two or three times with all the care and precision the operator can command, being cautious not to induce fatigue. A perfect rest in the lying position succeeds, of some ten or fifteen minutes. The changes of matter induced by the movement continue for that length of time, producing an afflux of power and nutritive material to the part, provided the patient remains quiet. If however, other actions be engaged in, it detracts from and diminishes the effect of the movement. If movements succeed each other rapidly, very much of the peculiar effects are lost and the operation becomes to a certain extent gymnastic.

Whether the expected curative effect will follow the operations, depends very much upon the tact and capacity of the operator. If he possesses the requisite natural qualifications, and has submitted to a course of training for the purpose of cultivating his powers, mental as well as physical, he will exercise such manner and touch as will render the effect *vivid*, even *intense*, and withal exceedingly grateful to the recipient. The difference of effects producable, are comparable with those of music. The effect of a movement, if properly applied and received, is to transmit the available force of the system, together with the conditions for its production to the acting part: this part receives what the whole system by the process is made to contribute. Thus a lax, weak, bloodless region is reinforced with fresh supplies contributed by the whole system. Every portion of the body is, in turn, and at proper intervals subjected to similar operations.

Fig. 1 affords an example of an active movement in the lying position. As the arm is very slowly raised towards the perpendicular, the act is *resisted* by the operator, slightly at commencement, but with gently increasing force, till nearly

Fig. 1



the full power of the patient is exerted—but the resistance is not sufficient to stop or check the motion. The action terminates by a gentle decline of resistance till motion ceases.

The effect of the movement here represented would be to develope nutrition in the muscles of the anterior portion of the left side of the chest, to elevate the ribs of that side, and to increase the space occupied by the lungs in that region of the chest—useful when the chest has shrunk in dimension, and inactive in the part to which the operation is applied.—Effects similar to those here described may be to a certain extent produced if a person is not too feeble, without the aid of an operator. The book entitled *Exposition of the Movement-Cure*, treats of this class of movements, but represents nothing of the proceedings of the "Movement Room" as now conducted.

Passive Movements.

These are movements in which the patient makes no exertion—his will does not act.

Activity and passivity are not determined by extent or degree of motion, but solely by whether there be effort or not. These operations may be applied by the hand of an operator, or may be transmitted to the part designed through mechanical instrumentalities.

The passive movements are invaluable in all cases of extreme debility, whether of the whole system or any of its parts, in cases in which there is too great activity of the

nervous system, whether of the mind, the emotions, or the sensations, and in well adjusted combination with *active* movements, enter into all prescriptions.

Active movements have their origin in the cerebro-spinal nervous system, and in certain cases, their use, unless duly guarded, may aggravate such symptoms as have their origin in that part; while *passive* movements which may supply even severe action without the intervention of nervous influence, will confine the result of the action to other vital elements and *diminish* the nutritive supply of nerve centres, and consequently excessive sensibility, pain and other nervous symptoms.

The following operations are generally passive :—Stretching, rotating, wringing, rolling, twisting, fulling, circular fulling, sawing, stroking, knocking, clapping, hacking, tapping, shaking. The last five are included under the general term *vibration*.

The following effects are produced by passive movements :

Capillaries are caused to contract.

The blood is thereby urged onward in its course, and the mechanical clogging of these minute vessels by adherent corpuscles is removed, while—

A fresh supply, bringing nutritive materials with oxygen, brought to the suffering part.

Interchange of the fluids, from outside to inside, and from inside to outside the vessels inevitably transpires.

Absorption of effete, non-vital, retrogressive matters is secured—producing

Increased vivacity of the nutritive operations.

Decrease of congestion, pain, and other evidences of illness.

Attrition of cells, fibres, &c., causing a general hardening of the solids of the body.

Fig. 2.

Fig. 2, affords an illustration of *clapping*, a vibratory movement. A rapid succession of very light blows is applied to the side by means of the hand ; or to the two opposite sides by two hands.—A quick succession of vibratory waves is thus caused to pervade the region to which the application is made The sensations produced are those of warmth and stimulation. Considerable effect is produced at the skin, it becoming in some degree reddened. The soreness of internal parts is always diminished, if the application be correctly made, and this effect increases with each repetition, till the desired result is obtained. This movement, like all others, may of course be given in any position of the body.

Fig. 3.

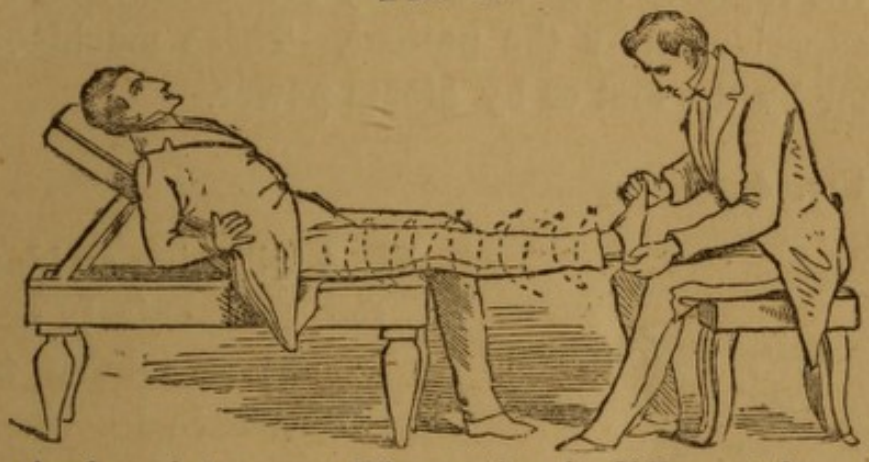


Fig. 3 shows one of the methods of applying *shaking*, or twist vibration. As seen, this is applied without mechanical assistance. The action is different from direct vibration, inasmuch as in this, by means of the alternate twisting motion, the fibres and even the cells composing the part acted on are pressed into close contact, and are rubbed against each other producing a kind of attrition of the elemental organic forms. The effect is much like that of direct vibration, but greater.

The effect of the above described operations in increasing the capacity of all parts of the body for the production of

force—the prime object of our endeavors—may easily be experienced, and this, more than anything else, will bring the conviction of their power and efficacy.

To produce the *rapid* vibratory motions necessary to secure the effects described in a good degree of perfection, is too fatiguing to be long endured by any operator ; in fact, it is simply *impossible* for the hand to apply the motions with sufficient rapidity to secure the best effects. The desired rate of vibration can only be approximated, and then applied to but few invalids. When it is considered that many invalids need chiefly this class of movements at the commencement of their treatment, the necessity of *mechanical* means by which to apply vibrations of different kinds will be at once seen. Several instruments adapted to the various purposes indicated have been invented and are in use at our Institution. These apply the *twist* and the *direct* vibrations to all parts of the body, at any rate, up to 1,600 vibrations per minute. About 800 vibrations per minute are mostly employed, but the rapidity is governed by the sensations of agreeableness experienced by the patient. These machines are worked either by the foot or by steam power.

Fig. 4.

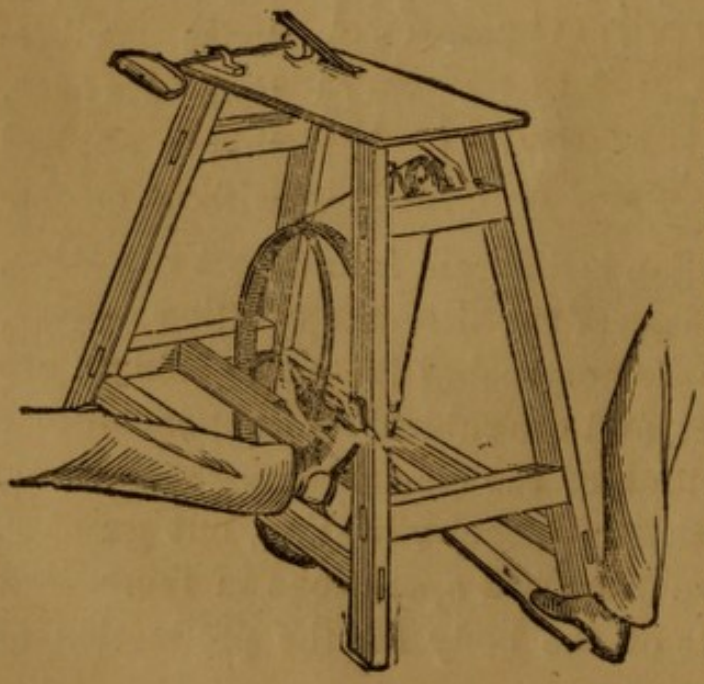


Fig. 4 will give an idea of the mechanical arrangement necessary to apply the above described forms of vibration. The foot of the operator acts upon a treadle, which turns a heavy wheel. This by means of a belt, turns rapidly a smaller wheel, whose axle has a crank or eccentric, which,

by means of a connecting rod, gives the desired motion to the foot piece, or the hand piece, as the case may be.

The method of giving *direct* vibrations to all parts of the body, is by means of the connection of this apparatus with another attached to the ordinary couch, and is figured on a succeeding page.

The effect of such vibrations upon tender congested parts, when properly managed, is so satisfactory as to support the belief that the employment of mechanical vibratory movement introduces a new era in therapeutics.

Many persons speak of the movement applications as an *external* treatment. The fact is, it, like all other medical treatment whatever, is applied from without, but through the *external*, instead of through the *internal* surface, as in case of medicines taken by mouth. But the applications are as really internal as any treatment can well be conceived to be. They are not made with reference to the *skin*. These applications are made to influence those primary changes of matter that constitute the *initial* stages of vitality—to move the forming elements in their struggle to become the instruments of force.

The processes of the Movement-Cure above described are not limited to any particular number of operations, but only by the *tact* and ingenuity of the prescriber. New movements and methods are frequently invented to meet the requirements of new cases, and to increase the variety and interest of treatment.

In applying the movement treatment, a prescription is always made and followed. In making the prescription each movement supports or qualifies the others, and all are so chosen and arranged as to secure the effect of the combination. If improper movements for the case are chosen, or if proper ones are improperly combined, the effects will not be advantageous, but prejudicial.

Obstacles to Restoration of Health.

If *accident* fail to secure good health, it is evident that some knowledge of the impediments in the way of it should be had. The obstacles to recovery, are, in general, the same things that conspired to produce ill health. Including most of these are the following :

Ignorance of the needs of the body. Errors, positive as well as negative, fatal to good health, inevitably spring from this.

The preponderance of the *feelings* in the exercise of the judgment regarding bodily wants. The invalid has *wrong feelings,* which therefore are not to be trusted.

The constitution. A weak one, without knowledge and care goes to ruin; with care is likely to result in long life. A strong organization on the other hand, favors ignorance ; inquiry regarding physiological right and wrong is not stimulated, often, as is well-known precipitating the worst results.

Habits, intellectual as well as physiological. Medical treatment implies a reformation of these.

Too ardent pursuit of business or pleasure, and the immoderate indulgence of the emotions.

Insufficient air, bad air ; too much food, bad food.

Too little light in habitations. Light gives efficacy to air.

The bad advice of respected, good, but ignorant and officious friends, whom the invalid suffers to do his thinking.

The invalid's own earnest misconception of his disease.

Invalids usually attach undue importance to the influence of climate, atmospheric changes, temperature, humidity, &c These vicissitudes are, on an average, very wholesome. The only bad things these bring, come from the system itself. They are nature's tonics and stimulants, and as such, are unexceptionable and innocent. They should not be ungratefully charged with evils they only bring to the light, but do not produce. The *elements* of disease exist in the sys.

tem, (rather than out of it,) previous to its manifestation *as* disease.

In this connection may be mentioned the bad care caused by *fear of taking cold.* A cold (so called) is a check in the process of retrogressive change always going on in the system, whereby such change is rendered incomplete. This check is caused by a partial withdrawal of that physiologically all potent *condition* of change—oxygen. It is *not* the exposure to low temperature, (which always stimulates respiration,) but the inefficacious exposure, rendering the depurative influence incomplete. Imperfectly reduced matters press upon the aerating surface (of the breathing apparatus) surcharging the capillaries. This is cold. Hot rooms are eminently provocative of it. The cold is often a substitute for some deeper seated complaint, which otherwise must have supervened.

Not the least among the obstacles to restoration, is the disposition not to regard sickness from its instructive, advantageous, and *bright side*—a side never absent, even in the worst cases—a side which, seen, nearly compensates for the pain it brings.

General Effects of Movements.

Invalids proposing to employ the Movement-Cure, will be interested to learn what will be their probable experience, and what results they may expect. In the first place, they should be advised that its application is not essentially a *muscle-making* process, but a *co-ordinating* and *harmonizing* one. The new actions that are superinduced imply a new disposition made of nutrition and of the nervous force. There are consequently, *direct* effects, and *remote* ones, dependent on these actions.

The *direct* effects of a single application of a prescription, are noteworthy. There comes a pleasant glow of warmth over the parts most operated on, which generally extends

over the whole body; the hands and feet become warm; whatever pain may have existed disappears, or is, at least, quieted; the *pulse falls*, sometimes as much as ten, fifteen, or even more beats per minute; the respiration becomes calmer and more profound; and there is a great disposition to quietude and rest, which should be encouraged. After treatment, the patient throws himself upon a couch and generally goes to sleep, if he allows himself to do so, and rises refreshed, and with a feeling of renewed vigor.

As the treatment progresses, the sensations experienced will vary with temperament, nature of disease, kind of prescription, and its usual occasional modifications. In some, there is an apparent aggravation of the affection. These symptoms are temporary at most, but generally require the prescription to be modified. Sometimes there is no seeming improvement for five or six weeks, when the patient becomes suddenly conscious of a change in the pulse, skin, increase of the circumference of chest, of the motions of its walls, etc., the assurances of returning health.

A part of the patients, probably a majority, in from one to three weeks from beginning regular daily treatment, become affected with *headache, furred tongue,* and *feverishness.* These symptoms are not generally very severe, though occasionally they confine the patient for two or three days to the house. Even vomiting and diarrhœa may occur at these times, without other apparent cause than the disturbance produced by the treatment. Bronchial catarrh is an occasional symptom, and so are eruptions of the skin. These critical symptoms may be avoided by moderation of treatment; but, to some, they afford encouragement in the conviction which such patients might otherwise be disposed to resist, that a beneficial change is occurring in the physiological system.

The most rational *cause* for the occurrence of these symptoms, appears to be the greatly increased action of the *venous absorption,* which is induced throughout the system by the

movements. It has been seen that most of the operations contribute to remove the obstructions of the capillaries and increase the flow of fluid therein. This induces an inward current from without their walls. The fact of the production of muscular and nervous waste, implies this ; but the energetic absorption which now takes place, carries into the veins a large amount of non-vital material which was previously lodged in the system, pervading the inter-muscular juices. This being suddenly called into the blood, deteriorates its quality for the time, and the vital powers are thereby called upon to assume renewed eliminatory action, thus occasioning the disturbance.

It is to be understood that these *crises* are not desired, and that the gradual and natural resumption of the due relations of elimination and supply should occur unobservedly as they do in perfect health. They do not occur in the great majority of well treated cases ; but they have their use, chiefly in a moral point of view, being a slight deference to the long-cherished popular notion in regard to the importance of such symptoms, as evinced by the effort to secure them in some form by the operation of drugs.

Auxiliary Hygiene.

As the Movement-Cure consists essentially in an effective adaptation of what is universally recognized as a particular branch of Hygiene, it follows that all the other branches are its natural allies and supports. Those who would receive the most effective and satisfactory treatment, should not think of dispensing with special regulations in regard to this matter. Indeed, the very fact of illness may, in the great majority of cases, be considered as a clear confession of having entertained faulty practices in regard to general hygienic habits. Perfection in one branch should by no means form an excuse for neglect of others. Even though the undeniable fact be insisted on, that this branch does the work of the others, yet its curative efficacy must be, to some extent, com-

promised by forcing it to assume such a disadvantage. Thus movements, by sending the blood to the surface and extremities, contracting the tissues, opening the pores, &c., secures the object of *bathing*, yet it is undeniably better to solicit the aid of the latter resource, to the extent of its legitimate functions As respects *diet*, the treatment often causes a spontaneous change in the notions and habits of the invalid. It purifies the secretions, and removes the congestion and nervous irritability of the stomach, as hereafter explained, and therefore corrects the morbid appetite, and restores a healthy relation between *alimentation* and assimilation. The appetite often decreases as the health increases. Invalids who have considerable flesh are apt to meet with this experience. It is probably explained by the fact of large returns to the circulation of useless matter deposited in the system, of no vital account, to be again subjected to the vital crucible. Lean, dyspeptic people, on the contrary, sometimes find themselves able to partake of food in quantities which would previously have alarmed them. This is obviously in consequence of increase of assimilation throughout the system, induced by the treatment.

These facts should be regarded as showing the wonderful superiority and power of the Movement-Cure, and not as affording any excuse for improper dietetic or other hygienic habits Indeed, most invalids whose restoration is worth the effort, will willingly assent to the importance of availing themselves of *all* means that are truly hygienic, and will never be convinced of any danger of rendering the preponderance of healthful influences over disease, too great.

Comparison of Movements with other Exercises, such as Gymnastics, Calisthenics, &c.

For the benefit of such as do not readily apprehend the distinction between Movements, and other kinds of exercise, the

following brief comparison is made, at the risk of perhaps repeating what may be elsewhere in substance, stated.

Movements are designed for the *sick*,—*Exercise*, for the *well*. *Movements* are *prescribed* in accordance with Pathological indications,—*Exercises* are governed by caprice or chance. *Movements* are the physician's directions,—*Exercises*, the druggist's shop. *Movements* are homogeneous,—*Exercises*, heterogeneous. *Movements* are so collated as to support each other in the production of designed, special effects,—*Exercises* are desultory, and are incompatible with such ends. *Movements* have a *prescribed* manner, and break up old habits,—*Exercises* have a *habitual* manner. *Movements* are confined to *designated* parts of the body, or are *localized*,—*Exercises* allow *all* portions to engage. *Movements* require intervals to husband their effects,—*Exercises*, neglecting this, prodigally waste the power. *Movements lessen* the frequency of the pulse,—*Exercises increase* the frequency of the pulse. *Movements* are careful to secure, for the time, a predominance of *assimilation* in the system,—*Exercises* are liable to cause unnecessary disintegration or destruction of organized matter. *Movements* increase the *arteriality* of the blood,—*Exercises*, if violent, increase the *venousity* of the blood. *Movements*, for the feeble, are performed by the aid of an auxiliary power,—*Exercises* are the visible results of exertion. *Movements accumulate* nervous force,—*Exercises*, in general, are liable to *exhaust* nervous force.

APPLICATION OF THE MOVEMENT-CURE TO VARIOUS DISEASES.

Treatment of Disordered Digestion.

A common mistake of dyspeptic invalids is to confine their treatment of their disease to the stomach. Such treatment, no matter what the remedy, is pretty certain in the end to increase the affection, though it may exercise a deceptive influence over the feelings, for a time.

The reason is plain. Food is digested by means of *secretions coming from the system at large.* Because derived from the blood these secretions, in their quality, represent the *condition* of the system. The degree of perfection of the digestive act, will evidently depend on the kind and amount of digestive secretion thus provided. The stomach has so little control of the quality of the blood and of the secretions derived from the blood, that that organ should not be wholly responsible for its failures.

The stomach becomes sensitive and inflamed from the effect of the imperfect quality of the secretions it is thus obliged to afford; and as such secretions are incompetent to reduce the food to a fit condition to be taken up, it follows that the illy digested mass will in turn *add* to the irritation already existing, and greatly aggravate the local symptoms. Those symptoms will be manifold, according to the particular nerves suffering, and the degree in which particular segments of the central organs are irritated.

The *recovery* of dyspeptic invalids depends on the following conditions:

Such persons must increase the *need* of, and *demand* for nutrition in the system at large. This enables the digested aliment to pass *from* the stomach into the system. Food

must be required elsewhere, before it can well leave the stomach.

They must increase the use of air (or oxygen,) for it is through this agency that the blood and so the secretions are kept sweet and pure. The same purposes are effected the same way in ill health as in good health. It is of the first importance to cultivate the power of the chest.

At the same time it is necessary for such patients to discriminate between the irritation of the nervously endowed membranes of the stomach which *seems* like appetite, and the real appetite. The amount of food taken must be lessened to correspond with the deficient power of the system to *use* food.

No greater mistake is made by invalids than to force the appetite, with the view of increasing the bodily strength. If more food is daily taken than is removed from the system as a compound of oxygen, serious injury is ready to befall in some of the many ways in which ill health overtakes the unsuspecting.

A great source of injury to invalids, especially to those with indigestion, is from *attention* directed to the stomach. This is *certain* to aggravate sensitiveness and increase congestion—mental power in this case being used to *produce*, when it should *prevent* the result. Hence, an important principle in the treatment of this class of affections, is to draw attention *away* from the complaining part. This can more readily be done by movements, as it is a special purpose of each application to secure this object.

The treatment should be so applied that while the weakened nervous system is not overtasked, it shall be effective in these particulars; it must increase the extent of the natural respiratory actions; and it should increase the circumferential measure of the chest. Fig. 4 on the next page shows one of the movements that may be used for this purpose in certain cases. The ribs are elevated and the muscles

of the chest are strengthened by it, and the amount of air contained by the chest, is, day by day, increased. If the patient be quite weak, some other position and motion would be chosen.

Fig. 4.

It is also important from the first to increase the natural warmth and moisture of the skin. More blood should be sent to the surface. For this purpose some movement or movements like that represented by Fig. 5, may be employed, a rapid *twist-shaking*, or hand vibration of the trunk. This produces an active centrifugal effect, conveying a large amount of the circulation to the skin, increasing its heat and function in general. It is also equally useful for removing the surplus about the digestive organs—the central congestion. A uniform distribution of the blood is promoted, always important to secure, and especially in cases of the disease in question.

Fig. 5.

After numerous and varied active movements for the extremities, the mechanical *vibrations* (an example of which is shown at Fig. 8,) are exceedingly useful; they add to and fix the effects of those which precede. Perspiration and a grateful glow is often induced in the most stubborn case, and the cure usually proceeds with gratifying success.

Dyspepsia—painful, gloomy, dispiriting, has its bright side,

its compensations, advantages. If nutrition be not used in supplying the vital operations throughout the system, it ought to remain in the digestive cavity, even though it decompose and irritate uncomfortably. Non-vital matters remaining in the fluids of vital parts, breed mischief. Hence, indigestion affords a sort of *protection* against acute diseases, and perhaps paralysis and other injuries of the nervous system. It *enforces* on those who will not otherwise be instructed, the virtues of prudence, propriety, and a philosophic understanding of the relations and limitations of things.

Bilious Disorders, Headaches, &c.

In case of what is usually called "biliousness" the secretions and fluids of the body generally contain, not bile, but its proximate elements—matters which would have been destroyed, had the oxydizing function of the system been adequate to effect this purpose. The liver, whose function it is to detain this class of material from the blood, is popularly charged with obstinacy in these cases. The real difficulty, however, consists not so much in defective performance of function by this organ, as in its being inadequate to the excessive amount of functional duty imposed upon it. The limit of its capacity is exceeded. It is *not* the sufferer's and the physician's duty to increase the capacity of the liver, but diminish the necessity in the system for its work. Physiologically, the liver is complemental to the lungs—preventing the deficiencies of the latter organ from being injurious, by removing in another way, certain matters from the blood.

The class of disorders here referred to, offers a beautiful illustration of the efficacy of medical treatment by movements, as well as confirmation of the general theory exhibited in this work. A few days of properly prescribed practice in a case of this kind will show that "bilious" matters are easily *diminished*, by simply *increasing* the respiratory efficacy. If at the same time the soluble (saccharine) hydrocarbons of food

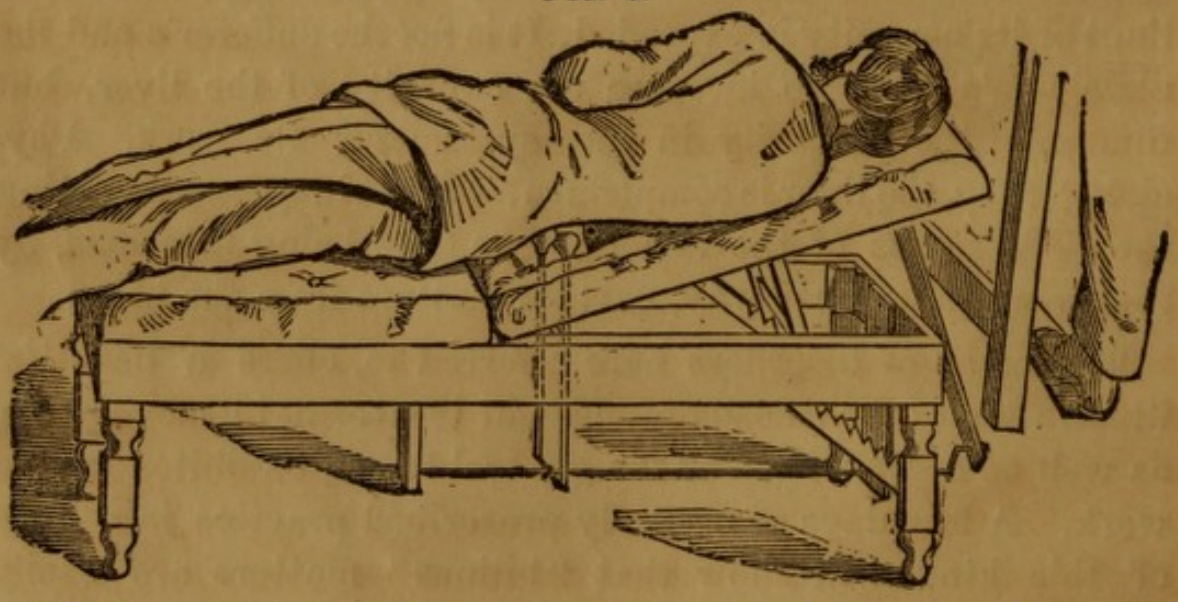
be diminished, *all* the changing constituents of the body will pretty surely pass from the system. Saccharine matter does not pass from the body unreduced and will therefore appropriate oxygen that should be otherwise employed.

FIG. 7.

Fig. 7 represents a lateral swaying or oscillation of the trunk each way from the perpendicular. This motion not only stimulates respiration but acts strongly upon each side, giving pressure to the liver at eachmotion and affecting all the organs in the region of the diaphram.

Fig. 8 shows an action of the vibrating apparatus. The vibrating heads impinge upon the side in the region of the liver; or in its vicinity, if at first there be tenderness at that point. The vibrating heads scarcely more than touch the body, sending a rapid sucession of waves through the

FIG. 8.



whole region to which it is applied, extending quite through to the opposite side. The position may be changed at pleasure,

often allowing the wave to be received from opposite directions.

The effect is to diminish tenderness of the whole region, to diffuse a grateful feeling of warmth through the whole body, to cause capillaries to urge their contents onward, to refresh, strengthen, invigorate, and perfect the functions of the part to which it is applied. The above illustrated operations are only specimen movements sometimes applied, and are never used except in connection with others.

After the due effect of the proper movements has been experienced, the chest increased an inch or two in its circumference, and the natural motions of its walls and of the diaphram restored, requiring generally but a few weeks to accomplish, the bilious attacks with headache and other usual distressful symptoms do not recur.

Constipation.

This occurs in connection with other disorders of the digestion and nerves, and is often the occasion of serious and permanent injury, especially as this symptom is apt to give rise to much tampering with aperient remedies for relief. When constipation is an habitual trouble, it may be inferred that the muscle entering into the composition of the alimentary tube is weak, or that there is deficiency of nervous supply to the bowels; or both these causes may concur with others, to produce the result.

What is needed in these cases is *not* merely to force an expulsion of the contents of the bowels—this is only temporary, and at most palliative—but to permanently increase the muscular development, and the muscular action of the tube itself. This is an extension of the same principles that are seen to be applicable to other parts, and is accomplished by adaptations of the same means. The *muscles* of the coverings of the abdomen, and those which enter into the composition of the digestive canal, are to be acted on—*exercised;* while the nerve connections are strengthened.

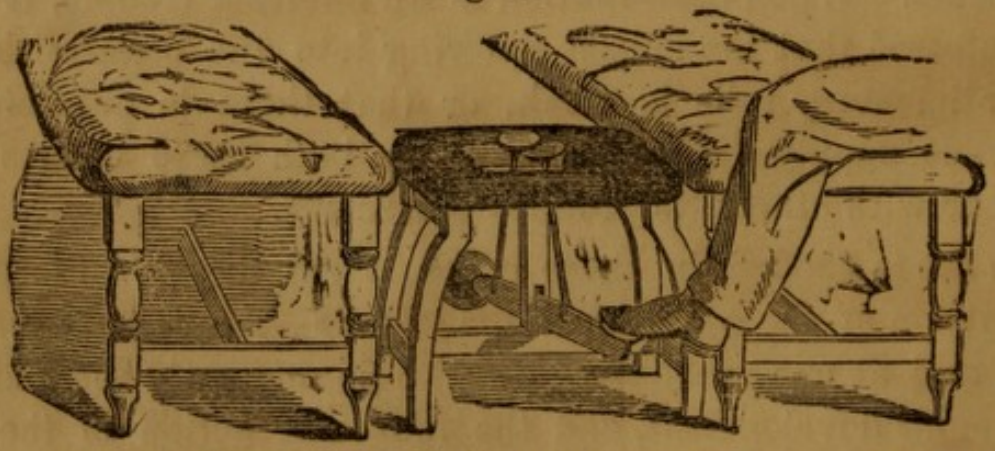
In aid of this purpose it is of vast importance to cultivate a correct habit of breathing, allowing the diaphragm to act so freely as to propagate its up and down motions to the whole intestinal mass. This maintains the muscularity of the intestinal tube, promotes an equable circulation, and the nutrition and health of the digestive organs.

Among the measures employed to accomplish the purposes above specified, one of the most direct is kneading the abdomen. Fig. 9 gives some idea how this is performed by two operators. Excellent results are secured in cases of sluggish bowels, by aid of this process.

Fig. 9.

By far the most efficacious method of kneading the digestive organs, is by means of the apparatus represented by Fig. 10. The peculiarity of this method consists in the position of the patient, which is *lying* with the face downward. The impulse made upon the abdomen by the kneading heads is upwards; this is necessarily followed by a downward motion of the part, caused by gravitation. The two sides are acted on alternately, the direction of the motion of the two heads being toward the centre of the body. It will be seen that the

Fig. 10.



amount of motion communicated to the abdomen is doubled by the position in connection with gravitation. The apparatus is wholly under control of the operator, who can easily render the effect gentle or severe, as may be desired. It turns on a pivot; the distance between the kneading heads can be varied while in action, and it is nearly self-adjusting in its operation.

This mode of kneading affords indispensable aid in the treatment of numerous other forms of disorder connected with laxity of abdomen; especially is it useful in the treatment of *pelvic diseases.* The effect of its use is to relieve the pelvis of superincumbent pressure; while in some cases the mode represented at Fig. 9 is objectionable, from the downward pressure it may cause.

The kneading is never employed alone, but always in connection with other appropriate treatment. With the relief of constipation, there comes also relief of headaches, and the many other symptoms of more or less significance that always accompany this form of disorder.

Diarrhœa.

Weakness of the digestive organs sometimes takes the form of *Chronic Diarrhœa*; the mucous or lining membrane of the canal is in an irritable, congestive state, and is very sensitive to different qualities of food; a portion of this is refused admission to the system, which is hence deprived of its needed sustenance. The Movement-Cure has a speedily beneficial effect in these cases. The local congestion is removed on the same principle as that affecting other organs of the body—by transferring as large an amount of blood as possible to the extremities and periphery.

Such movements as will combine to secure this, may be selected. Among such, is the one shown at Fig. 11. In executing this movement, muscles of the whole trunk are brought into gentle, alternate action, with the entire absence

Fig. 11.

of any endeavor on the part of the patient, while the serous surfaces of the abdominal contents are caused to glide upon each other, thus securing the conditions for absorption, at the same instant that demand is made in the muscular parts for the supply thus provided; the whole resulting in conveying fluids from centre to circumference, and counteracting the tendency to pass by the bowels.

After suitable preliminary treatment, the vibratory apparatus becomes a well-nigh indispensable auxilary. It is applied as in Fig 8, but directly to the *abdomen* of the patient, as well as side. This is the most potent of remedies, in its effect on intestinal as well as interstitial absorption; always agreeable to receive, and produces the most satisfactory results. Vibrations of the extremities and indeed of all parts, are desirable in diarrhœa.

The effects of *vibrating* and of *kneading* the abdomen are in some respects directly opposite. The one overcomes diarrhœa, the other constipation. One affects the *fluids*, the other the *solids* of the parts to which it is applied. One increases absorption, the other, muscular action.

Pulmonary Disease.

Chronic affections of the respiratory organs, seem directly traceable to *insufficient respiration.* This may be owing to a narrow chest, limiting the volume of air breathed; to indoor occupations, compelling one to use rarefied air; to sedentary occupations, depriving one of the exertion which always increases respiration; to weak muscles, which prevent sufficient

movement of the walls of the chest in the respiratory act ; or to all of these combined.

Some of the causes here enumerated may be dependent on faulty constitution ; this may be improved by the treatment here presented ; others, the consequence of circumstances, and therefore amenable to improvement.

In this class of cases, the effect of limited respiration differs from those previously described in retaining a different, and probably less oxydizable product, which obstructs the glands, and accumulates particularly in the lungs.

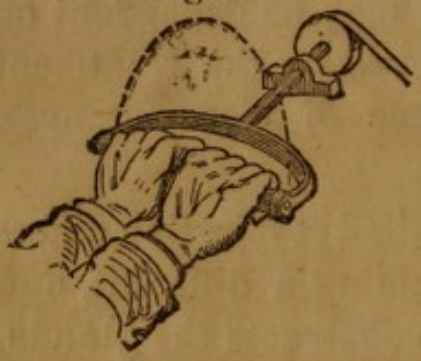
Those who carefully watch the effects of the Movement-Cure are convinced that the *tuberculous* matters here referred to, are removable, simply by increasing duly the efficiency of the respiratory function.

The quick pulse of the consumptive is reduced by a proper use of such movements as increase the size of the chest and the mobility of its walls. This effect is brought about early in the treatment. Even a single application will often lessen the frequency of the pulse. This shows that the *cause* of the peculiar pulse of the consumptive consists of the diminished aerating surface of the lungs from the disease, compelling the blood to circulate with greater rapidity to compensate for the diminution of capacity. Hence, expanding the chest, opening the contracted air cells, and causing more air to come in contact with the blood, supplies the demand of the system for oxygen, without the exciting and wasting effort denoted by quick pulse.

To comply with the indication of furnishing greater aerating facilities to diseased lungs, requires the utmost attention and care. Ill advised operations would be likely to employ the chest as a suction pump, and accumulate to a prejudicial, perhaps fatal extent, the blood of the system in the chest, and increase hazardously the tension of the weakened vessels of the lungs. The prescription, by movements, should approach the diseased organ in this as in all cases, by gentle degrees;

hence operations upon the extremities must precede those of the central portions of the body.

Fig. 12.



Among the operations that may be selected for the prescription in this class, is the one intended to be indicated by Fig. 12. It consists of rapid vibration of the arms and chest; either one or both hands grasp the handle, as in the fig. and as it is vibrated 1200 or 1600 changes per minute, the effect is propagated to a marked degree to the walls of the chest through the arms. This movement is pleasant to receive, and affords a glow of warmth, and often a distinct redness to the parts affected by the action, from the derivative effect produced by the movement. A skillful operator may produce a somewhat similar effect, but far less in degree, by the operation shown in Fig. 13. The latter, however, has the advantage, in common with all hand-applied movements, in employing, at the discretion of the operator, all his acquired skill of touch and motion, governed by intelligence, affecting thereby the mind and nervous system of the patient in the desired direction, often an indispensible condition of successful treatment.

Fig. 13.

The expansive, enlarging movements which may be employed are numerous. A favorite one is that represented at Fig. 14. This draws up the ribs of one side, decreasing the angle they make with the spine and thus increasing the space occupied by the lungs of that side. While in this position, the contents of the chest are gently vibrated by means of a *hacking* or a *clapping* of the tense side with

the hand of the operator. This causes the long shrunken cells to open to receive air, and at the same time diminishes the calibre of the capillaries of the part, and renews the circulation in accordance with principles heretofore explained. If one side of the chest is depressed, this and similar operations may be confined to that side.

Fig. 14.

The amount of expansion as determined by the increase of circumference which may be attained by even feeble persons, by careful and well advised management, is often surprising. Four inches has been attained, and two and three are often gained by a few months attention to treatment. This gain may be regarded as permanent. The increase is mainly due to change of position of the ribs.

A no less important result of the movements is the increase in motion of the walls of the chest and of the diaphragm, induced by them, whereby more air is changed at each respiratory act. This effect follows the means used for expansion, and there is reason to believe that the aid to health it affords is greater, as it certainly is more constant, than expansion, though, perhaps, less easily demonstrated.

It is understood all along that this meager sketch of principles and of practice is insufficient to qualify a person for prescribing in given cases, or even for administering a prescription. This requires a more mature skill and complete understanding than this work proposes to afford.

Throat affections are similar both in nature and cause, to affections of the stomach and lungs, and are to be treated on the same general principles, adapting the treatment of course

with due reference to the local symptom. These affections are treated satisfactorily by the Movement-Cure, and with permanent results.

Diseases and Deformities of the Uterus.

This is a most common and usually disheartening and persistent class of disorders; a class apparently little understood and consequently poorly treated. The fundamental error of treatment consists in supplying it from *below* instead of *above* the affected organ.

The absolute condition of the uterus in disease, is extremely various. It may be swollen, hard, ulcerated, bent, or inclined, at any angle with the axis of the cavity of the pelvis, prolapsed, &c. But the *cause* of these states is nearly uniform, and practically all these disorders and several others pertaining to function, are relieved, *cured*, by modifications of nearly the same means.

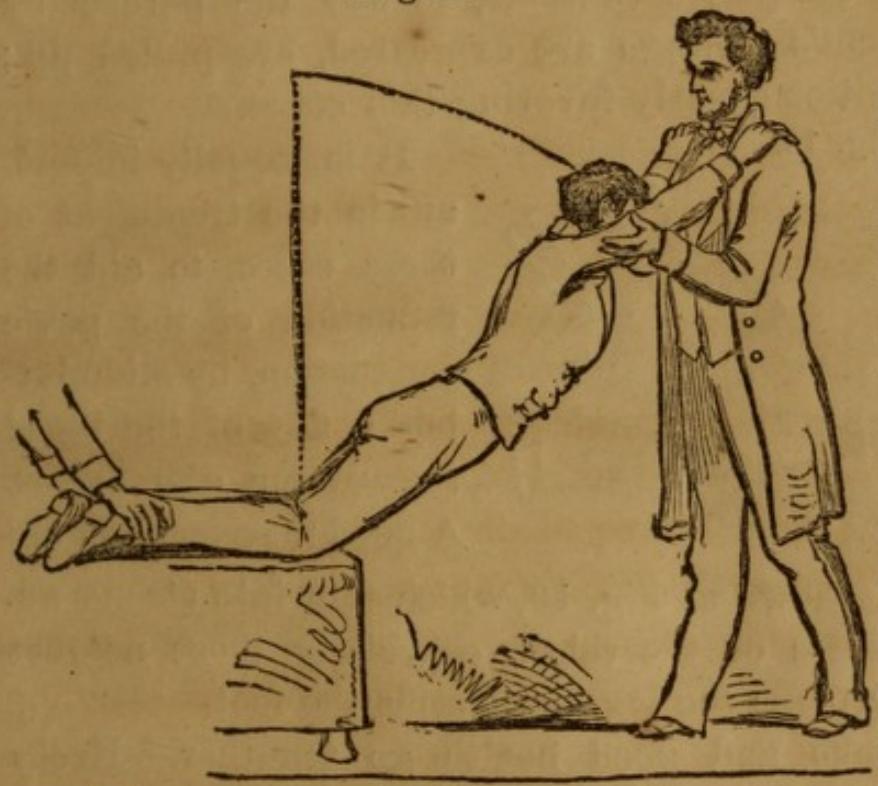
If a finger of one hand be held tightly near its root by those of the other hand, the return circulation is obstructed, the blood is soon seen to accumulate, pain begins, and the imagination will picture the condition that might in time ensue, if the pressure be not removed. This resembles the case of the uterus in disease. The ligature it suffers from is the pressure of the organs above. The uterus floats in the pelvic cavity, and its position, shape and condition, is governed in a great measure by its surroundings, and especially the amount of pressure from above.

The abdominal contents are naturally sustained in good part at least, by the diaphragm, assisted by the abdominal muscles. The *motion* of the diaphragm adds to the sustaining power. If one will expand the ribs and diaphragm, as by a deep inspiration, it will at once be seen *how* the abdominal contents and the pelvic contents as well, are elevated and sustained.

Fig. 15.

The cut, Fig. 15, indicates how the ribs and diaphragm of one side are strengthened, and room provided for the visceral organs in a higher position. Uterine affections plainly have their origin more or less remote from the suffering organ. The position of the ribs, diaphragm and abdominal walls, in connection with their habitual and necessary motion, control the position and health of the uterus. Not only is the proper *position* restored by removing the impediments mentioned, but enlargement, congestion, and ulceration of every degree, are soon and permanently overcome, without, generally, specific local or internal medication of any kind.

Fig 16.



When a person has considerable strength, the movement shown in the cut, Fig. 16, may be used to great advantage. The ribs of both sides are everted and the diaphragm extended to its utmost, which causes all the abdominal contents to rise to fill the space thus produced. At the same time the abdominal walls are made strongly to contract, adding to the same effect.

The result of these operations becomes permanent as soon as the muscnlar strength of the parts concerned have been adequately increased.

The consequence of developing more strength of diaphragm and abdomen, is to increase the natural oscillating motion, a kind of *churning* of all the included parts. This motion is observed to be almost absent in persons suffering the class of diseases now under discussion, and they cannot well recover until this natural and necessary motion is restored.

The cut, Fig. 17, represents another movement that may in some cases conduce to the same results.

17

The diaphragm and abdominal walls are here also put upon the stretch, and the pelvic contents, to use the phrase by which the patient's feelings are expressed, are pulled up; the peculiar position greatly favoring this effect.

Fig. 18.

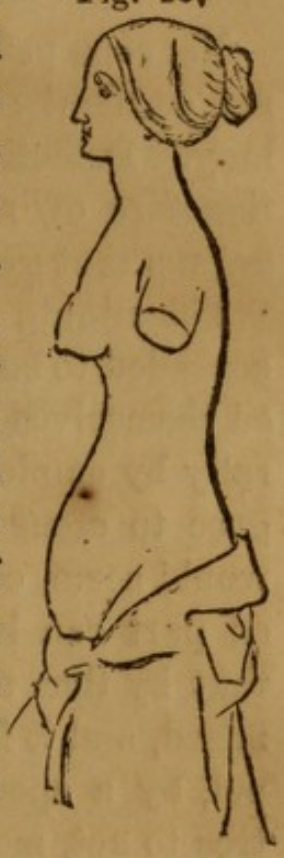
It is equally important in the treatment of these cases, to aid the reduction of the pevic congestion, by stimulating a flow of the blood toward the extremities. A good movement in aid of this is the one shown at Fig. 18, which calls into strong action all the muscles of the thigh, especially those nearest the pelvis, strengthens the leg and warms the foot.

Attractive looks and good health go together. Every woman has within herself the capacity for both. Nothing more is wanting than to allow the needful play of the functions of animal life. If the chest and digestive system be *cultivated*

Fig. 19.

instead of repressed, as is the usual practice, not only will there be no pressure upon the pelvis, and no disease of the organs it contains, but the full and rounded form, Fig 19, flushing cheek and sparkling eye, will convey an irresistible impression of beauty and power, While the contracted chest and waist and lax abdomen are the direct and inevitable causes of disease; and are certain to give the pinched and meagre look, Fig. 20, suggestive of deformity, unhappiness, and pain, as repulsive as miserable.

Fig. 20.



It is *not* mere feature, skin, and color, that confer graceful and attractive qualities. For such qualities are forms of *power*, and are due, whether in demeanor or expression, to the co-ordinate *action* of the vital instruments, nerve and muscle.

The attention of suffering women is called to the following point. No form of uterine disease is likely to occur in women who maintain the natural motions of the walls of the chest, which they may do by means of proper dress and proper exercise, because such motions affect equally the health of the contents of the pelvis. It is almost impossible to effect a *perfect* cure in women thus afflicted, without coincidentally restoring these natural motions, together with the natural size about the diaphragm; and all forms of uterine disease, now so lamentably common, are easily, quickly and permanently restored by the simple means here pointed out.

Diseases Pertaining to the Nerves.

Nervous power has its source mainly in the brain and spinal cord—the cerebro-spinal axis, as it is termed in Physiology. Defective and disordered nervous manifestations are therefore owing to some irregularity in the nutrition of the organs that generate or that transmit such powers.

The minute pathology of diseases belonging to this class, is conceded to be obscure, and persons so afflicted have contented themselves with being treated in an empirical way; generally by employing remedies of a class that tend in some degree to *excite* action in the cerebro-spinal axis, without, it would seem, considering that the weakest and most disordered part can least bear the imposition of new burdens, and that by thus tasking such part, its future health is compromised, and it is believed often permanently ruined. To compel, by a special nerve excitant, the diseased spinal centres to act, may be compared to pouring a flood of light into an inflamed eye, or overtasking the disabled stomach, liver, or extremities.

The restorative effects of movements, in this class of cases, supply interesting lessons in pathology. The absolute condition existing in the affected centres, may be regarded as quite similar to what is known to exist in any other disabled organ. There is perverted nutrition, and capillary congestion, or deficiency—either or all more or less mingled, as will be shown by the symptoms in any given case. The prevailing condition is doubtless congestion—capillaries distended with a sluggish current.

The capillaries need to have their contents called off to contiguous and to remote parts of the body; they should be made to contract and urge their contents forward. The *conducting* element of the nervous system should be encouraged, hardened, strengthened; *not*, however, by over stimulating the centres *from* which they act, but by stimulation derived from the extremities toward which, and for which they act.

The *will* power may be used judiciously, cautiously, so as to help, and not hinder, the result.

Success will depend on the judicious care with which operations are adapted to the peculiar and variable conditions found, rather than upon any particular movements considered by themselves.

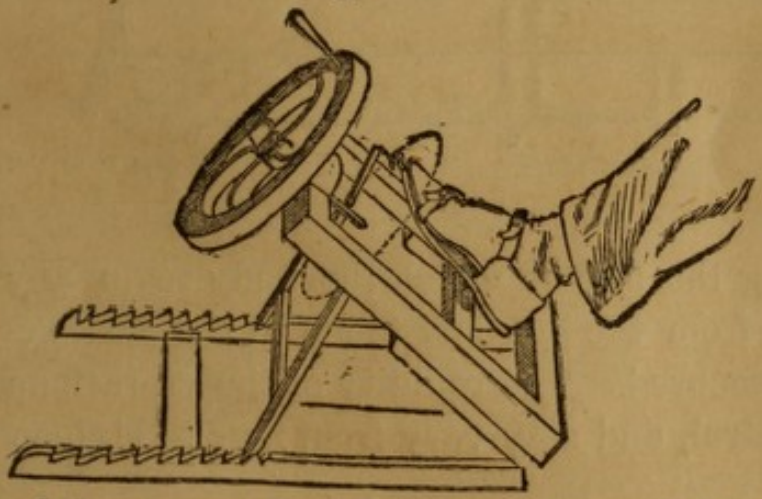
In *Paralysis* there is sometimes a fatal impairment of certain nerve centres, forbiding restoration. At other times the paralysis kindly yields to the operations. Whether it will so yield in a given case, cannot usually be predicted, and can be determined only by a faithful trial of the appropriate means.

Fig. 21.

All the vibratory operations applied by means of the mechanical contrivance previously represented, are eminently useful in these cases of deficient will. Fig. 21 represents wringing of the arms, applied by assistance, a very useful as well as pleasant operation in these cases.

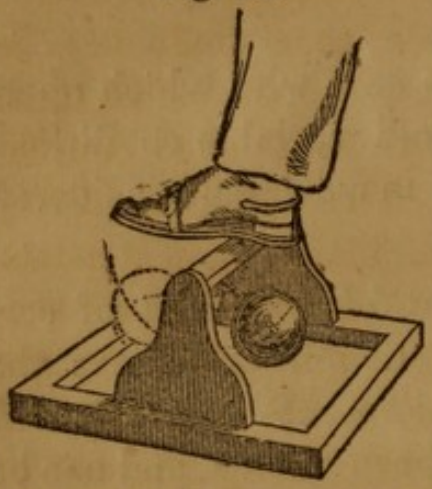
The volitions, when very weak, are aided by the little apparatus, shown in Fig. 22. The toe of the foot travels in a wide circle, causing every muscle as far up as the knee, to act.

Fig. 22.



If there be power in but a small part of these muscles, the momentum of the wheel carries the foot around, thus enabling the muscle in which some power remains to supply exercise to all the rest.

Fig. 23.



Of similar effect is the little apparatus in fig. 23. The weight is shifted by a spring, so as to offer resistance to any portion of the foot or leg, or it may act as a pendulum and stimulate action in all parts of the extremity alike.

In all cases of paralysis, energetic operations upon the back, extending its whole length are indispensable. These may be applied to some extent by the hands of the operator. The whole back should be made thoroughly red at each operation. By far the most agreeable, thorough, and satisfactory method effecting this purpose, is by means of the mechanism shown in the cut.

Fig. 24.

By means of elevating the flap on which the body rests, any degree of impression, from the gentlest touch to the most active shaking, may be secured. The rapidity of the vibrations are equally under control, and may vary from four to sixteen hundred per minute.

The *ice bag* of Dr. Chapman, applied along the spine daily, is also employed as an auxiliary treatment in paralyis, and is often found of important service.

NEURALGIA, a stubborn form of nervous disorder, under ordinary treatment, becomes very tractable when dealt with by the Movement-Cure. This treatment also reflects much light upon the pathology of the disease. It yields to such impressions as are effective in congestion. This affords strong presumptive evidence that the affection in question consists essentially in cerebro-spinal congestion, causing, in connection perhaps with a certain deterioration in quality of the blood, a morbid nutrition in particular nerve centres, and giving rise to pain along the nerves proceeding therefrom.

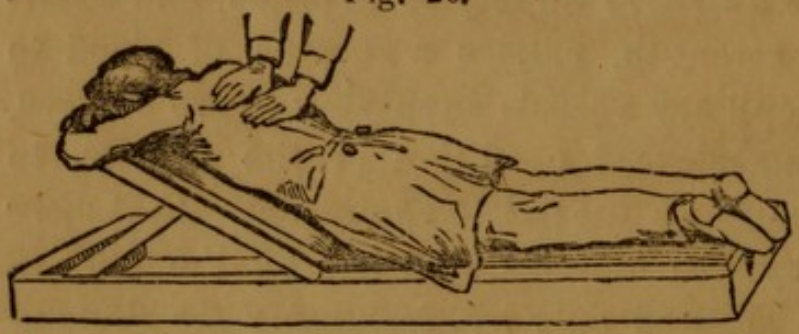
Neuralgia occurs in persons who have led an emotional or sensational life, or under any circumstances compelling the nutrition to be employed chiefly in that department of the vital system represented by nerve substance. Such habits, while diminishing the nutritive supply to muscles, and deteriorating the general strength, causes a surplus of blood to be retained by the capillary vessels supplying nerve centres. This constitutes an *unbalanced* condition of the system, to be rectified by so changing the nutritive currents, that *more* shall be received by the muscles, and *less* by the nerves. This change can be secured only by *increasing the demand* made by muscular, and *diminishing* the demand by nerve substance.

In applying treatment in this, as in other diseases, special reference is had to the form and location of the disease. Care must be exercised that in attempting to convey more blood to muscle, the operations do not at the same time so task the nerve as to *prevent* the intended effect. Hence, a preponderance of the operations should, especially at first, be of the passive kind. The best success in the production of direct effects depends on the tact derived only from much practice. The *hand* is particularly grateful in the curative processes employed in this disease. The cut, Fig. 25, shows a method of stroking the back, producing an agreeable expansion of the diaphragm and chest.

Fig. 25.

Fig. 26 represents a favorite method of operating upon the back by means of pressure in connection with a short reciprocating motion. By this means not merely the skin, but the muscles, and indeed all the tissues down to the bone are irritated, and reddened by the large amount of blood thus called into them; thus withdrawing it from the subjacent spinal cord. After suitable preparation, the effect of movements similar to these are eminently quieting, demonstrating at once their usefulness. Obstinate cases of sleeplessness are soon relieved by operations of a similar kind.

Fig. 26.



Paralysis of Childhood—Arrest of Development.

The resources of the Movement-Cure are quite indispensable in cases of *withered limbs* and all deformities dependent on Infantile Paralysis. The misfortune of bearing through life one or more extremities deficient in size and feeble in power, befalls many persons, which timely and judicious management, by proper exercises, might either save or greatly ameliorate.

The usual history of these cases describes them commencing early in childhood—one or more extremity looses suddenly its strength, and from that date is outstripped in growth by the rest of the body. The disparity increases as

years advance. The cause may be infantile convulsions from intestinal irritation referable to improper food; or acute attacks of other forms, and perhaps not unfrequently these causes, *combined* with the potent effects of injudiciously prescribed medicines upon the immature and susceptible organism.

The rational needs of this class of invalids are very plain, in the light of the treatment here commended. This need is *increased local nutrition, increased flow of nervous energy,* increased supply of blood to the part; and in general an increase of all the conditions for the organization or growth is demanded by parts thus defective. No more available, certain and appropriate means for securing all this can be conceived than the well applied use of local exercises.

The application of this means will become effective in proportion to the amount of vital capacity remaining in the affected limb. The whole of the disease proper, it must be remembered, is primarily located in the nerve-centre, whereby the supply of nervous energy required by the defective limb is cut off, or at least interrupted. Now, this central disease may be partially or even wholly healed by the kindly influences of time, but the nervous communication and the ability to use the limb is still interrupted. The flow of power is instinctively directed by the patient to the limb which is well and strong. This habit robs the weak extremity of the nervous and nutritive support which is its due, and which may, by well directed endeavors, be thrown into it.

The reader will readily see that in these cases there is an inevitable tendency to an *increase* of the disparity of the two sides, the strong limb growing stronger and the weak one weaker.

This follows from the difference in the use of the two limbs.

Medical treatment, to be effective, should correct the faulty distribution of nutrition and of nervous influence. This may be done by the application of the same law as previously increased the difference of the power and size. The habit of

using most the strongest part should be *reversed*, when the difference of the corresponding extremities must diminish.

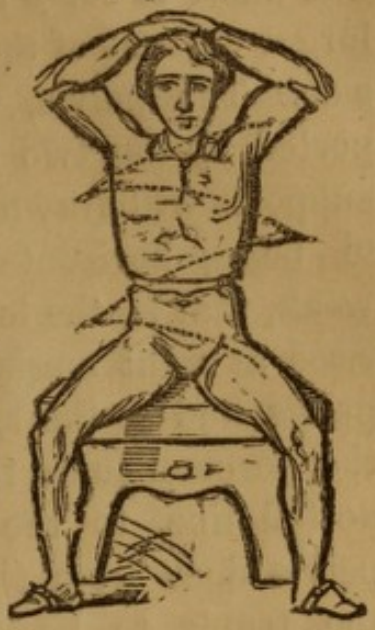
Fig. 27.

Figure 27 shows a method of strengthening the nervous connection between the lower extremity and the central source of nerve power. The process also conveys the circulation, with its nutritive material and heat, to the feet. Since the *ability* to use the limb is the very thing at fault, the actuating cause must, to a large extent, be supplied from external sources. While the ineffective will is mildly stimulated to penetrate the weak part by dexterous management, it cannot wholly be depended on to effect the object. Energetic, passive operations are indispensible. Every fibre and every cell is made to jostle its neighbor. Each vital molecule must, by motions supplied to it, be compelled to consummate the purpose of its existence. The very mutability of primary organic forms, is the condition for their rapid renewal, and the consequent evolution of the force which these elements embody. The system at large is a reservoir from which the more abundant supply is drawn ; but this material supply is only organised, and so becomes a permanent addition of local vitality, by the *motion* which renders operative the natural tendency. The motion is supplied by the warm and vigorous hand, by the stimulus of opposition, and by the attrition of elemental parts secured by mechanical devices, as figured at No. 24. The oversanguine may be disappointed at the rate at which improvement will follow the application of these means. Patience is required, but certainly not so

much as is necessary in suffering the defect to go on in the old way. In general, parents and friends may rely on a steady improvement, very slow at first, but increasing afterwards, and always in the ratio of the attention and perseverance which is devoted to the matter.

At Fig. 28 is indicated a method of forcing a large amount of the circulation to the surface of the body, and into the muscles, desirable in these cases.

Fig, 28.



Spinal Curvatures.

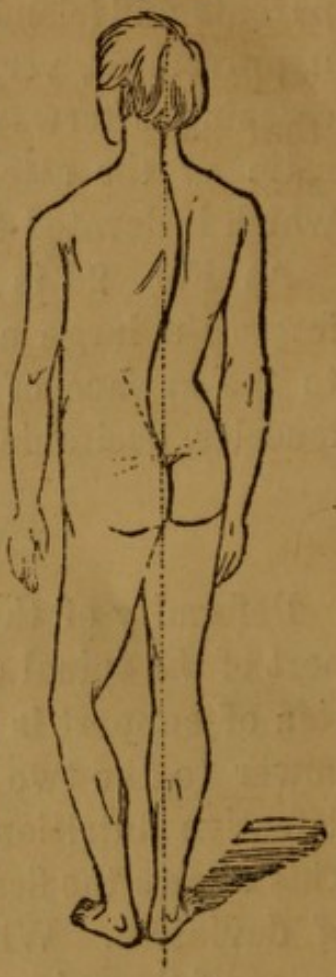
Deformity of the spine is evidence that the muscular support of the spinal column has been imperfect. The imperfection of support is due to an unequal distribution of nervous power to the two lateral halves of the body, conjoined with defective nutrition and strength of the supporting muscles. This allows the flexible column to yield to the various causes of deviation. When such yielding has been habitual, the bones of the spine and ribs become misshapen.

These causes are specially operative during growth. Bone, cartilage and muscle are at this time soft and plastic. Whenever the habits or constitution allow the substance of the body to become thus soft and unresisting, there is some degree of liability of the body permanently yielding, to the causes operating to produce curves. The only sure safeguard is healthy nutrition, firmness of texture, and equal distribution of the activities of the body.

A glance at the diagram, Fig. 29, will inform the reader *how* lateral curves are formed. A person instinctively acts with his strongest, and not with his weakest parts, at least the weaker muscles seem to evade their work till distinctly called upon. A person of weakly habit will generally do the work of standing with one, we will say the right side.

The habit is early formed of *preferring*, that is, of sending a larger amount of the nervous supply to that side. The pelvis, which is naturally supported by the two legs, having one of its supports withdrawn, will droop, and instead of being horizontal, will incline to the weak, that is, the left side. But the spine rises at right angles with the plane of the pelvis, and so the spine must deviate from the perpendicular in the direction of the dotted line, to the same extent that the pelvis does from the horizontal. But, for the trunk to be thus thrown from the perpendicular, would carry it beyond its base of support. To save it from inevitably toppling over, the spine curves back toward the perpendicular, and continues beyond it, so as to place an equal weight of the body each side the perpendicular line. This gives a double curve, produceable to some extent whenever one rests upon one leg, but which increases in proportion to the weakness and flexibility of the body. The *habit* increases of so resting, standing, sitting, walking, etc., in proportion as the strength which can be spared for these various modes of acting is limited.

Fig. 29.



The upper curve is greater than the lower in a majority of cases, because an additional cause operates to produce it. There is the same tendency to rest upon the right elbow, and work with the right hand. This developes muscle upon the right side of the chest; lifts the ribs and the shoulder of that side, increasing the air space in the right chest, and the angle the ribs of that side make with the spine. Sometimes the upper curve is so great as nearly to obliterate the lower.

The spine is made up of a number of vertebral pieces, with intervening cartilage, having broad disks. When the spine

is bent, the weight of the body rests, of course, upon the edges of these discs. The habit of so resting compresses these edges, and renders both cartilage and bone thinner, while the absence of pressure at the opposite edge, allows that part to thicken. The vertebræ hence become wedge shaped, the thick edges forming the convexity of the curve.

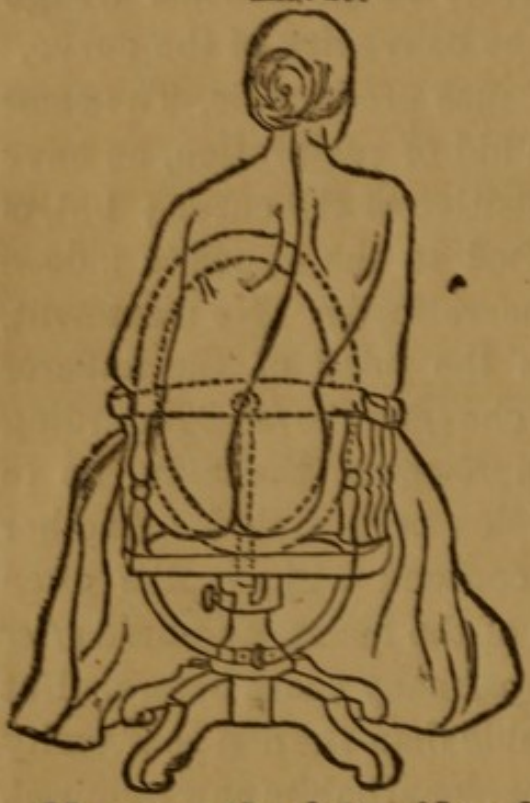
Spinal curvature is curable, because producable. The same causes can be brought to bear in aid of restoration, as have been effective for evil in the acquisition of the curve; but, of course, these causes must be shifted to the opposite side—really, as well as nominally and theoretically. No treatment, however potent, will avail, unless the mind of the sufferer seizes the important point, and so changes the *habit* regarding position and use of the different portions of the body, as to conform essentially to the principles here stated. Another difficulty the treatment has to contend with, is the often thickened and hardened condition of the bones, acquired *after* the deformity was produced, perhaps, many years before. But this difficulty is much less formidable than the non-conformity of the patient with the new rules of personal habits now required.

By means of the special pains-taking above referred to, a few persons have been successful in restoring the laterally curved spine to a good degree of symmetry. But this is accomplished with difficulty without the aid of special or prescribed exercises—in other words, Movement-Cure. This is the effective means to be used to change the nutritive and nervous currents, so that a larger measure shall go to the weaker side. These special operations readily glide into *habit*, helpful in the desired direction at all times.

A word of caution should be put in here in reference to gymnastics. Girls attending classes have not unfrequently been made worse. The reason of this is found in the principle above stated. The weaker parts will instinctively shrink from their duties, and the *action* in the various exercises is performed by substitution of the stronger muscles. This will always be the case to some extent, if the body is allowed its

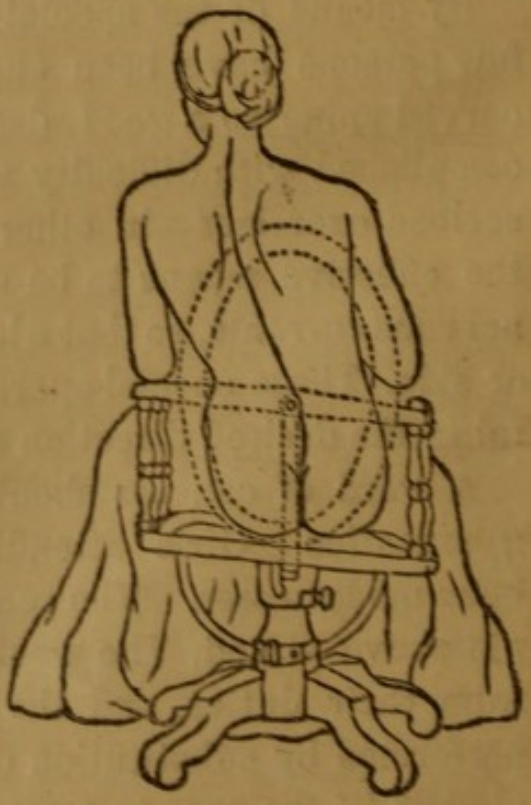
freedom. The really correct and desirable action can be obtained in most cases, only when localized, that is when all other parts of the body are at rest. Gymnastic exercises are liable to be *harmful* unless they are intelligently prescribed.

Fig. 29.



A *chair* has been contrived for the purpose of aiding the formation of an improved habit in the act of sitting in cases of curvature. It is so constructed (Fig. 29) that the seat can be made to incline at any angle to either side, forward or backward, so as to suit the peculiarities of every case. It is fixed in the desired position by means of a thumbscrew. As represented at Fig. 29, it resembles an ordinary arm chair. The faulty position a person with curvatures is liable to assume, is shown in the cut.

Fig. 30.



If, now, the left side of the chair be raised, as at Fig. 30, so that the plane of the pelvis inclines a little to the right, the lower portion of the spine is also thrown in the same direction. This position will cause the body to fall to the right; actual falling will however be prevented by leaning to the left, and bearing strongly with the left arm upon the arm of the chair, which, it will be observed, is raised equally with the side of the seat. The act of sitting is now performed almost wholly

by the muscles of tho left side, which, with the position of the pelvis, the necessity of leaning to the left and of bearing upon the left elbow, causes the curve not only to become obliterated, but in some cases to be to a slight degree shifted to the opposite side. The weight of the body causes it to fall into the new position described.

The patient can sit in this position and read, sew, or perform any work or amusement; and whenever the position becomes painful or fatiguing, the seat can be instantly changed, to serve the purpose of an ordinary chair. This contrivance is a potent educator of the principles above exhibited, so necessary a preliminary to recovery. It is to be used habitually during the prescribed treatment of each day.

Fig. 31.

Fig. 32.

Figs. 31 and 32 show the operation of an apparatus whose powerful action is nearly indispensable in reducing spinal curves. The two convexities are placed opposite a padded bar at each side, one at the upper and the other at the lower curve. The arm of the lowest shoulder is raised to the perpendicular, and the hand grasps the handle of the lever. As the operator draws the lever to one side, the low shoulder, with the muscles and ribs belonging to it, is raised; while the two pads glide in opposite directions, pressing strongly against the convexities so much as to obliterate, and in flexible subjects even to reverse the curves

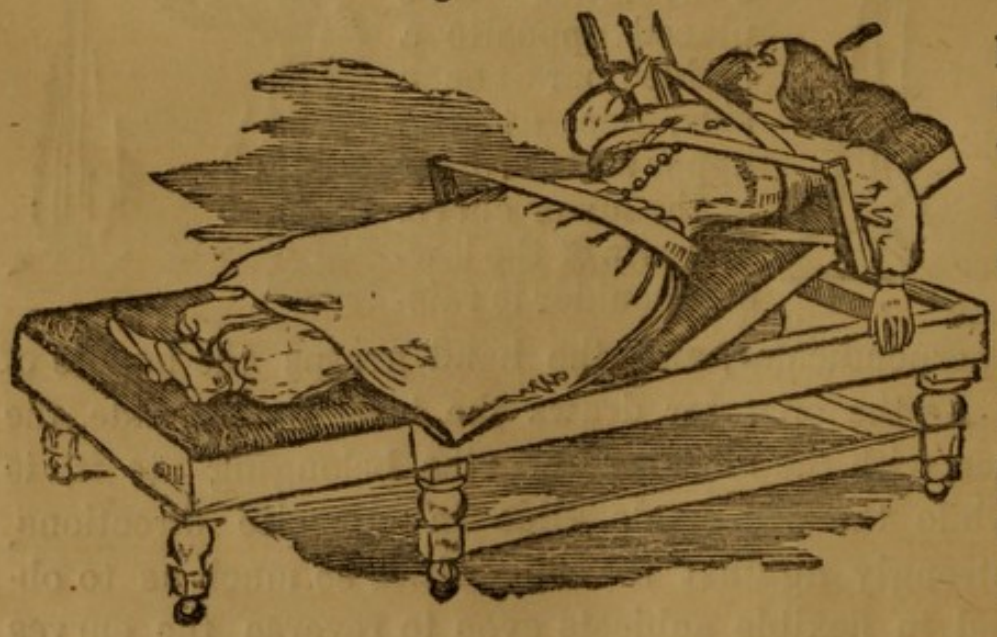
The apparatus can be fixed by placing a pin, and the pressure upon the convexities and the thick edges of the vertebræ, continued as long as it can be borne without discomfort.

It is often advisable to act upon the spine with only the *upper* pad, in the manner shown at Fig. 14. This presses down the ribs of the prominent side, and elevates those of the shrunk side.

The lateral curvature is always connected with some degree of *twisting* of the spine. The obtuse angle which the ribs of the convex side makes with the spine, exaggerates the twist. This is to be corrected by counter-twisting movements, which give strength and supremacy to the opposing muscles.

The operations with the above described apparatus are important for cultivating the muscles of the weak side, and for increasing the flexibility of the spine, which has become rigid by the long continuance of the deformity. It is necessary, however, to go a step farther with mechanical means, to complete all the conditions demanded in the cure. The spine requires not only to be *bent* and *twisted* in the direction opposite to the bending and twisting which constitute the deformity, but it must be *maintained* in this position. *Continuance* is necessary in order to mould the vertebrae to equal thickness. and to restore the form of the misshapen ribs.

Fig. 33.



The apparatus for securing this object should accommodate the patient in the lying posture, as the system is, in this

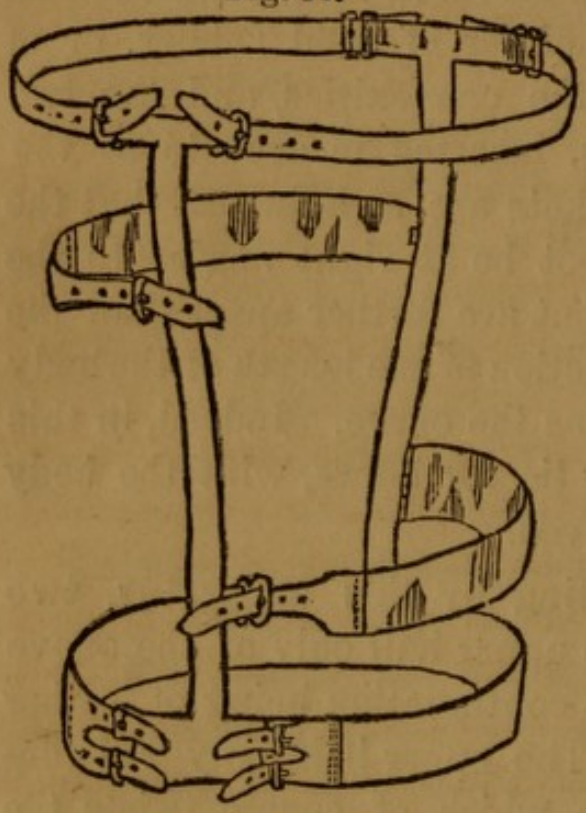
position, more relaxed and yielding. The apparatus used to effect all these combined purposes, has been called the *Combination Couch*, Fig. 33, and consists of certain attachments to the ordinary couch of the movement room. The curved person lies upon it, with the flap elevated to suit the inclinations. A broad, strong band, either of solid rubber, or of rubber webbing, passes over the convexities, and the two ends are attached to uprights, inserted in sockets at the edges of the couch. These sockets are so adjusted that the direction of the traction shall not be at right angles to the longitudinal axis of the body, bnt are further apart than the curves, so as to draw in the direction of the length of the body also. This opens and straightens the curve. Indeed, in this position the patient will easily lie for hours, with the body bent to a shape *opposite* the curves.

To attain the desired twisting by this apparatus, two methods are used. By one, the upper half only of the above described bands are elastic, the continuation being of leather or other inelastic substance. The upper half only will contract, but in opposite directions, which, of course, twists the body. By the other method, the bands are continued over appropriate pulleys to the under side of the flap of the couch, and end by being attached to the roller. To the upper end of this roller or rod, which appears near the head of the patient in the cut, is a ratchet and crank. The action of this crank is to *wind* the bands upon the roller from opposite directions, thus twisting the body in the manner previously described. The patient can occupy the time while on this couch, by light work, or the usual school or other studies, as most desired. This couch is to be used in the movement room, in connection with the appropriate treatment, or at the patient's residence, after the cure has been well started by carrying into execution the appropriate treatment.

As before hinted, the treatment of lateral curvature needs to be unremitting to be as effective as it may be. To take

advantage of the *sleeping* as well as the waking hours, and especially to prevent the effect of the bad positions which almost always obtain during sleep, the instrument at Fig. 34 was invented.

Fig. 34.



This instrument consists of a stout band adjusted to the pelvis, while another passes around the chest close under the arms. Two uprights of steel, bent to fit the shape, one at the back and the other at the stomach, extend between these bands. Strong bands of elastic webbing are attached to both the posterior and the anterior uprights by means of buckles, and so arranged as to act upon the two convexities. The whole apparatus is furnished with appropriate buckles, and when properly fitted, is quickly adjusted to the person. It is worn with less inconvenience than a corset—in fact, it *is* a corset, with the remarkable difference, that its pressure is *only* upon the convexities, and that instead of weakening the muscles and hindering respiration by compressing the chest, it actually expands the muscles of the shrunken side, and increases the circumference of the chest during the time that it is worn.

These powerful instruments appear to be necessary in order to restore the misshapen bones. They will, however, be quite useless, unless well supported by treatment adapted also to restore the strength of the muscles of the weak parts, and to build up the general health, whose defect is always a preliminary condition of deformity, and frequently continues as its concomitant till the form be changed in shape.

Anæmia.

This may include, for the present purpose, all those forms of disease in which there seems to be some deficiency of the blood. This fluid does not properly support the changes whereby vital force is evolved. It is thin, and has but little color, the skin is pale, food may, or may not trouble the stomach, but it does not fulfill its designed purpose beyond that organ. The extremities are apt to be swollen, the heart is liable to palpitate, the sensations are inordinately active, the strength vanishes ; the vital forms are broken down by inordinate nervous action, and the compensatory reproduction does not follow.

The usual mistake in the treatment of this class of cases, arises from presuming that the nutritive materials required by the system may be forced upon the unwilling organs. The fact is, the vital molecule, to which all power in the body is ultimately referred, may famish, whilst the stomach is abundantly supplied. Albumen, sulphur, phosphorus, iron, and whatever the living body can use, always exists in abundance in ordinary food ; but these elements can serve no useful end till transferred to, and vitally incorporated with the vital instrument. Medicaments often prove unavailing, because the wear and waste occasioned by even the mildest, in the end proves greater than the seeming advantage.

There is however, an adequate aid to the desired transmutation ; no strange element need be added to the blood. It is only needful to so affect the vital fibre, cell or tissue toward the nutritive matter of the blood, as to cause it to *need* and so to *attract* such materials. Cell must be moved upon cell, fibre upon fibre, &c.—in fact a general moving of fluids and attrition of solids as in health must be secured, but through causes supplied from without. Then, the transfers coincident with life will take place, *without* the damaging wear, breaking down and exhaustion of the nervous system. This brings through the appointed channels from the digestive

organs and lungs whatever is required to sustain the actions in question. The muscular and voluntary power operative in health, and sufficient for the purpose, are to be supplemented in chronic disease. The blood becomes enriched, and no longer allows watery fluids to escape into the tissues. The pressure upon the nervous system is relieved, sleep returns, and the patient has learned a lesson, not too costly, if well learned, that the system will not tolerate the perversion of its resources to a single end, however laudable that, in itself may be.

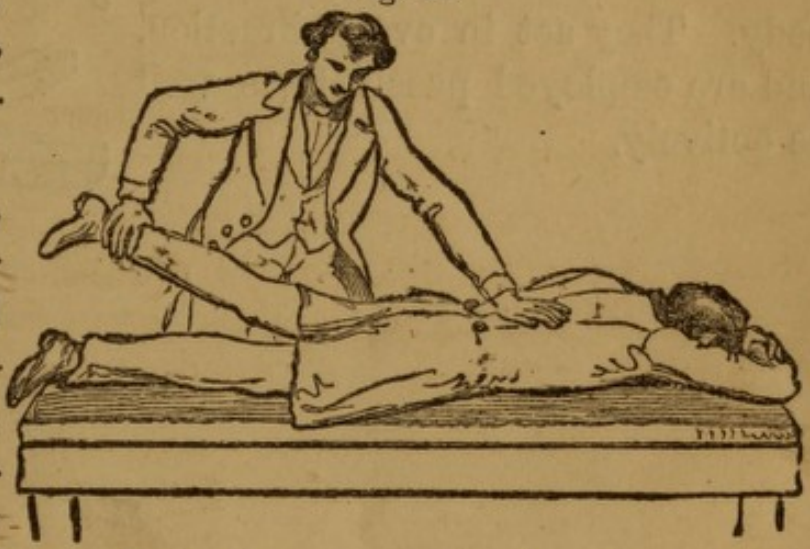
Hysterical and Epileptiform Diseases.

The curative power of Movements is well illustrated in their effects in those peculiar manifestations of nervous disorder known as *fits*, whether hysterical or epileptiform in character. Disorders of this class, according to the common views of pathology, are obscnre in their origin and relations, and are hence necessarily treated only *palliatively*, which would seem to mean teasing and vexing the nervous system with a multitude of stimulant and sedative drugs—radically curative effects being scarcely hoped for. The obstinate continuance of these forms of disease is usually charged to the defective constitution, and to improve this is, unfortunately, considered by medical science as practically beyond its scope and power.

The reason *why* these usually intractable manifestations of disease are overcome by movements, is capable of rational explanation. In *spasm*, it is well known, a *portion* of the nervous system acts independently of the *will* and even of the *consciousness;* the immediate cause being local irritation, the influence of which is transmitted through the spinal centres to the muscles, causing them to act, that is, *to contract.* Such action is, of course, irregular, uncontrolled, violent, and in the strongest possible contrast with the operations of the health. Now, the movements supply, to an extraordinary degree, the two conditions of restoration. One consists in

the removal of the exciting cause, whether this be internal congestion or local irritation from perverted nutrition in some part of the body. But digestion, respiration, circulation, secretion, depuration. &c., are restored as heretofore seen by varied management of the movements. The other condition supplied by movements, consists in the *effective and thorough training of the will power*, sending it freely along the nervous channels to every part, habituating all parts to act in due subordination to the central source of power, and causing each part to act in harmony with every other part. In this way the will and consciousness are so strengthened in their supremacy that instances of irregular, perverted, and insubordinate action become impossible; the cerebral power becomes fixedly paramount, and the severed connection of the will and muscular system is restored.

Fig. 35.



The annexed cut, Fig. 35, shows a method of strengthning the muscles of the back, useful, also, to give direction to the will, and to modify the excitability of the cord. Nature aims at perfection in all her operations within the body, both as regards the changes of its molecular constituents and the ends to which these changes conspire. Now, movements may be considered as affording a direct support to this organic endeavor, enabling all changes to become more complete, and therefore more healthful. But these parts of the body are but broken fragments without that due co-ordination of the separate functions which converts them into a homogeneous system. It would seem that the *regular and persistent training* of the system, would, of all

things, be that which is most competent to accomplish this object. Hence the power of movements for securing and maintaining the requisite subordination of functions, and in the harmonizing of irrelevant action; thus often accomplishing ends hardly expected of medical treatment, as in cases like the above.

The cut, Fig. 36, indicates a method of applying *variable mechanical resistance*. By means of a heavy pendulum, ratchet and spring, the weight and leverage is available to the degree desired at any part of the extremity, the amount of resistance changing with the varying power of the acting muscles. Similar instruments are used for every part of the body. They act in every direction, and are employed passively as well as actively.

Fig. 36.