

# LEWIS' NEW GYMNASTICS

FOR LADIES, GENTLEMEN AND CHILDREN.

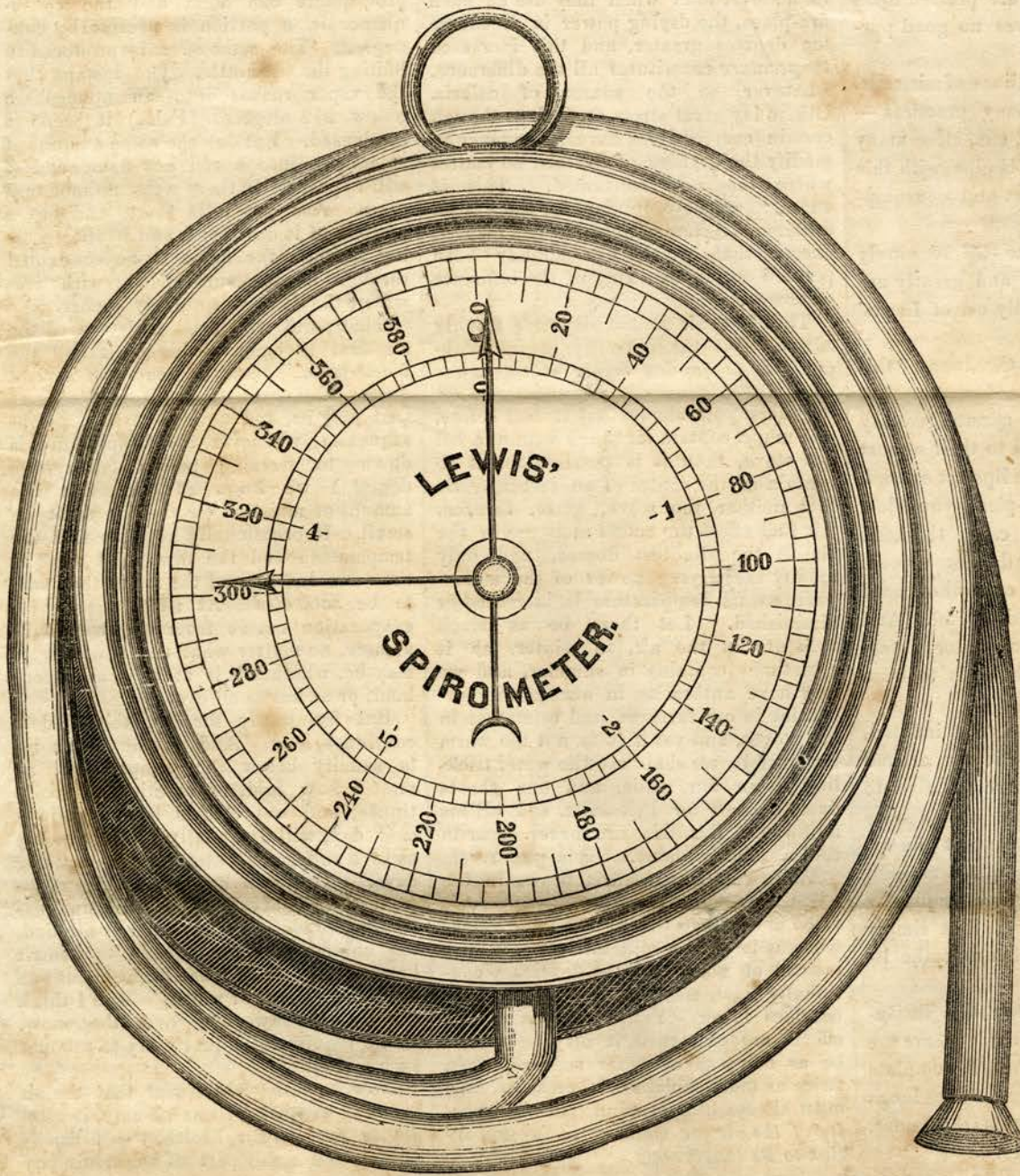
## BOSTON JOURNAL OF PHYSICAL CULTURE

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### Lewis' Spirometer.

A system of physical training adapted to the wants of the American people, must involve much special, direct training of the respiratory apparatus. It is our weak point. The lists of death by consumption are frightful. The coughs, heard every where, are most distressing. During the years which I have given to the work, I have had this matter constantly in mind.

In the Free Gymnastics (those without apparatus) which are used in my gymnasium, striking the chest with the flat of the hands or the fists (the chest being inflated) constitute a marked feature. Much may be done in this simple way to enlarge and invigorate the lungs, but this alone is not sufficient.

The *Blow Gun*, which was presented in the last number, is invaluable as a means to the same end, and has this peculiar advantage, that the game is so interesting that no conviction of duty is needed to impel one to its use.

It is one of the most amusing and fascinating of games. A well known physician in this city is in the habit of saying that were the Blow Gun introduced as a game into every New England home, consumption would be reduced one-half.

The accompanying cut represents, rather imperfectly, another invention in which I have been interested several years. I believe it the most efficient of all the means yet devised to enlarge and strengthen the chest.

Other instruments known as Spirometers have been in use for many years, but I think all of them rather mischievous. In their use, the lungs are pressed upon and emptied. This serves no good purpose.

The lungs contain millions of air cells. In our artificial life many practices — tight dress, bad position, etc., close many of them. Consumption begins with this closure. Keep them open and consumption cannot begin.

No conceivable practice will so surely keep open these air-cells and greatly enlarge the lungs as the daily use of Lewis' Spirometer.

Instead of emptying the lungs, this instrument is so constructed within, that it will receive but a very minute quantity of air. Filling the lungs to their utmost capacity, and applying the lips not *around*, but against the mouth-piece, you blow with a force sufficient to carry the hand to 100. Do this every day for a week. The second week you can blow hard enough to carry the hand to 150. And as the strength of your respiratory muscles increases you will be able to force the indicator up to 400.

The lungs being always fully inflated, the effort to force the indicator around the dial will be sure to drive the air into every air cell. Nothing but disease *already established* can prevent the air from finding its way into every air cell. With this accomplished and frequently repeated, for a few months, it is simply impossible for consumption to make its first deposit.

I should be happy to see this instrument in use in every house. There are very few persons who have full, complete respiration. There are none whose lungs would not, with the use of this instrument, become larger and healthier.

The Spirometer is exceedingly pretty — an ornament to the parlor, and an exhaustless source of interest and amusement to one's self and friends.

To an American interested in physical training, it will prove an invaluable aid in the attainment of a higher vitality.

#### Importance of Artificial Moisture.

BY JOEL H. ROSS, M. D.

Many complain of stoves on account of their diminishing the moisture in the air. This is altogether a wrong conclusion, unless they mean that *warm air* is more drying than cold air. This we admit, and if they raise the temperature ten degrees higher when they burn their fuel in a stove, than when they use an open fire-place, the drying power is of course ten degrees greater, and this increased *temperature* constitutes all the difference, whatever be the source of caloric. Others lay great stress on *fuel*, as though certain combustibles have a tendency to modify the dryness of the air, no matter where they are consumed. This is another erroneous opinion, for there is no difference in combustibles, in this respect, except that which has already been pointed out in speaking of the influence of stoves.

That the air is too dry, we frankly admit. But the difficulty begins without. *It is too dry before it enters our dwellings.* It has all the moisture after it enters your abode that it had before, and might contain far more within a red hot stove, than it is possible for it to contain in the centre of an iceberg. So that neither the stove, grate, furnace, nor fuel affect the actual moisture in the air in the slightest degree, and only modify the drying power of the atmosphere as its temperature is increased or diminished. Let there be as much moisture in the air, in winter, as it sometimes contains in summer, and we may have anthracite in our grates, turpentine in our furnaces, and brimstone in our stoves, and yet if it is not too warm for comfort, we shall see the water trickling down our walls, and our sheets damp enough for Priessnitz, and all his followers. But this can never occur in cold weather without artificial vapor.

When cool weather first begins in the fall, we are very apt to suppose the air to be more damp than it was in summer; whereas it always contains less moisture, instead of more, and the deficiency continually increases as the temperature becomes lower. Yet, so far as certain effects are concerned, it may be said to be as damp as at other seasons, when twice as much moisture is present. We must always bear in mind that *the capacity of the air for moisture is in proportion to its temperature.*

This is illustrated in the case of fog, which occurs in the region of large bodies of water, when the atmosphere becomes suddenly cooler than the water, and is most frequent early in the fall, during the night. The atmosphere at a given temperature can hold a given amount of insensible vapor, and no more; so that if the equilibrium be disturbed by an increase of vapor, or a deficiency of caloric, the result is the same. The excess falls to the earth in dew, fog, rain, snow, &c.

Now, suppose the temperature of the river to be fifty degrees, and that of the air but forty degrees, it will be easy to see that with such a degree of heat, the water will throw off more vapor than the atmosphere can hold, and the consequence is, a portion is necessarily condensed. The same effect is produced in boiling the tea-kettle. The instant that the vapor rushes into an atmosphere below 212 degrees (Fah.) it becomes condensed. But let the same amount of steam pass into a red hot flame, and it will appear as if there were no moisture there. And yet it is there, and not a particle of it destroyed, and if after passing through the flame it be conducted through a pipe surrounded with ice-water, the fluid will quickly appear.

That point where the moisture of the air first becomes visible, is called the "*dew-point*," and is generally several degrees below the temperature, whatever that may be, and never above it. Consequently, whenever the temperature is down to freezing point, (thirty-two degrees) we know at once that the amount of moisture in the air must be small. It occasionally happens that the temperature and the dew-point meet at the same degree, and the air is then said to be *saturated*. At such a time all evaporation ceases from all wet substances, no matter what the temperature may be, whether it is as cold as Greenland, or as hot as an oven.

But fortunately for us, this seldom continues long. And as the dew-point is usually below the temperature, no matter how cold, evaporation still continues, and wet clothes hung out in a cold day, will frequently dry as quickly as in a suffocating atmosphere of "dog days." It is well known that ice evaporates, and it is said in the work on Ventilation, to which I have already alluded, that an acre of snow exposed to a smart breeze, will lose in "one night about one thousand gallons of water." But I think the air thus sweeping over the snow, would require to be pretty dry to produce such a result.

Now, to satisfy the reader that the air in cold weather, in our climate, is altogether too dry for health, I will briefly advert to a small part of the testimony

which might be brought to bear upon this point. But how much drying power should the air which we breathe possess? In other words, what is a healthful standard of humidity? I believe this question has never been perfectly settled, neither has it received the attention which it deserves.

The climate of Washington is generally considered salubrious; and in the year 1840, during the months of June, July, August, and September, from 9, A. M., to 3, P. M., the average temperature and dew-point were found to be as follows:—Temperature, 74 degrees, dew-point, 68 degrees; difference, or drying power only 6 degrees. This we may consider a very high dew-point, and probably exceeds the record of any other year, if not of every other place in our country.

But I am not aware that this was a sickly season at Washington, and as I have statistics before me which show conclusively that this very year at Baltimore, a distance of only thirty-eight miles from the former place, was more healthful than any year from 1836 to 1848, I suppose that I shall hardly be considered extravagant when I fix the standard at 18 degrees. This would be giving the air three times the drying power that it possessed in Washington. And will any one contend that it should have more?

Now we see that nature warmed up the atmosphere to 74 degrees, and raised the dew-point to 68 degrees, making the difference but 6 degrees, and if we raise the temperature in our dwellings in winter to 70 degrees, and do not raise the dew-point to at least 50 degrees, one would be inclined to suppose that we either do not wish to imitate nature, or that we do not know how.

But I hesitate not to say, that not a single dwelling can be found in this city, (New York) and I will include all our sister cities at the North, that has such an atmosphere in winter. And we suffer in consequence of it.

Why are the English people so proverbial for their plump bodies and ruddy faces?

Very much because they are not *Kiln-dried!* I have no doubt that the favorable hygrometric state of their atmosphere in winter, contributes largely to their advantage over us poor withered Yankees. And if we would avoid a dry, hacking cough, an irritable nervous system, deranged secretions, constant headache, torpid bowels, morbid appetite, and fretful temper, we must make up by artificial evaporation, the moisture naturally lacking in our wintry atmosphere. Otherwise we must be content to wear a dry skin, rough enough for a nutmeg-grater, over a real, living, lank, *American Mummy!*

But what is the difference in favor of England, perhaps the reader may ask? The mean dew-point in England from the first of November to the last of March is about 35 degrees. Whereas in our Northern States, taking Albany for a type, it is about 17 degrees.

Now we must bear in mind, that as we increase the temperature of the air, we increase its affinity for moisture. The dew-point in London, being 35 degrees, and the temperature of their houses, being 70 degrees, would give them even an atmosphere of great drying power, but how would it stand at Albany? Instead of being 6 degrees, as in the summer of 1840 at Washington, or even 35 degrees, as found in England, we perceive it to be 53 degrees!

Now we can hardly expect so great a contrast, without unpleasant effects. These we see and feel. We see it in the warping, shrinking, and cracking of our furniture, and in its shrivelling, withering influence on our green-house plants. It will be remembered, that our furniture always suffers most in winter, and its injury is usually attributed to heat. Whereas, the temperature is always higher in the summer. Our own sensations, to which I have already hinted, also bear testimony to the excessive drying power of the air in our dwellings during the cold season.

When the dew-point is about 32 degrees, it is very easy to ascertain the hygrometric condition of the air in a very few minutes with a glass of water, a little ice, and a thermometer. Add the ice, a little at a time, and carefully watch for the first appearance of dew on the outside of the glass, and when this is visible, look at your thermometer which must be in the water, and the dew-point will be obvious.

But when you have no provision for artificial moisture within, and with a temperature below freezing point without, your glass of ice-water may stand on your table from morning till night, and remain on the outside as dry as a tinder-box. In other words, you will find the dew-point in your parlor, nay in your oven, *red hot*, just where it is in the street; and when it freezes without, and you have a temperature of 70 degrees within, you may always know, without any hygrometer, that the drying power is 40 or 50 degrees, which is more than twice as much as it should be for health and comfort.

I have been more particular to explain this matter, because of an erroneous opinion which has long prevailed, and among many too who ought to know better.

#### EVAPORATOR.

The question may now be asked, how shall we modify the air in our apart-

ments, to a healthful standard of humidity, while it is too dry without? This is indeed a subject of more importance than many seem willing to believe. And I would invite the man who is at all sceptical, to visit a well-conducted *Green-House*, if convenient for him to do so, and there spend an hour or two on a cold day in mid-winter, in the refreshing, balmy air of such a delightful resort. It is sometimes said that the peculiarly agreeable state of the atmosphere in such a place, is all owing to an extra supply of oxygen which the plants throw off in breathing. But it is easy for any one to satisfy himself that this is a mistake, by visiting said place in the evening; for it is well known that plants then absorb oxygen and exhale carbonic acid gas.

To render the air agreeable, we are often directed to put some metallic vessel containing water upon the top of a stove. But this does not amount to a drop in the bucket. I have an evaporator attached to my office stove, viz.—a copper boiler which reaches down into the stove about four inches. This will evaporate from two to three gallons per day, when the weather is sufficiently cold to require a brisk fire. And yet, with all this evaporation for a single room, I have found the dew-point at 40 degrees, when the temperature without was only down to the freezing point. This gave me the drying power of 30 degrees, the temperature within being 70 degrees, and without this artificial moisture, it would probably have been 50 degrees.

An apparatus better calculated to effect the desired result than a pan set upon the top of a stove, is, an evaporator which is now usually attached to a furnace. Still, this generally comes short of meeting the demand, though it might easily be so constructed as to give us the bland atmosphere of June.

The difficulty, however, lies in the fact, that the public is not aware of more than half the truth on this important subject. The amount of artificial moisture required, will be modified by the state of the atmosphere without, as it contains much more moisture in a mild day, than when the temperature is low, and varies more or less while the thermometer is stationary; and in places situated near large bodies of water, the direction of the wind has an important influence in modifying the humidity of the atmosphere.

Should any one be fearful of having too much moisture, the question is easily settled. Turn your eye to the window, and if it is cold enough without to freeze, and you have half as much moisture within as you ought to have, you will see it coming down on the glass in showers, unless you have double windows, just

what every body should have. When you see no such effect produced on the glass of single windows, at any time when it is cold enough to have a brisk fire, *put on the steam*. I need not tell you how to do this, for it can hardly be expected, that in this steaming age, artists have not tact enough to give you a little vapor.

*Don't let them cheat you out of it!*

#### I've done Smoking.

Our friend delivered himself thus, honestly and in earnest. As he emptied his mouth of the last cigar, our mouth became full—full of blessings.

Blessed is the man *himself*. He is more wise, more cleanly, more savory, and more reasonable than when he went smoking and puffing about like a locomotive.

Blessed is the man's *wife*. She is the happiest woman for the four reasons mentioned in the last sentence, and for many more. She had hoped against hope for the last puff, but it has been made at last. We seem to see her face brighten, her step is more elastic, her voice is sweeter, her welcome to her husband, as he reaches home, is more cordial. She has our hearty congratulations.

Blessed is the man's *house*. An unsavory spirit has gone out of it. More easily can it be kept neat and tidy. Old repellances will repulse no more.

Blessed is the man's *apparel*. A certain fragrance has left it; but not to the sorrow of those oft in proximity with him. His wardrobe is minus a real annoyance, and plus the benediction of many a friend.

And blessed is the man's *health*. In the smoke and fire he so long kept up beneath his nostrils he fed an insidious enemy. And his whole nervous and digestive system unites in the benediction we now indite.

And blessed is the man's *pocket*. A leak is stopped. As much as before will flow in, and less flow out. We seem to hear a voice from that quarter, "there will be better days in the department of our master's dominions."

And blessed be the man's *resolution*. May it tower aloft, like a granite pillar, above all the smoke and fire that may assail it. That last puff! Be it the last! And though the smokers will not join, yet there will be enough to unite in a hearty, Amen.—*Traveller*.

A DOCTOR FEELING OF BOTH PULSE AND POCKET.—An exchange has the following: A self-sufficient "regular," who took up the business of a physician, and pretended to a deep knowledge of the healing art, was called to visit a young man afflicted with the apoplexy. Bolus gazed long and fixed; felt his pulse and

pockets, and finally gave vent to the following sublime opinion:—

"I think he's a gone feller."

"No, no!" exclaimed the sorrowful wife, "do not say that."

"Yes," returned Bolus, lifting up his hat and eyes heavenward at the same time, "yes, I do say so; there ain't no hope, not the leastest mite; he's got an attack of NIHIL FIT in his lost frontis"—

"Where?" cried the startled wife.

"In his lost frontis, and he can't be cured without some trouble and a great deal of pains. You see, his whole planetary system is deranged. Fustly—his vox populi is pressin' on his advalorem; secondly, his cutacarpial cutaneous has swelled considerably, if not more; thirdly, and lastly, his solar ribs are in a concussed state, and finally, HE AIN'T GOT ANY MONEY, and consequently he is bound to die."

#### PHYSICAL TRAINING FOR YOUNG LADIES.

BY MRS. TAYLOR, of Lasell Seminary.

In the present state of society, with the average length of human life so low as recent statistics prove it to be, every thoughtful mind is led to inquire if there is no remedy for this rapidly increasing evil. It would seem that all who have light upon the subject of physical culture would use it most earnestly and perseveringly. And who does not know that strength and vigor of both mind and body—that beauty of complexion and elegance of form—depend almost entirely upon the free and regular exercise of the muscles, with plenty of fresh air? Who does not know that the lungs cannot be properly filled with air with the lower part of them so compressed as the present style of dress renders unavoidable? And that, if they are not properly filled, they become inactive, and this inevitably produces disease? Or if the air be vitiated—if there is not a sufficient quantity of oxygen introduced—the blood that is carried to the brain, as well as other parts of the body, is impure, and inactivity, and finally utter prostration, ensue. Who that is familiar with any school of young ladies, has not noticed among their number more than one with narrow shoulders, compressed chest, sallow cheek, lusterless eye and languid step, and has not felt that unless those strongly-marked evidences of disease were speedily removed that an early death awaited them? How all-important, then, that due atten-

tion should be given to the subject of physical training, that such fearful consequences may be avoided? And to you, oh! mothers, I would raise the voice of warning. Much, very much, is now being done in many of our schools and seminaries, but with earnest effort and untiring zeal, by precept and by example, must you aid this noble work, or, perchance, that fair young girl, now in health and beauty, the joy of your life, may, ere she has numbered twenty summers, fade and die, like the flowers of summer, touched by the untimely frosts of early autumn. And then, in your agony of soul, do not murmur at the decrees of Providence, but remember that three score years and ten were her allotted portion, and had the laws of health been properly attended to, she might have been spared to you for a long and useful life.

#### WOMAN'S DRESS—NO. III.

BY HELEN C. LEWIS.

Not only is the dress of the neck and arms of a fashionable woman entirely wrong, but the legs and feet suffer by the same error.

As the cold fall weather comes on, a fashionable, and indeed, I may say every American woman, imagines in order to keep herself comfortable, she must increase the number and weight of her skirts, and perhaps all these skirts are worn over her hoop which sets a foot or more from her legs. In this way she is completely dragged down by the heavy skirts fastened tightly around her body, and still is not comfortable.

The only way to keep the extremities warm, is to wear upon them two or even three thicknesses of woollen knit garments, snugly fitting them. No more skirts should be worn in January than in July. These woollen suits should be so supported as not to drag upon the body in the least, and should come down to the ankles under the stockings.

Thus with thick woollen stockings and a good boot made of strong leather or thick cloth, with triple soles, and all lined with cotton flannel, these extremities can be kept warm and the woman be able to go out freely at all seasons of the year, in any weather, without rubbers, which I may add, should never be worn.

Thus, much of the headache from which American women generally suffer, would be entirely prevented.

The thin prunella gaiter, with its paper sole, should not be worn either in the street or in the house after the changeable weather of autumn comes on. The usual habit of wearing, in cold weather, slippers in a carpeted parlor even, should never be practiced by those who are feeble, or even by those who are well and wish to keep so. The floor is the coldest part of a room and the feet require thick, warm covering.

### OUR SCHOOL SYSTEM—NO. III.

BY CAROLINE M. SEVERANCE.

Thus far we have spoken of the most manifest errors in regard to our present school system, as being an attendance at too early an age; too many hours' confinement at study and recitation; and too much study pressed into the compass of a given number of years. With these, either as cause or effect, has come another—the *neglect of the body* in our whole scheme of education. This may have followed as a natural reaction from the almost exclusive regard of earlier ages, for physical qualities and achievements. Not, indeed, as a reaction justified by the failure of any well-devised experiment in physical culture, but as the indignant rebound of a Race becoming conscious, in its higher development, of grander faculties and a nobler destiny. For only in the Greeks have we seen any attempt at a union of physical and mental culture,—and there the happiest illustration of its wisdom. Devoting years to the study of their history, their language and literature, we have strangely ignored the most salutary lesson of their national life.

We urge *the brain* with all possible stimulus and appliance—knowledge is not presumed to be attractive for its own sake and the power for good it may give; we set spurs of all sorts to goad on the embryo scholar to the assault upon this formidable Dragon, whom it is indispensable, but by no means delightful to conquer. We crowd as many hours with the school tasks as a strong teacher can well endure; and we exact other hours, stolen from the home duties, or needed recreation or rest by night. We quicken the ambition by public and private exhibi-

tions, medals, rewards and the like—and the world can scarcely contain the volumes that are written as text-books and treatises on education!

All this we do for the mind—what for the body which has it in charge? A walk to and from school—*perhaps*—and that may be only round the block; a play in the half-hour's recess, *perhaps*—that is, if even this time may not be needed to “study up,” and if sufficient vitality be left to enjoy it. But as, unfortunately, two uncertainties do not make a certainty, as two negatives do an affirmative, we charitably throw in a third to help the possibilities of the case—a play, or exercise of some sort at home, during the brief out-of-school hours.

Surely the aggregate of this, when actually secured, does not amount to any thing we dare dignify with the name of physical culture—not even indeed to the needed relaxation from the tension of study and enforced quiet!

We are careful to secure a *variety* of studies for the special exercise and training of the various mental faculties,—we have no systematic training for all, or any one, of the more numerous muscles of the body,—which equally need development and judicious direction, and on whose condition, together with that of the organs they protect and assist, the integrity of the mind itself depends. The training of the body is with us, as yet, only a theoretic discussion—its literature limited to a half-dozen volumes and as many able essays—its practice a mere matter of choice or chance. A child may come into the school more or less diseased,—deformed, it may be,—we take the body as we find it, give it a hard, straight seat—perhaps for as many hours as any other, and with as many tasks—bend it over a desk, and expect to educate the mind satisfactorily, in spite of the body! It is like looking for sound, choice fruit from a worm-eaten tree—like spending time and money upon the culture of the limbs, while the trunk is decaying before our eyes, and ready to snap in any gale! “And how much better is a man than a tree?”

But, alas! our system of education is economic in every way but the wisest,—in the item of *life*. Teacher and scholar are too lavishly spent. Here, as else-

where, in our social “economy,” we wait upon *remedies*, when we should forestall the necessity for them by a timely prevention—and this, with a proverb of warning upon our lips, and familiar in *its letter* as a household thing.

But perhaps the teacher may be a thorough gymnast, and well persuaded of the necessity of proper bodily training. It is well for himself, but nothing to his pupils, except so far as his influence and example may chance to affect them. He has no authority to compel the use of the proper means, and therefore they will not be *certain* to be used until they are made a part, an essential and unavoidable part, of the school routine.

Teachers not sufficiently persuaded of the need and worth of physical training, object because of the time it will require. One might well believe in advance, what the briefest experience is ample to confirm, that no time is really lost by it,—the renewed vigor and fitness for study being greatly increased by bodily exercise. Quite opportunely there comes to my hand while writing, a record of results in experiments now in process in England.

In a paper read by Edwin Chadwick, Esq., C. B., before the Public Health Department, at a late session of the “National Association for the Promotion of Social Science”—a voluntary organization of the best men and women of England, both titled and untitled, which has done more during the four years of its existence to meet the social needs and remedy the social abuses of the nation than all previous ecclesiastic or governmental agencies whatever—the writer says of the introduction of Ling's system of gymnastics and other bodily exercises into the district pauper schools, and into the Royal Military Asylum at Chelsea, for the training of the children of soldiers; that these, “together with a *reduced amount of sedentary application in school*, generally half-time, meet with very high success, both in the correction of bodily defects and in strengthening them morally by discipline, and mentally by a brighter voluntary attention during reduced, and therefore less wearisome hours of school study.” “The half-school time children of this class,” he adds, “having only eighteen hours of book instruction weekly,

proved upon examination to be even *superior in book attainments* to those of the same classes, under the same system of school instruction and under the same teachers, who are kept altogether in school thirty-six hours weekly." He says farther, "as indicating the connection between mind and body, it may be mentioned, that as a general rule to which there are fewer exceptions than might be supposed, *those who are foremost in the drill and bodily exercises*, are found to be *the foremost in mental exercises*."

Several other general observations are so pertinent to the subject of these articles, that I cannot forbear quoting them here. "If we observe," he says, "young children in a state of nature, their peculiar mobility during periods of growth, their incessant changes and activity of muscular exertion, changes short at first, and longer as growth advances, excited by quickly varying objects of mental attention, with manifestations of pleasure when allowed free scope, of pain when long restrained—if we ask to what these changes and activity subserve, we receive for answer from the physiologist, that they serve to excite the whole nervous and muscular system, and so promote healthful bodily assimilation and development."

Against this he instances the present practice of school quiet and muscular inactivity for six hours, under constant mental activity, and goes on to say,—“To insure the bodily inactivity and enforce continued mental attention and labor, (for periods which are difficult to sustain and injurious to exceed, *for adults*) the service of the school teacher is made one of *severe repression*, to keep little children still,” (he might have added large children, also) “whilst every muscle is often aching from suppressed activity. I have the authority of Prof. Owen for saying that the *resistances of children are, for the most part, natural indications*” (operations?) “*of the laws of physiology*.” (See *against what* you contend, oh, severe and inflexible disciplinarians, in whose presence no muscle dare murmur, no nerve rebel—the tongue must cleave to the roof of its mouth, the hand forget its cunning, the back ache but “give no sign,” the eye forbear its poetic frenzy

and look “right on”—at vacancy, or—Virgil!)

“And I am prepared farther to show, on the evidence of some of the most experienced and successful teachers in the kingdom, that they are *violations also of the laws of psychology*, and injurious therefore mentally, as well.” “I have the evidence of wide experience under the best systems, that children between seven and ten years do not and *cannot* retain a bright voluntary attention,—the *only profitable quality* of attention—on the average, longer than two hours in the morning and one after dinner. Further, I have extensive and complete evidence that under conditions where suitable bodily exercise is provided, where there is a better compliance with the laws of development, *better mental accomplishment* is achieved in *half the common school hours*.”

Strong British testimony—to be organized no doubt into the general educational action of the nation, with staunch British endeavor and earnestness.

[To be continued.]

## KINDER-GARTEN DEPARTMENT.

EDITED BY ELIZABETH P. PEABODY.

### EARLY TRAINING OF CHILDREN.

#### No. III.

[Concluded.]

Combine the motions; remembering always that accuracy and precision of movement rest and soothe the child.

Gaily the blue ball swings and rocks,  
Then hidden lies within the box.  
Watch now, my child, the azure ball,  
See, see it rise; now see it fall.

Difference in time in movement will also amuse.

Gently, gently, moves the ball,  
Now it hardly moves at all;  
Hop, lazy ball, hop.  
Swiftly, swiftly, now it flies,  
In motion, hiding from our eyes.  
Stop, whirling ball, stop.

Let the ball strike the same spot on the table three times, singing on the same note—“La, la, la;” or “tap, tap, tap;” or in different places, “do, re, me,” “tip, tap, top.” Let it fall upon the table quickly, from a height. “Leap, little ball, leap.” Or lift it suddenly upon the box—

Hop, little ball, hop,  
Hop over the box,  
Hop into the box,  
On to the box, hop;  
Now hide in the box,  
Run back of the box,  
Then quiet lie on top.

Let it roll round and round upon the table, or let it hit the box and rebound to the child.

The mother's ingenuity will suggest much more than can be written. If these exercises seem to her puerile, she must remember that they are in various ways developing the very limited powers of her child, and she must be careful never to weary him by too long continued play with the balls. As the child grows older, two or more balls may be used, suggesting many new games. Mothers should always be prompt to catch and follow any little thought which the awakening activity of the child's mind seeks to express.

Let the little one roll the ball upon the table; if it falls, bend him to pick it up, as it is well to habituate children early to submit to the consequences of their actions.

Roll the ball softly, roll the ball,  
Be careful, darling, it don't fall.  
Where has it gone? down on the floor?  
Ah! there it rolls out by the door;  
Baby shall go and get the ball,  
Be careful, darling, it don't fall.

Make circular movements on the table with the ball, to the right, to the left, or turn in a spiral, enlarging and diminishing; turn in a spiral around a stick, ascending and descending; or show the two movements around itself and a centre; or twist the string, and let it rapidly untwist, turning upon itself, to the right and to the left, singing, meanwhile, such appropriate words as mothers' wit will promptly supply.

Place the ball upon the box, and draw it off quickly; let the child draw with you, which pleases him greatly, as he sees the effect of his own action.

Hide the ball in the hand, and let the babe seek for it; soon he will wish to imitate this play, and the mother should rejoice, for his activity is awakened, and the end is gained.

The ball is hid in baby's hands,  
Now, what will mamma do?  
She'll hide the ball and baby's hands,  
And kiss dear baby too.

These exercises should be continued and renewed as long as they amuse the child, for repetition renders the impression more clear and precise, and should never be neglected in education.

Place the ball in its place in the box, singing,

Now it joins its little sisters,  
And will stay at rest;  
Close the lid, close baby's eyelids,  
Put him in his nest.

The preceding exercises, and the thousand others they will suggest, give to the child a treasure of occupations, which awaken and nourish his mind, while exciting his physical activity. The good effect will be felt when the child is strong enough to take an active part in play, and especially when he begins to talk.

The ball has been seen in movement, and in relation with other objects. Some little rhymes may now be given, showing the qualities of the ball, sung with expressive motions.

Very pretty is the ball,  
Round, and red, and soft, and small.

Oh! see the pretty ball, love,  
So round, so soft, and small, love.

It is soft, it will not wound,  
And it falls without a sound.

The ball is round, and rolls each way,  
The ball is nice for baby play.

Or the qualities of the ball may be taught by comparison.

Large and hard is brother's ball,  
But Marie's is soft and small.

Substitute here, as often elsewhere, the name of the child.

Round and yellow as an apple, &c.  
Like the cherry, small and red, &c.

Children always seek to represent in their plays the objects and actions they have seen and observed. Far more than we are apt to think, they have already learned the names and movements of surrounding objects; especially are they interested in the household pets, and domestic animals. The ball may represent these for the child—

It flies like the bird,  
Now near and now far,  
Then comes back to its cage,  
In the hand of mamma.

It leaps like a cat  
From the top of the wall,  
'T won't hurt it my pet,  
If it should have a fall.

Or it runs round like the dog; taps like the chick; picks grain like the cock; flies like the pigeon, &c., &c.

Trot, trot, trot, trot,  
Trot to the gate;

The good old horse for mamma comes;  
Don't let him wait.  
Trot, trot, trot, trot,  
Gallop and run;

Bring quickly back our dear mamma,  
Then comes our fun.

Let the child imitate the movement of objects it has observed.

Like the hammer it knocks, &c.  
The pestle in the mortar beats, &c.  
It swings like the bell, ding dong, &c., &c.

"Tick, tack, tick, tack,  
This way forward, that way back;  
Swing this little ball of thine,  
Just in balance, just in line;  
Beat by beat, this way and back,  
Ever tick and ever tack,  
Tick, tack, tick, tack."

Now put in its place,  
Each bright-colored ball,  
As nurse sets in order  
The chairs round the wall.

These exercises are admirable for developing the intelligence of the child, for they are the expression of his thoughts, and he has no other way of re-presenting what he has received into his mind.

We have seen the ball only in relation with the child using it. It ought to be the means of uniting him with his equals. Children have always delighted in playing ball together, and their pleasure will be greatly increased by adding appropriate little songs, and movements in keeping with them. Very early the little ones may be held around a table, passing the ball from hand to hand, or rolling it from one to another; or the mother may swing it toward them, pausing a moment before each child.

"The ball is gently gliding,  
While mother's hand is guiding,  
Pausing at each little one,  
Greeting it, and passing on."

It is a great gain for the infant to have playmates of his own age, though generally one child in a house makes all its inmates his playfellows. He learns quickly to distinguish individuals among his playmates, and this prepares him to perceive the distinctions of things. The different colored balls may now be presented. The color being the distinctive mark, gives the

idea of individuality in this class of spherical forms. It would take too many words to tell the changes which may be rung upon the balls, when two, three or all of them are used. Care should always be taken to arrange the colors harmoniously, if three are used, giving two opposites and an intermediate. All six balls may be swung at once, (catching the centre ones into the bars by the supports.) Many of the preceding plays may be varied by the number of the balls, and become quite a new thing as the growing babe shares his plays with other children. Their quick imaginations will easily idealize this pet plaything. Now they may take the names of common fruits, the orange, the yellow apple, the red cherry, the green gooseberry, the blue plum, the purple grape; or they may be called after familiar flowers, the violet, rose, cowslip, &c.; or from some point of resemblance named for their little playmates.

Come, little playfellows,  
Come, one and all,  
Out of your pretty nest,  
Come at my call.

Come first, darling Mary,  
With eyes deep blue;  
Then, red as a rose, come,  
Rosy cheeked Sue.

Come, too, precious Nellie,  
With hair of gold;  
Your flower names "Blue Eye,"  
Rose, Marigold.

Young, laughing May, come,  
Green as the Spring,  
And lively Elise, blithe as  
Bird on the wing.

And last, modest Mabel,  
My dearest pet,  
So sweet and so gently good,  
Dear violet.

Come, pretty playfellows,  
Come, one and all,  
Out of your cozy nest,  
Come at my call.

But the little one will not always follow its mother's leading. As soon as he begins to run about, he will feel a sense of freedom, and the free ball will be his appropriate plaything. It furnishes most healthful exercise for body and mind. The child who throws, runs after, drops, catches the ball, exercises in unison, eyes, hands and arms, and puts the whole body into activity, receiving thereby most lively impressions, which he manifests in

all his movements, while learning that prompt coöperation of hand and eye, which gives skill and dexterity, and saves from clumsy awkwardness.

The principles and methods of the previous games may be applied to the free ball. All are familiar with this plaything. The little ones can gather around the table, or, better still, on the dry ground, and play together, rolling the ball from one to another, or upon an inclined plane, or striking the ball upon the earth or a wall, and letting it rebound, &c., &c. The tendency of the little songs is not only to give grace and harmony of movement, but to banish the discords which not unfrequently spoil all the sport.

If we close here our exercises, we do not mean that the instructress should close here the games of the ball.

Fröbel wished to draw earnestly the attention of mothers to the importance of early education. His system can not be taught mechanically. It is difficult to make a statement which shall not, at first glance, seem formal, of what should be so spontaneous, life-ful, varied, *yet not lawless or disorderly*, as the development of these little ones. They are in constant process, often very wearisome, of awaking to the world around them. If mothers realized that *well-directed* play would be to them as the sun and fresh air to plants, unconsciously unfolding and feeding them, saving them from the fatigue, and ennui, and confusion too often resulting from our present methods, they would study reverently the counsels of this good man, who devoted his life to children. What is given here is only a simple indication through this "*first Gift*," of materials and processes, which may aid the mother in her vast field of labor and delightful duty, and help her in that study of her child's nature and needs, which must be the prolific source of inspiration to enlighten her wisdom and quicken her love.

"The Practical Guide to the Kinder Garten System" of Mad. Rongé, and the Manual of J. F. Jacobs, just published in Brussels and Paris, from which we have translated freely, give the best exposition of Fröbel's system. A brief but suggestive statement may be found in the *Christian Examiner*, November, 1859. It is hoped to bring out a series of these valuable gifts for children. Orders will be received by Dr. Lewis, or by N. C. Peabody, 38 Beach Street, Boston.

LEWIS' NEW GYMNASTICS,  
AND  
Boston Journal of Physical Culture.

BOSTON, JANUARY, 1861.

Series of Exercises without Apparatus.

[Continued]



Fig. 21.

Opening and Shutting the Hands, (Fig. 21.)

The hands to be opened and shut as indicated, with great force, twenty times.



Fig. 22.

Bending and Stretching the Foot, (Fig. 22.)

First raise and depress the toe, ten times. Then make a large and complete circle with the toe, ten times.

Fig. Eight Movement of the Hands, (Fig. 23.)

Move the hands, closed as represented, describing the figure ( $\infty$ ) horizontally.

Twisting the Legs, (Fig. 24.)

Holding the ankles stiff, twist the whole leg so that the toe moves from right to left as far as possible, twenty times.



Fig. 23.



Fig. 24.



Fig. 25.

Sideward Movement of the Leg.

Each foot, fifteen times.

Bending and Stretching the Leg Behind, (Fig. 26.)

Each leg twenty times.

Legs Out and Back Sideways, (Fig. 27.)

With spirit and force, twenty times.





Fig. 26.



Fig. 29.

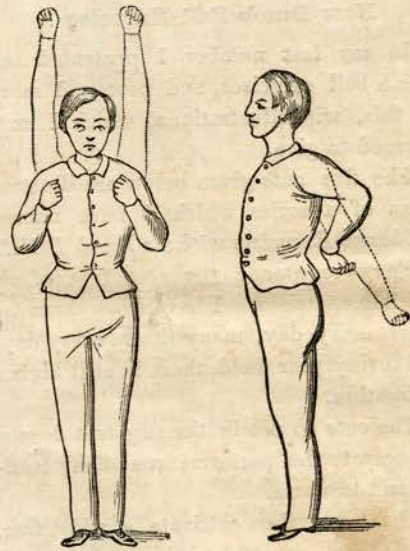


Fig. 32.

Fig. 33.



Fig. 27.

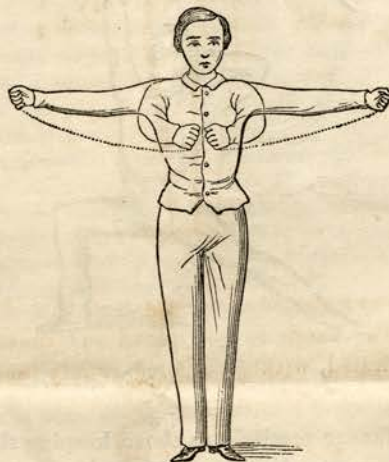


Fig. 30.



Fig. 34.

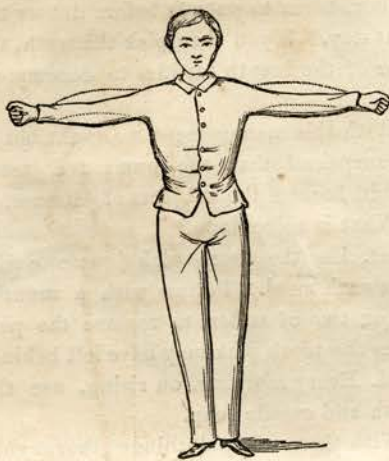


Fig. 28.

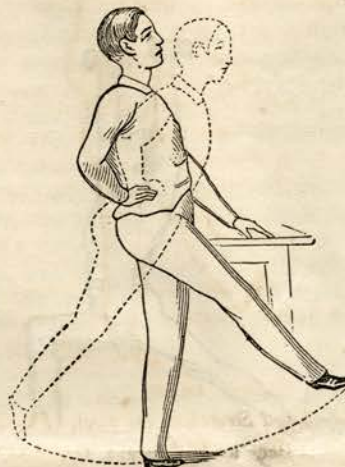


Fig. 31.

*Twisting the Arms, (Fig. 28.)*

Holding the hands still, twist the arms backward and forward, ten times each way.

*Striking the Hands Downward, (Fig. 29.)*

Fifty times with great force.

*Swinging the Arms Together, (Fig. 30.)*

Carry them outward slowly, and bring them forward with force, twenty times.

*Swing the Leg Backward and Forward, (Fig. 31.)*

Study the cut carefully, and perform the movement, ten times.

*Hands Upward, (Fig. 32.)*

With force, thirty times.

*Hands Backward, (Fig. 33.)*

With force, ten times.

*Hands Alternately Forward, (Fig. 34.)*

Each hand with great energy, twenty-five times.

(To be continued in the next Number.)

From Cincinnati, Toledo, Chicago, and other cities west, I am receiving reports of real progress in the efforts to introduce physical training into the public schools. The Boards of Education vote, the teachers respond, the pupils heartily and joyfully embrace the blessed opportunity.

It is not true that animal food is necessary to great strength, endurance, and longevity. Nations remarkable for all these traits consume very little or no flesh, and other people that live largely on animal food are diminutive, feeble, and imbecile.

### New Dumb Bell Exercises.

In my last number I presented ten dumb bell exercises, and promised more in this, with illustrations, which I now proceed to give.

The five cuts given below are illustrations of a series which I have named "*Charge Exercises with the Dumb Bells.*"

They are among the very best of all possible exercises. I have used them for years every day, many times every day, and every year hold them in still higher estimation.

The cuts do not in the slightest degree exaggerate the performances of my leaders and teachers.

These exercises cultivate a wide, free, elastic and graceful action of all the principal muscles of the body. And what is especially important and valuable, this series of exercises is always a great favorite. The class is always in excellent humor with it.

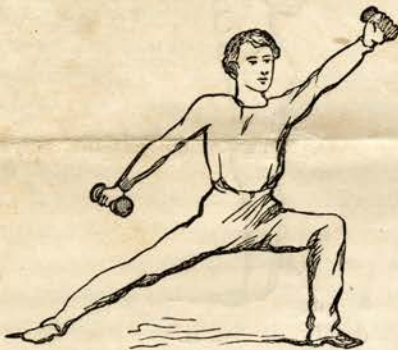


Fig. 1.

#### No. 11.—Charge with Straight Arms.

If the exercises are accompanied by music, the arms and legs are to be held in the same relative position, (as per cut) while the body is to rise and sink about one foot, keeping time with the music. If without music, the leader will count one, two; one, two; the class rising on *one* and sinking on *two*.

Rising and sinking, each ten times, the leader will, as the body reaches its lowest point, cry *change*, and instead of rising as before on the next beat, come at once to the perpendicular position, hands hanging by the side, and stamp the foot which has been extended—this is all to be done on the *next beat* after the word of command, *change*.

On the next beat, the other foot is to be stamped, and on the next one you are to

charge with the other arm and leg. Now rise and fall to the music, or counting, as before, ten times.

Charge thus on the right and left, three times, making thirty risings and sinkings on each side.

The feet are always to be kept at right angles, and the foot left behind is to be kept flat on the floor, and not to roll over on the side, as the body sinks.

The eyes should be kept on the dumb bell in the extended hand, though I observe my artist has failed so to represent it.



Fig. 2.

#### No. 12.—Charge, one Arm up, the other at the Ear.

Manage precisely as above, keeping the eyes on the dumb bell in the extended hand.



Fig. 3.

#### No. 13.—Charge with both Arms up.

Exercise the same as before, being careful to keep the feet at right angles.

#### No. 14.—Charge, one Arm horizontal, the other arched over the Head.

On the first beat strike the attitude represented in the cut. On the next beat to the perpendicular, hands by the side, *which we will for convenience, call*

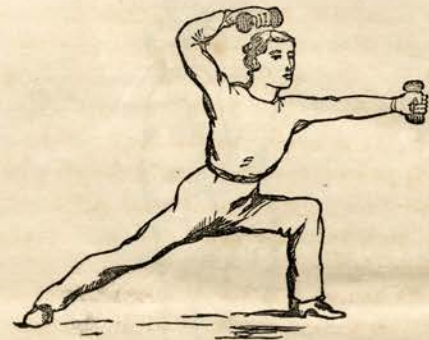


Fig. 4.

**FIRST POSITION.** So striking out and rising to first position, *alternately*, ten times. Charge with both right and left hand.

It will require much care and practice to keep the feet at right angles and to arch the arm over so that the hand shall be over the crown of the head. Difficult likewise to thrust out the arm horizontally.

### How to Preserve the Teeth.

The mouth is a very warm place—98 degrees Fahrenheit. In this northern climate we never have a temperature so high, in the shade. Even at ninety, beef will begin to decompose in twenty-four hours. The particles of beef and other food which are left between the teeth at dinner, begin to putrefy before dinner the next day. If you then pick the teeth, the odor of the breath testifies to decomposition.

With this management we ought not to be surprised that the gums and teeth should become the subjects of disease.

What is to be done?

1st. Use the tooth pick (goose quill) after each meal. Follow with a mouthfull or two of water, to remove the particles the tooth pick may have left behind.

2d. Every morning, on rising, use the brush and castile soap.

With these simple things thoroughly done, you will preserve the teeth to old age.

Garibaldi's physical health and endurance are of the highest order.—Washington's bodily conditions were remarkably superior. Had these noble fathers of their countries been victims of dyspepsia, heaven only knows how different had been the results of the great revolutions in the two countries.

Laugh! Laugh!! Laugh!!!

No other exercise is equal to *laughing!* Nothing acts so directly and happily upon the organs within both chest and abdomen. Ten hearty laughs—real shouts—will do more to enhance the general health and vitality than an hour spent in the best attitudes and motions, if done in a sober, solemn spirit.

Of course, I know you can't laugh at will, so you must play with the dog, play with your children, introduce a hundred games which involve competition and fun. Open the folding-doors, move back the centre-table, and go it. Play with the bags, run for the pins, play any of the games which you find in this journal, or which you can recall from your early experience. When the spring comes, devote a part of your garden to a play-ground, and then carry forward the good work in earnest.

If your solemn-faced neighbor suggests you had better devote the ground to potatoes, tell him that one good laugh is worth more than an hour at digging potatoes, and then go it with redoubled zeal.

The gentleman below is doing well.



Go thou and do likewise.

[From Lewes' Physiology of Common Life.]

**Salt and Its Uses.**

Common Salt (chloride of sodium) is another constant and universal substance which claims rank as Food. It forms an essential part of all the organic fluids and solids, except the enamel of the teeth; a statement to which attention is called, because Liebig, in one passage, seems to deny that it forms part of the tissues, declaring that in muscle chloride of potassium is abundant, but no chloride of

sodium exists; but the analyses of Von Bibra, Barral, and others, declare the existence of this salt in muscle.

Common salt is always found in the blood, in quantities which vary within extremely narrow limits, forming less than a half per cent. (0.421) of the entire mass, water included, and as much as 75 per cent. of the ashes of the blood. This quantity is wholly independent of any surplus contained in food; for the surplus is either not absorbed, or is carried away in the excretions and perspiration; and this shows salt to be an anatomical constituent, not an accident. If too little salt be taken in the food, instinct forces every animal to supply the deficiency by eating it separately. "The wild buffalo frequents the salt licks of North-Western America; the wild animals in the central part of Southern Africa are a sure prey to the hunter who conceals himself beside a salt spring; and our domestic cattle run peacefully to the hand that offers them a taste of this luxury. From time immemorial it has been known that without salt man would miserably perish; and among horrible punishments, entailing certain death, that of feeding culprits on saltless food is said to have prevailed in barbarous times."

When Cook and Forster landed in Otaheite, they astonished the natives who saw them eating white powder with every morsel of meat; and every one remembers Man Friday's expressive repudiation of salt. But the savages who ate no "white powder" ate fish, and cooked their flesh in sea-water, rich in salt. In several parts of Africa, men are sold for salt; and on the Gold Coast it is the most precious of all commodities. On the coast of Sierra Leone a man will sell his sister, his wife, or his child, for salt, not having learned the art of distilling it from the sea.

The properties of salt are manifold. It forms one of the essential conditions of vital processes. It renders albumen soluble, and is necessary for digestion, being decomposed in the stomach into hydrochloric acid for the gastric process, and soda for the bile.

At a recent convention of apothecaries in the city of New York, one of the committees reported that frauds in medicines are carried on in this country to an extent of which the public can form no conception, and that the amount of mischief caused thereby is enormous and appalling. It is said that substances, sometimes innocuous, at others almost deadly in their nature, are mixed with various medicines to improve their appearance, increase their quantity, or in some way render them more salable or more profitable.

**Time Occupied in the Digestion of Various Meats, from Beaumont's Experiments.**

	Hour.	Min.
Venison Steak, broiled	requires 1	35
Pig, sucking, roasted,	" 2	30
Lamb, fresh, broiled,	" 2	30
Beef, with salt only, boiled,	" 2	45
Beef, fresh, lean, roasted,	" 3	
Beef Steak, broiled,	" 3	
Pork, recently salted, raw,	" 3	
Pork, recently salted, stewed,	" 3	
Mutton, fresh, broiled,	" 3	
Mutton, fresh, boiled,	" 3	
Pork, recently salted,	" 3	15
Pork Steak, broiled,	" 3	15
Mutton, fresh, roasted,	" 3	15
Beef, fresh, lean, dry, roasted,	" 3	30
Beef, with mustard &c. boiled,	" 3	30
Beef, with mustard, &c. fried,	" 4	5
Veal, fresh, broiled,	" 4	
Beef, old, hard, salted, boiled,	" 4	15
Veal, fresh, fried,	" 4	30
Pork, fat and lean, roasted,	" 5	15

I hope that all who are interested in practical gymnastics will devote hours—days—weeks, if necessary, to the study and development of my dumb bell exercises. They will give satisfaction to those who are ambitious of a flexible, elastic, and active body.

These exercises are among those which are new, and peculiar to my system. I have given them much careful, physiological study—abating, adding and changing, until I now believe the series is good and complete—I do not say *perfect*, though I am disposed to the opinion that the profitable, advisable possibilities with dumb bells, will be found to have been exhausted in this series.

I have had with me during the last eighteen months two young men of scrofulous, consumptive habit. Their father died of consumption, and left these boys a fortune. Excused from physical labor, and, in American style, forced in their school studies, I found them a year and a half ago in a sad way. Respectively sixteen and eighteen years of age, it was sufficiently clear they were not to live much longer. The younger one had been for some time confined to his room with marked indications of pulmonary consumption. The older one had been for months in a water cure, without improvement. They were round-shouldered, and painfully inelastic.

Now they are models in form. *Their flexibility excites general admiration, and their health is unexceptionable.*

### The Best Bed.

Of the eight pounds which a man eats and drinks in a day, it is thought that not less than five pounds leave his body through the skin. And of these five pounds a considerable percentage escapes during the night while he is in bed. The larger part of this is water, but in addition there is much effete and poisonous matter. This being in great part gaseous in form, permeates every part of the bed. Thus *all parts of the bed, mattress, blankets, as well as sheets*, soon become foul and need purification.

The mattress needs this renovation quite as much as the sheets. To allow the sheets to be used without washing or changing, three or six months, would be regarded as bad house-keeping; but I insist if a thin sheet can absorb enough of the poisonous excretions of the body to make it unfit for use in a few days, a thick mattress which can absorb and retain a thousand times as much of these poisonous excretions needs to be purified as often certainly as once in three months.

A sheet can be washed. A mattress cannot be renovated in this way. Indeed there is no other way of cleansing a mattress but by steaming it, or picking it to pieces and thus in fragments exposing it to the direct rays of the sun. As these processes are scarcely practicable with any of the ordinary mattresses I am decidedly of the opinion that the good old-fashioned straw bed which can every three months be changed for fresh straw, and the tick be washed, is the sweetest and healthiest of beds.

If in the winter season the porousness of the straw bed makes it a little uncomfortable, spread over it a comforter or two woollen blankets, which should be washed as often as every two weeks. With this arrangement, if you wash all the bed covering as often as once in two or three weeks, you will have a delightful, healthy bed.

Now if you leave the bed to air, with open windows during the day, and not make it up for the night before evening, you will have added greatly to the sweetness of your rest, and in consequence, to the tone of your health.

I heartily wish this good change could be everywhere introduced. Only those

who have thus attended to this important matter can judge of its influence on the general health and spirits.

[From Lewes's Physiology of Common Life.]

### Agonies of Starvation.

Respecting the agonies endured by starving men, we have little accurate information. When those who have undergone the horrors of starvation are preserved, and attempt to recount them, they cannot do more than give vague indications, for there is nothing more difficult to describe than the sensations of the digestive organs, even during the continuance of the sensation; and how difficult it is to describe them when past, may be conceived by any one who attempts to do so in his own case. Most of the narratives we have are recorded by men little accustomed to analyze their sensations, and we must be content to fix our attention on the general characteristics of these narratives. From these cases two may be selected.

#### INTERESTING CASE BY GOLDSMITH.

Goldsmith says that the captain of a wrecked vessel told him that "he was the only person who had not lost his senses when they received accidental relief. He assured me his pains at first were so great that he was often tempted to eat a part of the men who died, and which the rest of his crew actually lived upon. He said that, during the continuance of this paroxysm, he found his pains insupportable, and was desirous at one time of anticipating that death which he thought inevitable. But *his pains gradually ceased after the sixth day* (for they had water in the ship, which kept them alive so long), and then he was in a state rather of languor than desire; nor did he much wish for food except when he saw others eating. The latter part of the time, when his health was almost destroyed, a thousand strange images rose upon his mind, and every one of his senses began to bring him wrong information. When he was presented with food by the ship's company that took him up, he could not help looking at it with loathing instead of desire; and it was not till after four days that his stomach was brought to its natural tone, when the violence of his appetite returned with a sort of canine eagerness."

It will doubtless seem very strange to the uninitiated that a man after prolonged fasting, when his system is in such need of food and his appetite so keen, should be nevertheless in no proper condition to eat that food, and can only arrive at the proper condition by degrees, by eating a little at a time. The fact is, however, that, like all other organs, the stomach suffers for want of regular work. In fasting, the glands no longer secrete; the

blood quits the stomach; the regular activity is interrupted; and when food again calls upon the stomach to do its old work, there is not the old vigor at command. Gradually the stimulus of food recalls the vigor of the secreting glands, and then appetite may be safely indulged.

#### AFFECTING CASE OF SUICIDE BY STARVATION.

The next case is peculiarly valuable, as being the daily record of a man who voluntarily starved himself. He was a merchant whose losses so preyed upon his mind that he resolved on suicide; and after roaming about the country from the 12th to the 15th of September, 1818, he dug himself a grave in the wood, and remained there till the 3d of October, when he was found, still living, by an innkeeper. Hufeland, who records the case, says that, after an abstinence of eighteen days, the man still breathed, but expired immediately after a little soup had been forced down his throat. On his person they found a diary, written in pencil, from which the following are extracts:—

"Sept. 16.—The generous philanthropist who may find my corpse is requested to bury it, and to repay himself for the trouble by my clothes, my purse, my pocket-book, and knife. I have not committed suicide, but I die of starvation because bad men have deprived me of my fortune, and I do not choose to be a burden on my friends. It is unnecessary to open my body, since I have said I die of starvation.

"Sept. 17.—What a night I have passed! It has rained; I am wet through. I have been so cold.

"Sept. 18.—The cold and rain forced me to get up and walk; my walk was very feeble. Thirst made me lick up the water which still rested on the mushrooms. How nasty that water was!

"Sept. 19.—The cold, the length of the nights, the slightness of my clothing, which makes me feel the cold more keenly, have given me great suffering.

"Sept. 20.—In my stomach there is terrible commotion; hunger, and, above all, thirst, become more and more frightful. For three days there has been no rain. Would that I could lick up the water from the mushrooms now!

"Sept. 21.—Unable to endure the tortures of thirst, I crawled with great labor to an inn, where I bought a bottle of beer, which did not quench my thirst. In the evening I drank some water from the pump, near the inn where I bought the beer.

"Sept. 23.—Yesterday I could scarcely move, much less write. To-day thirst made me go to the pump; the water was icy cold, and made me sick. I had convulsions until evening; nevertheless, I returned to the pump.

"Sept. 26.—My legs seem dead. For three days I have been unable to go to the pump. Thirst increases. My weakness is such that I could scarcely trace these lines to-day.

"Sept. 29.—I have been unable to move. It has rained. My clothes are not dry. No one would believe how much I suffer. During the rain some drops fell into my mouth, which did not quench my thirst. Yesterday I saw a peasant about ten yards from me. I bowed to him. He returned my salutation. It is with great regret I die. Weakness and convulsions prevent my writing more. I feel this is the last time . . ."

This pathetic case illustrates, as indeed all other cases do, the truth that Thirst is far more terrible than Hunger. The man's resolution was not strong enough to resist the desire for drink, yet he never seems to have faltered in his determination to refrain from food. It will be further noticed that he ceases to complain of the cold when thirst sets in fiercely, because then fever had also supervened.

#### Editorial Notices of my Journal.

I take the liberty of inserting the following notice from that prince of magazines—the old *Knickerbocker*, which I observe is now in its fifty-seventh volume. I scarcely expected so warm a notice from this magazine.

"We have seen only one number of this work; but we are so much pleased with the plan and general execution of this first issue, that we give it a cordial welcome and commend it to the American people as worthy of the most liberal patronage. There is no subject upon which the men and women of our country, and even the professed educators of the rising generation, are more profoundly ignorant than that of physical culture; and until the laws of physical health are better understood and observed, we need not expect much increase in intellectual or moral vigor. We wish to see on this continent a race of noble men and women, alike healthy and robust in body and in mind. Therefore we hail joyfully every instrumentality which wisely aims to improve the race. Dr. LEWIS has for many years been devoted to the subject of physical education, and his new and admirable system of gymnastic training has elicited the warmest expressions of approbation from those who have witnessed its beneficial results. We bespeak for his noble enterprise the liberal patronage which it so richly merits. The specimen number of his excellent paper now before us, is alone worth nearly the price of the year's subscription, which is but a single dollar."

From almost every State in the Union, and some now out of it, I have received such an avalanche of good wishes, and I fear undeserved praise, that I am at a loss to select from hundreds which are equally warm and unreserved. But the subjoined from the *Connecticut Common*

*School Journal*, is from a most excellent magazine:

"The two numbers already issued contain many excellent articles well worth the entire subscription price for a year. Dr. Lewis is just the man to edit such a journal, and multitudes will have occasion to thank him for devoting his energies and attention to the important but much neglected subject of physical culture. Reader, send one dollar to Dr. Lewis, 20 Essex street, Boston, and you will receive a full equivalent."

The following is taken from that most excellent monthly, the *New York Teacher*, published by James Cruikshank, Esq., Albany:

"At the Annual Meeting of the American Institute of Instruction, in Boston, last August, Dr. Lewis, by request, presented some features of his system, which from their simplicity, grace, variety, and fulness of entertainment, were received with unqualified favor. The leading characteristics of Dr. Lewis' system, are the precision of the movements, cultivating grace and ease of muscular motion; the infinite variety of exercises, creating constantly new interest; the emulation excited, which seeks perfection and accuracy rather than the display of mere brute strength; and the intense amusement which nearly all the games create. Dr. Lewis says, speaking of the bag games: 'I constantly see persons not much accustomed to the merry mood, laugh themselves into tears, by simply looking on at the exercise, while even Miss Fastidious, forgetting all "propriety," will cheer on the contestants. Many of the most valuable and interesting of the games can be carried on in the parlor, while the small outlay for apparatus is a mere pittance compared with the quarterly bills for drugs and "doctors' stuff." Among the simplest exercises, are those with the bags, Indian clubs, wooden dumb bells, straight stick, the blow gun, and the exciting chess-ball game.'

"The paper is ably edited, and Dr. Lewis is devoting his entire energies to this reform in physical culture. Subscriptions received at office of the *Teacher*. \$1 per annum."

The next is from a large monthly—the *Educator*, published at Pittsburg, Pa.

I would not venture to occupy space in these columns with these notices, if each did not contain some good thought upon physical culture.

"*Lewis' New Gymnastics*.—This is a new and excellent monthly journal published in Boston, by DR. LEWIS, M. D., and devoted specially to physical training. We regard this periodical as supplying a want long felt in schools, and cannot too earnestly press upon teachers and all interested in the proper and symmetrical development of the mental and physical powers of the young, to forward \$1 to the editor immediately, and secure a copy. We have never read any journal with more interest than we perused the first number of this periodical, and we heartily welcome it as one of the most valuable of our exchanges."

From the *Indiana School Journal*:

"We all know at this day that Mental, Moral, and Physical Culture must go hand in hand if we would secure for our children a growth

and development symmetrical, harmonious, and vigorous enough to enable them triumphantly to buffet with the adverse tides of life. But few of us yet clearly see into the details of such training. In the *Journal of Physical Culture* the parent and the teacher can find a guide. Let us sustain it! It is a pioneer in its line."

#### Gymnastics in School-rooms with Fixed Desks.

A very considerable part of my system of gymnastics has been eliminated under the necessity of use in school-rooms filled with desks. Few schools have a building set apart for gymnastic exercises, and so it became necessary if one would introduce a system of such training into our schools, it should be adapted to the school-house as it is. Under this necessity a large number of exercises has been devised, which can be performed to better advantage among the school desks, than in a regular gymnastic hall. Indeed I am using a good many exercises to which the desks are necessary. I should be *happy—very happy* to furnish every teacher in the country with my paper for one year, at least, that one hundred beautiful and most profitable exercises might be introduced into every school. It would be a great national good.

#### Gymnastics and the Voice.

In one of the Cambridge Public Schools, my system of gymnastics has been in use three or four months. The professor of music for the schools of that city, in a recent report, declares that that particular school has twenty-five per cent., more voice than any other school in the city.

A complete system of physical training involves much direct and special training of the respiratory and vocal apparatus. Please read the article on the *Spirometer*, in this number.

CORRESPONDENTS. Any of my readers who have questions with reference to any matter, anatomical, physiological, pathological or hygienic, will drop me a note, which will be replied to in the department devoted to "*Answers to Correspondents*."

The article, "Importance of Artificial Moisture," deserves to be read by every one who is interested in physical development. It discusses a point but little understood and sadly neglected. Read it with thoughtful care.

[From Lewes' Physiology of Common Life.]

### Horse Flesh for Human Food.

A Frenchman was one day blandly remonstrating against the supercilious scorn expressed by Englishmen for the beef of France, which he, for his part, did not find so inferior to that of England. "I have been two times in England," he remarked, "but I never find the bif so superieur to ours. I find it vary convenient that they bring it you on leetle pieces of stick, for one penny; but I do not find the bif superieur." On hearing this, the Englishman, red with astonishment, exclaimed, "Good God, sir! you have been eating cat's meat."

It is very true, he *had* been eating cat's meat; but had he not at the same time been eating meat as succulent, savory, and wholesome as the marbled beef of which the Briton is so proud?

Let the resonant shouts of laughter subside a little, and while you are wiping the tears from your eyes, listen to the very serious exposition we shall make of the agreeable and nutritive qualities of horse-flesh. We are not going to press into the service of our argument the immense mass of evidence collected by M. Isidore Geoffroy St. Hilaire, respecting the tribes and nations which habitually dine off horses; nor will we lay much stress on the fact, that in the Jardin des Plantes the carnivora are habitually fed on horse-flesh, which keeps them healthy in spite of many unfavorable conditions. The sceptic might not unreasonably ask, whether our digestive power be *quite* as good as that of the lion; and he would remark that the condor is known to devour, with relish, food which Mr. Brown would sturdily refuse. Unhappily, no dietetic rules for men can be deduced from condors and lions. We must rely on the experience of human stomachs.

Nor is this experience wanting. Without alluding to the rumors which attribute to the Paris restaurateurs a liberal employment of horse-flesh among their *filets de boeuf*, M. St. Hilaire collects an imposing mass of evidence to show that horses have been eaten in abundance without suspicion, and without evil consequences.

#### HORSE-FLESH IN THE ARMY.

Hazard, the celebrated veterinary surgeon, records, that during the Revolution the population of Paris was fed for six months on horse-flesh. It is true, that when the beef was known to be that of horses, some complaints were made; but in spite of the strong prejudices, and the terrors such a discovery raised, no single case of illness was attributable to this food.

Larrey, the great army-surgeon, declares, that on very many occasions during the campaigns, he administered horse-flesh to the soldiers; and what is more, he administered it to the sick in the hospitals. Instead of finding it injurious,

he found that it powerfully contributed to their convalescence, and drove away a scorbutic epidemic. Other testimony is cited, and M. St. Hilaire feels himself abundantly authorized to declare that horse-flesh is as wholesome and nutritious as ox-flesh.

#### IS IT PALATABLE?

Is horse-flesh as palatable as it is wholesome? Little will it avail to recount how there are tribes of hippophagists, or how soldiers during a campaign, and citizens during a siege, have freely eaten of the *filet de cheval*: under such extremities an old shoe has not been despised—nevertheless, *that* is not generally considered a toothsome morsel.

Feeling the necessity of having this point definitively settled, the advocates of horse-flesh have given banquets, both in Germany and France, at which the comparative merits of horses, cows, and oxen were to be appreciated. In 1835, the Prefect of Police chose a commission of eminent men to inquire into the quality of the flesh taken from horses which had died, or had been recently killed, in Paris and its environs. These commissioners all shared the general prejudice; yet in their report they avowed that "we cannot but admit this meat to be very good and very savory; several members of the commission have eaten it, and could not detect any sensible difference between it and beef." In 1841, horse-flesh was openly adopted at Ochsenhausen (what irony in this name!) and Würtemberg, at both of which places it continues to be publicly sold, under the surveillance of the police; and five or six horses are weekly brought to market. In 1842, a banquet, at which a hundred and fifty persons assisted, inaugurated its public use at Königsbaden, near Stuttgart. In 1846, the police of Baden authorized its public sale, and Schaffhausen followed the example. In 1847, Weimar and Detmold witnessed public banquets of the hippophagists, which went off with *eclat*; in Karlsbad and its environs, the new beef came into general use; and at Zittau two hundred horses are eaten annually. The innovation gained ground rapidly, and the public sale of horse-flesh is now general in Austria, Bohemia, Saxony, Hanover, Switzerland, and Belgium. In 1853, Berlin counted no less than five slaughter-houses, where three hundred and fifty horses were sold. In Vienna, during the same year, there was a riot to prevent one of these banquets; yet, in 1854, such progress had been made in public opinion that thirty-two thousand pounds' weight were sold in a fortnight, and now at least ten thousand of the inhabitants are hippophagists. A large quantity is also sold at the Lake of Constance, as I learned in 1858; and I suspect that I ate thereof on board the steamer.

These facts are very striking. When we consider, on the one hand, how strong is prejudice, and, on the other, how unreasoning the stomach, we must admit that horse-flesh could only gain acceptance in virtue of its positive excellence. Nor will it suffice to meet these facts with a sarcasm on German beef, in comparison with which horse-flesh may be supposed to hold no dishonorable rank: we have the testimony of men accustomed to the *Cafe de Paris* and *Philippe's*, invited expressly to pronounce judgment, and proved, on trial, incapable of distinguishing horse-beef from ox-beef.

M. Renault, the director of the great veterinary school at Alfort, had a horse brought to the establishment with an incurable paralysis. It was killed; and three days afterwards, on the 1st December, 1855, eleven guests were invited to dine off it: they were physicians, journalists, veterinary surgeons, and *employees* of the government. Side by side were dishes prepared by the same cook, in precisely similar manner, consisting of similar parts of the meat from this horse, and from an ox of good quality. The horse-soup was flanked by an ox-soup—the *bouilli* of horse by a *bouilli* of beef—the fillet of roast beef by a fillet of roast horse. The guests *unanimously* pronounced in favor of the horse-soup; the *bouilli*, on the contrary, they thought inferior to that of the ox, though superior to ordinary beef, decidedly so to cow-beef. The roast fillet, again, seemed to them very decidedly in favor of the horse.

Similar experiments have been subsequently repeated in Paris and the Provinces, under varying conditions: the guests have sometimes been informed what they were going to eat; sometimes they have been totally unsuspecting; and sometimes they have been simply told that they were going to eat something quite novel. Yet in every case the result has been the same.

It is on this evidence that M. St. Hilaire calls upon the French people to turn their serious attention to the immense mass of excellent animal food which lies within their reach, and which they annually suffer to waste, merely because of an absurd prejudice. Difficult as it may be to overcome a prejudice, no array of ignorance can prevent the establishment of a truth which is at once easily demonstrable and immediately beneficial. Prejudice may reject horse-flesh, as it long rejected tea and potatoes, the latter of which, Montaigne tells us, excited *l'estonnement et le degout*, but has nevertheless become European food.

If horses are eaten, why not donkeys? The Greeks ate donkeys, and we must suppose they had their reasons for it. Has any modern stomach been courageous enough to try?

## ARE DONKEYS EATABLE?

Yes, the experiment has at least been made once. Dr. John Beddoe, of Clifton, sends me the following statement: "Several years ago, I entertained six or eight medical students with a dinner, at which the *piece de resistance* was nothing else than the hind leg of a donkey which had been sacrificed to a physiological experiment. One or two of my guests were in the secret: to the others I represented the meat to be a part of a fawn. They all partook of it, and 'even asked for more.' In flavor and appearance it most resembled mutton; but, though young, it was far from tender, and I did not care to repeat the experiment, to which I had been instigated partly by a passage in an Arabian tale, in which one of two gastro-nomic disputants, in reply to a commendation of a shoulder of lamb, is made to say, 'You know nothing: what say you to the neck of a young ass, carefully roasted?'" Although Dr. Beddoe does not report very favorably of the tenderness, his guests found the meat sufficiently appetizing, since they "asked for more." Besides, the animal may have been too fresh; another day or two might have given it the requisite tenderness. The point is worth investigating; for if the horse and donkey can be introduced among our meats, thousands who now rarely touch animal food may be supplied. So many horses are killed by accident, or killed because they are lame or vicious, that the supply would be enormous, without any necessity for killing horses expressly.

A new and noble kind of meat has recently been suggested by Prof. Owen, whose account of the flavor and capabilities of the Eland will doubtless induce noblemen to introduce that animal into their parks.

[From Lewes' *Physiology of Common Life*.]

## Transfusion of Blood.

In contemplating the loss of blood from wounds or hemorrhage, and in noting how the vital powers ebb as the blood flows out, we are naturally led to ask whether the peril may not be avoided by pouring in fresh blood.

The idea of *transfusion* is indeed very ancient. But the ancients, in spite of their facile credulity as to the effect of any physiological experiments, were in no condition to make the experiment. They were too unacquainted with physiology, and with the art of experiment, to know how to set about transfusion. Not until the middle of the seventeenth century had a preparation been made for such a trial. The experiments of Boyle, Graaf, and Fracassati, on the injection of various substances into the veins of animals, were crowned by those of Lower, who,

in 1665, injected blood into the veins of a dog.

Two years later, a bolder attempt was made on man. A French mathematician, Denis, assisted by a surgeon, having repeated with success the experiments of Lower, resolved to extend the new idea. It was difficult to get a human patient on whom the plan could be tried; but one evening a madman arrived in Paris, quite naked, and he was daringly seized by Denis as the fitting subject for the new experiment. Eight ounces of calf's blood were transfused into his veins. That night he slept well. The experiment was repeated on the succeeding day; he slept quietly, and awoke sane!

Great was the sensation produced by this success. Lower and King were emboldened to repeat it in London. They found a healthy man willing to have some blood drawn from him, and replaced by that of a sheep. He felt the warm stream pouring in, and declared it was so pleasant that they might repeat the experiment.

The tidings flew over Europe. In Italy and Germany the plan was repeated, and it now seemed as if transfusion would become one more of the "heroic arms" of medicine. These hopes were soon dashed. The patient on whom Denis had operated again went mad, was again treated with transfusion, and died during the operation. The son of the Swedish minister, who had been benefited by one transfusion, perished after a second. A third death was assigned to a similar cause; and in April, 1668, the Parliament of Paris made it criminal to attempt transfusion, except with the consent of the Faculty of Paris. Thus the whole thing fell into discredit, to be revived again in our own day, and to be placed at last on a scientific basis.

It occurred to Majendie that the ill success of the experiments arose from the supposition that the blood of all quadrupeds was the same, and that it was indifferent whether a man received the blood of another man, or of a sheep or calf. This supposition he thought altogether erroneous. His opinion was, that only the blood of animals of the same species can be transfused in large quantity without fatal results. The blood of a horse is poison in the veins of a dog; the blood of a sheep is poison in the veins of a cat; but the blood of a horse will revive the fainting ass. From this it followed, he thought, that when transfusion is practised on human beings, human blood must be employed; and so employed, the practice is in some urgent cases not only safe, but forms the sole remedy. But the recent investigations of Brown-Séquard have proved that transfusion is successful with the blood of different species. Blundell has the glory of having revived and

vindicated the practice of transfusion, and he has seen his idea amply confirmed. Bérard cites fifteen different cases of hemorrhage in which transfusion has saved life.

So startling and so important is this success of transfusion, that it is very necessary we should distinctly understand in what cases it may with advantage be employed. And these cases are very simple, since it is only when there has been a dangerous loss of blood that any benefit can accrue from transfusion. In all cases of disease it is useless, or worse. The ancients, indeed, thought that by infusing new blood into an old and failing organism, new life would be infused; and wild dreams of a sort of temporal immortality were entertained. Completely as these notions are banished, the initial error of supposing that the blood *forms the organs*—and that if blood be *purified*, the organs will be restored to health and vigor—this error is still general, even among men of science. It rests on a misconception of the laws of nutrition. Because the organs are nourished by materials drawn from the blood, and because, unless blood be duly supplied, the organs will decay, it has been supposed that the point of departure of nutrition was in the blood itself, and that the blood formed the organs. It is not so. The organs are, many of them at 14<sup>th</sup> Aug II 1847 before blood appears: \*

wards, the process of nutrition always consists in the assimilation of certain materials from the blood by the organs; not in the organization of this blood itself. In vain will you carry generous food to a sick stomach—it cannot digest the food; in vain will you carry young blood to old organs—they cannot draw their youth from it. The blood is always young, for it is always being renewed. The organs get daily older and different. Between the blood of an infant and the blood of a patriarch, no appreciable difference can be found; but how great is the difference between their organs! That which is true of old age is likewise true of disease. The tissue which is in an unhealthy condition cannot be made healthy by bringing to it a "purer" blood (were such obtainable); it can only be brought back to its healthy condition by the cessation of those causes which keep up the morbid action, and these are not in the blood.

\* The young fish *Clypeus* has been observed by Filippi to quit the egg and swim vivaciously before there is any trace of circulation—before, indeed, the blood-discs are formed.—*Annales des Sciences*, 1847, vii. 67. If the student desires an easy mode of studying this point, let him carefully watch the development of tadpoles; and he will see, in their transparent tails, how the vessels gradually appear, and how the blood-discs, which at first are in all respects the same as the cells of the general substance, gradually lose their large fat-globules, and assume more and more the character of blood-discs.

### Spinal Curvature.

Of the better class (so called) of young ladies in our cities, three in four have lateral curvature of the spine. Herewith is an illustration of an extreme case.



In the department of my gymnasium known as the *Swedish Movement Cure*, young ladies who have this lateral curvature (not an extreme case) are entirely exempt. ~~who read this article are suffering from this curvature, you are invited to call at my gymnasium, No. 20 Essex Street. A private room is devoted to the Movement Cure, and excellent lady assistants are constantly in attendance.~~

The susceptibility to this deformity is to be traced always, (except in case of mechanical accident) to the debility growing out of our fashionable indolent life.

Improper dress is the most active of the proximate causes. Pressure upon any tissue of the animal body is soon followed by deficient circulation and absorption. These results are very marked if the part pressed upon be muscle. Tight skirt-bands, dresses and whale-bones, soon greatly reduce the size and strength of the muscles about the waist, and thus the dorsal muscles which should support the spine in its perpendicular position become too weak to render the needed support, and the spine bends. The direction which the curvature may take is determined by various minor causes which it is scarcely necessary to discuss at this time.

By friction and well-directed exercises of the deficient muscles, the spine may be restored to the natural position.

Miss Peabody's "Kinder Garten" contribution cannot fail to interest those who have had a peep into that most admirable mode of coaxing out the faculties of our dear little ones. I greatly mistake the Kinder Garten system and the genius of the American people, if those delightful schools for the little toddlers are not organized everywhere. Children from two to five years, our present schools do nothing for, except, perhaps, to spoil their backs, while this ingenious, beneficent invention takes into its mother-like bosom all the little things, even before they begin to speak, and not only breaks up the tedious monotony of infantile life, but accomplishes infinitely more than is easy for the initiated to believe, in the development of the young being.

All who have the great pleasure to know Miss Peabody will read her writings without a word of commendation from me. We have in New England no wiser head, no larger, warmer heart.

### Answers to Correspondents.

BY THE EDITOR.

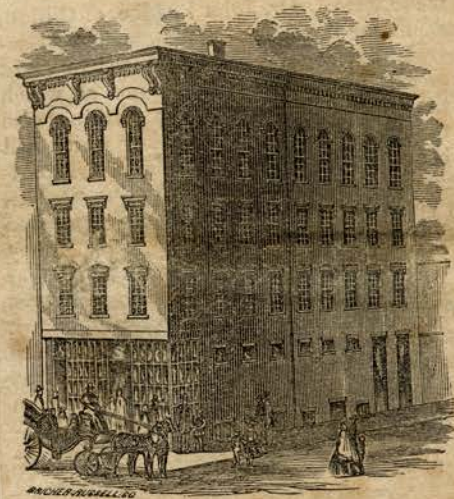
To "INQUIRER," WORCESTER. The best kind of bed is the old-fashioned straw bed. But it occurs to me that a longer article than this column will permit is needed. To answer the question in a satisfactory manner. So you will please look on another page of this number for the article headed, "*The Best Bed.*"

To "INQUIRER." The best time for Exercise is not easy to determine for any particular person, without knowing something of his bodily conditions. Some general directions may be given. The hour should be as far removed from the time of eating as possible. If the meals are taken at 7, 1, and 6 o'clock, the best time is 11 in the morning. After this, the best time is 4, P. M. The evening from 8 to 9 is not bad, but invalids are not generally much improved by exercise either before breakfast or after supper.

To S. T. R., PROVIDENCE. Swine's flesh is the worst of meats. God told the Jews not to touch pork, because he knew pork was bad for them. And I echo the voice of my profession from almost every civilized country when I say that this immense use of the flesh of the swine is filling all Christendom with salt-rheum, erysipelas, scrofula and other vile humors. And all this is more emphatically true when the animal is fattened in a close pen without exercise, and stuffed with every conceivable kind of filthy food.

Your second question I answer by saying that mutton is without doubt the healthiest meat, especially if eaten cold. Beef and fowls are good. Fresh fish is excellent if taken at the right season. Salted cod fish, if well freshened and cooked with milk, is one of the very best kinds of animal food.

### Lewis' New Gymnasium,



Essex St., head of Harrison Av., Boston.

At this Institution I shall embody my best conceptions of the true Physical Culture for Ladies, Gentlemen, and Children. It has the most abundant supply of more than forty different kinds of apparatus, peculiar to the new system. This apparatus is adapted to both sexes, and to every age and degree of strength. There are two large halls, and dressing-rooms for both ladies and gentlemen.

The exercises all occur under the eye and management of a leader, or drill master. The two sexes will exercise together.

For terms call at Gymnasium between 8 and 9 in the morning.

Cautious and studied training of delicate children will constitute a marked feature of the Institution.

Parents with children needing physical culture, are cordially invited to call at the Gymnasium, in the morning, between eight and nine o'clock, for examination and explanation.

**MOVEMENT CURE.**—In connection with my Gymnasium I have a special department for the treatment of Paralysis and Curvature of the Spine.

**THE BLOW GUN** described on page 8 is very perfectly made, and sold, with five arrows, at \$2. Forwarded per express, upon receipt of the money, at this office. An order for FIVE will secure a discount of ten per cent.

**SPIROMETER**, in beautiful finish, \$5.

The new **PARLOR SKATES**, very prettily finished, are furnished from this office at the following prices:—For children, \$2; for ladies, \$3; for gentlemen, \$4. The length of the foot should be sent with the order. This is a capital and profitable exercise.

The **INDIAN BOW AND ARROW**, large, 30 cts.

**CHESS BALL GAME**, with platform painted, the sixteen pieces all composed of solid lignum vitae, the receiver, with sack complete, and 12 rubber balls, \$8.75. If the pieces be composed of birch or maple, \$7.50.

Apparatus for the Chess-Ball Game, Cricket, Base Ball, Graces, Battledoor, and every other active sport, will be furnished from this office, of the very best quality, and at reasonable prices.

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