

DAILY WAYS  
TO HEALTH.

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# DAILY WAYS TO HEALTH

By  
**EMILY M. BISHOP**

Author of  
"The Road to 'Seventy Years Young'"

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"Man has made an art of life itself, why not, then, make  
one of health which is the life of life!"

—*Ernst von Feuchtersleben.*

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NEW YORK  
B. W. HUEBSCH

1910

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To  
GWYNETH KING ROE.



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*To Any Man or Woman:*

May I, unpretentious book that I am, make myself *at home* with you? If so, I choose to be left around anywhere—on the office desk, the kitchen shelf, the couch, the sewing table or the window seat—so that every little while you will give me a friendly glance.

My only excuse for being born is to help you. And you need me, though you may not know it. So do not put me away on a high shelf or behind glass doors in company with fine and learned volumes. I do not speak their language. But hidden away in my pages, I have many a hint for you that will help you to win your great game—  
The Game of Health.



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# DAILY WAYS TO HEALTH

## I

### REMEMBER TO KEEP WELL

SAID Robert Louis Stevenson: "Now do take warning by me. I am set up by a Beneficent Providence at the corner of the road to warn you to flee from the 'Hebetude' that is to follow. . . . so remember to keep well; and remember rather anything than not to keep well; and again I say, *anything* rather than not to keep well."

Remember to keep well! Such remembering must be an active, not a reflective, act. It is the kind of remembering that makes you give your body a square deal in all of your daily transactions. Stevenson's warning means, literally, remember before anything else *to do* that which shall insure your health, whatever such doing may be or whatever effort it may require.

No need to urge the advantages and personal comfort which keeping well confers. Higher selfishness must surely make every one willing to remember to keep well, but before one

can remember, one must know what to remember. The purpose of this book is to tell you somewhat of that. It tells you the right way of using the body in all the necessary daily acts of life, and, in order that you may avoid them, it calls attention to the wrong ways into which so many ignorantly fall. It suggests simple devices for keeping your mental house in order which is a part of remembering to keep well for inharmonious mental states are inter-related with physical unhappiness. Sometimes the initiative of one's illness or wellness is in the mind and sometimes in the body.

In all this telling about how to remember to keep well, there is nothing that is difficult of comprehension or of remembering. Only every-day practical physiology and psychology are spoken of—physiological facts applied to the conservation of personal resources, and psychological facts applied to the supreme art of living healthfully and happily.

### *The Way*

The way is simple and sane. It is (1) by right thinking about oneself, by making one's auto-suggestions upbuilding and liberating rather than destructive and enslaving; (2) by right daily action toward oneself. This latter includes such ever-recurring acts as standing, sitting, rising,

walking, breathing, resting, bending, stooping, stretching—all the physical feats that a day calls forth. It also includes specific exercises to prevent an undue accumulation of fat, to fortify the lungs against tubercular tendencies, to make all parts of the body resistant to the foes of health, to prevent the body from settling and becoming old, to develop all parts symmetrically, to relieve nervous tension, and to vitalize every part of the organism each and every day.

### *Imaginary Stumbling Blocks*

Right here, let me name the seeming obstacles to taking physical exercises which frequently deter persons from this most natural way of keeping well. Already, some of these may have loomed upon your mental horizon.

The fears and imaginings of the many thousands of all sorts and conditions of persons of all ages from twenty to eighty-four years who have been members of our health classes, have succeeded in finding only five seeming obstacles. In truth, each one is an argument for taking exercises rather than an obstacle to such wise procedure.

These seeming obstacles are:

- (1) "I haven't the time"—lack of time.
- (2) "I fear that I wouldn't keep up the practice"—lack of faith in oneself.

- (3) "I don't know what exercises to take that will do any good"—lack of knowledge.
- (4) "I'm too old"—lack of right mental attitude.
- (5) "I'm not strong enough to exercise"—lack of strength.

Let us consider each of these in turn—the last first:

*"I'm not Strong Enough to Exercise"*

Strength is a relative term. If you have only a small amount at your command, you certainly cannot invest part of it in a more profitable way than by doing that which shall give you more strength. It is the man with penny savings who can least afford to speculate. His safety depends upon making sure investment of his small capital. Were such a man to attempt the extravagance of the millionaire, he would be thought crazy. Many poor persons, physically, are as unwisely ambitious about expending their small capital. Such recklessness is worse than foolish. It is highly immoral. No one has a right to invite physical bankruptcy. More strength is born of strength wisely used; every one who is "able to be around" can unquestionably better his or her condition by simple—not exhausting—play exercises. It only requires the use of judgment, or plain common sense.

*"I'm Too Old"*

Age as a factor in determining what we can or cannot do is also a relative matter. What one thinks about it is the principal thing. To cite two cases: A perfectly healthy, attractive young woman, twenty-six years of age, wanted to prepare herself to be a teacher of health culture. Her father, a practical business man, discouraged her. He advised her to take up domestic science instead because "she was too old to do much with physical culture." It would seem as if this generally well-informed man failed to see a distinction between rational health exercises and the training of a contortionist.

On the other hand, one woman some eighty-odd years young is a conspicuous figure in our health classes at The Chautauqua Institution, Chautauqua, New York. She has been in regular daily attendance every summer for the past fourteen years. She is conspicuous because well-known and well-beloved, but, in the practice of Health Exercises, she is inconspicuous because her work is so like that of the other members of a large class of good workers. To poise herself, Mercury-like, on one foot or to bend from the hips and touch the floor with her fingers, the knees being straight, are simple acts which she does as a matter of course.

Several times, three generations have been

represented in the same class, the grandmothers enjoying the pleasure of exhilarating movement, the feeling of aliveness in every part of the body, quite as much as their daughters or granddaughters; usually, they are the ones who receive the greatest benefit. When persons begin to settle down, to become staid and altogether matter-of-fact, or to *think* of themselves as grandmothers and grandfathers, is just when they particularly need a new order of physical and mental exercise to keep them alert and alive. In fact, children before they become self-conscious or restricted in their spontaneous movements, need physical culture less than any other persons. Much of our education is upside down. Persons of one age miss that for which they starve and sicken, those of another age are surfeited to indigestion with that which they do not want or need; that children are the only class who to any general extent "take" physical culture is an instance in point.

Do not misunderstand me. Children need—and more's the pity, many sadly need and have it not—right direction in the management of the instrument of expression which they are to use all their lives, the body. Nothing is more fundamentally important than this. So many deformities, so much illness, so many failures and so much unhappiness might be averted.

We teach them good deportment toward others, why not good deportment toward them-

selves? It is far more important, vitally. From early childhood, they should be trained—by loving, undogmatic direction—to take habitual gracious and self-respecting attitudes, to avoid postures that easily lead to one-sidedness and other deformities; the lung-bath and other simple health-acts should be made as much a part of each day's life as is the body-bath. But as for physical exercise *per se*, trust them to take care of their need in that direction without adult interference. The demand for exercise is one of the most primary hungers of animal life. Children always spontaneously seek to gratify natural hungers.

From all of which, only one conclusion can be drawn: If age debars any from the practice of Health Exercises, it is those who are too young, not those who think they are too old.

*"I Don't Know What Exercises to Take That Will Do Any Good"*

Lack of knowledge of what exercises to take for specific results and how to take them is, perhaps, justification for hesitating about taking any; but is there any justification for being ignorant? Is it not my business and your business to know that which would be of vital benefit to us, and through us, to society? Civil and criminal law so maintain: "Ignorance of the law excuses no man."

*"I Fear That I Wouldn't Keep Up the Practice"*

Do you know, I think better of you than you do of yourself. I believe that you will; perhaps not the first try, nor the second, but finally, yes. Formerly, I was less optimistic; but so many persons—not a few of whom were doubting Thomases—have kept up the practice and made it second nature to do the right thing by the body, that I now have high expectations for all. Inspiration for renewed effort comes day by day, as one begins to see and feel the good results from practice. Moreover, most of us are "made of sterner stuff" than we ordinarily realize—many never find themselves. As Professor Robert Herrick makes the wise old doctor say to a disappointed young mother who complains of her daughter, "You don't know what's inside her besides that tendency, any more than you know now what is inside yourself and may come out a year hence. No one knows the whole story until the end. Even really aged people develop surprising qualities of character. It's a Christmas box—the inside of us; you can always find another package if you put your hand in deep enough and feel around. Molly's top package seems to be finery. She may dip down lower."\*

Lack of faith in ourselves works in many ways to our general undoing. It is a leading cause of

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\*HERRICK, *Together*.

ill-health, non-success, and unhappiness. We shall have more to say later about pernicious thought-habits.

*"I Haven't the Time"*

Of all the excuses which we make for our shortcomings, whatsoever, lack of time is the most over-worked. But do you succeed in fooling yourself? I don't. Haven't you seen a mocking little imp in some nook of your brain grin at you when you solemnly offered this same old self-justification?

We all know that we find time for that which we really have to do or want to do—most want to do. Again, it is a matter of relative values as all of life is. No one can be or do everything.

Where are the knitters of yesterday? Our grandmothers thought it worth while to knit, and they found time for it. Women no longer want to knit, but they have time to embroider, to play cards, to read novels, go to amusements, to attend social functions, and to do a dozen and one-other things that belong to the play-side of daily life. Besides, they have time for their regular work, their vocation, at least over five million women in the United States do, exclusive of the still large number whose work is that of homemaker.

Yes, the very large majority of us have the time. It is different with those who are practically slaves to our unjust economic conditions, whose days and nights are almost one ceaseless grind of dead work. With them, the first question must, of necessity, be the one that Emerson said we as a race are inclined to ask of every good or truth or beauty: "Will it bake bread?" or, literally, "Will it pay?" In this case the answer is emphatically, Yes. A few moments devoted to exercises that upbuild, *that make one able to do the same amount of work with less fatigue than formerly*, that increase one's power of resistance to disease, will pay even the over-worked, under-fed sweatshop worker.

### *Have You Time for Sickness?*

For us who are more fortunately environed than these drudges of toil to say that we know it would be a good thing to take some exercise every day but we haven't the time, is penny wise and pound foolish logic. One might almost as rationally say, "I haven't the time to live, I'm so busy getting ready to die." Those who do not take the time to keep well, the time to do the things that make for abiding health, will have to take the time for sickness and its consequent loss and delay, or will lose time by being less efficient. Many

of us have been too absorbed to realize our own foolishness; our attention has been too much centered in the restless foreground activities of our daily lives. We have lacked perspective.

## II

### THE HABIT OF HEALTH

How do you do? This world-over salutation is very suggestive. How *do* you do? What is the character of your daily doing as related to your emotional and physical self? How do you carry yourself? How do you direct and stimulate your moods? How do you use and care for your body? Of what order are your habitual auto-suggestions? Is your daily doing such as tends to form the habit of health? If not, then, indeed, 'tis "a grievous fault," and grievously shalt thou answer it some day. For, as Herbert Spencer says in *Physical Education*, "Every breach of the laws of health is a physical sin." And though we pray for mercy and acknowledge that we are "miserable sinners," we must pay the full penalty for our transgressions against the laws of health.

Cause and effect, not mercy, reign in the physical universe. If this were always plain to see, if effect swiftly followed cause, even the dullest of us would be shocked into better self-treatment. Unfortunately, some of the penalties are so dis-

guised or so long deferred that when they are imposed, we fail to see that they are the legitimate effects of some previous causes.

### *Some Physical Sins*

Many persons endowed with splendid strength and vitality, persistently use up more energy than the vital processes daily manufacture. This means that they make heavy drafts upon their capital, but, notwithstanding, they keep hale and hearty for years. They boast that "nothing hurts them," that "they are as tough as a hickory knot." Others cheat themselves of sleep, eat all sorts of indigestible food, drink vile concoctions, wear clothes inartistically tight, live and sleep in illy ventilated rooms, breathe in a niggardly fashion, habitually sit in stooped, cramped or strained positions and, in spite of all these "breaches of the laws of health," no sudden disaster befalls them. But, inevitably, at some cross-roads they find themselves unable to journey on as before.

### *Some Penalties*

The person who has lived in bad air and breathed in a bad manner finds himself subject to colds, an easy prey to grippe, or his circulation is poor, his heart weak. The one who failed to

nourish brain and nerves with wholesome food and abundant sleep finds himself rheumatic, irritable, despondent—in a word, he is wrecked, nervously. The wearer of tight clothes develops a sensitive stomach or pelvic troubles or she loses her stamina and “gives way” at anything or nothing. While the woman—or man—who sat stooped or stood so as to cramp the chest and crowd the stomach becomes unpleasantly aware that she has a liver or that her lungs are affected, or her food does not agree with her or her poor back achingly protests against the burdens unjustly put upon it. In short, the whole physical organism may easily “get out of kilter” as a penalty of breaking any simple law of health in the daily use of the body. And, yet, such sinners wonder what they have done that such affliction should come upon them! It is more often “those things which they have left undone which they should have done” until, literally, “there is no health in them.”

### *The Better Way*

Doing the things which we ought to do as regards the conduct of our thoughts and our bodies, is to form the habit of health. And it is not an overstatement to say that two-thirds of the suffering due to the causes above mentioned could be prevented if we would daily make a

few strokes of effort toward the forming of that beneficent habit.

Is it not strange that while other personal habits as industry, honesty, sobriety and virtuous conduct are extolled, the habit of health which is the most primary good of all, is rarely mentioned? Horace Mann said, "At college, I was taught the motions of the heavenly bodies as if their keeping in their orbits depended upon my knowing them; while I was in profound ignorance of the laws of health of my own body. The rest of my life was, in consequence, one long battle with exhausted energies." Thousands, yes, millions of persons have had to fight the same battle because of the same lamentable omission in their early education.

### *What It Is*

Do you ask, "Just what is meant by the habit of health?" Let us see. We all know that habit is born of repetition.

It is a universal law that the paths over which energy most easily travels are those over which energy has before traveled. We know that actions, attitudes, and mental and physical conditions which may have been difficult at first, become through repetition easy, spontaneous, even unconscious. They do themselves. And we know

that health is "the state of being sound, hale and whole in mind and body." It means perfect circulation and digestion; full, tonic respiration; steady nerves; virile mental states; wholesome moods and emotions. Are these all "easy," "spontaneous" or even "unconscious" with you? If so, the habit of health is yours, and all you have to do is to hold fast your present blessing. If this goodly habit is not yours today, then today is the best time to begin to cultivate it, and tomorrow is the best time to follow up that good beginning with another step in the right direction, and so on, with increasing delight and self-respect, days without end.

### *Never too Old to Form New Habits*

No one should be discouraged about cultivating the habit of health because he happens to be a score or two years removed from the days of his teens. To say, "It's no use, you can't teach an old dog new tricks" is to be unpsychological. For psychology says, "The constant change of tissue due to the nutritive process of waste and repair in the body makes new habits possible to form to the latest day of life because the new tissue sets itself naturally to the latest 'pathway' and 'tends to corroborate and fix the impressed structural modification.' "

*The Power of Resistance and Recoil*

The habit of health is much more than the possession of health under favorable conditions. It means that one is backed by a certain physical reliability. This positive vital quality enables one's body to endure much hard usage, and still keep its "efficiency-equilibrium." It holds the organism to normal activity under many adverse circumstances, and protects it from susceptibility to malign influences. It enables patients to "pull through" dangerous diseases where other persons who lacked such positive quality would go under.

The recoil from a surgical operation, a harrowing emotional experience or an acute disease by bodies not habituated to the expression of health, is usually to a sub-normal level of endurance. The system is shattered by the shock, one's initial stamina is undermined by the disease—or the remedies—and the power of rebound is lost. The consequence is that when one has recovered, it is only a partial recovery. One's maximum energy ever afterwards registers at a lower notch than it did before the shock. How common are such remarks as, "He has never been the same man since that illness of a few years ago," or "She has never got over the shock" of this or that experience.

When the system is confirmed in the habit of

health, its involuntary response from any shock is toward normal conditions. The energy-pendulum tends from force of habit to swing back to its accustomed beat.

### *Self-Repair the Law of Living Cells*

Health and self-repair are laws of living cells. Disease and sickness are the breaking of these laws.

The body's "inalienable tendency toward health" is demonstrated in the refunding of our nervous energy and our self-confidence during sleep, in the rapid restorative processes set to work after an acute illness, in the visible up-building that follows a protracted fever or fast, in the vigorous protest of the digestive organs against many poisons and, most wonderfully, in the self-sacrificing fight of our resident army of defence—the innumerable phagocytes, or white corpuscles of the blood. These minute warrior-workmen tumble over each other in their haste to respond to a "hurry-call" in times of accident—the bursting of a blood vessel, a pin prick or the loss of a limb. They do all that can be done to repair the damage. They are also a health-guard against disease; for, in most diseases, they attack the disease-microbes like veritable fighting cannibals killing and eating to the limit of their capacity.

*Every One His Own Keeper*

We must not blindly rely, however, upon the body's spontaneous protections and its inherent tendencies toward health; these are inadequate to keep our physical and nervous resources permanently at par unless we do our part. Nor must we ever overlook the fact that habit may work against us as well as for us. Many persons are invalids and semi-invalids more from habit than anything else. A hesitating, "I-don't-know," will-less mental state soon leads to the habit of general good-for-nothingness. Such sub-normal neural tendencies can, however, be broken up and replaced by positive up-building ones. If one has the will, there is the way.

One has only to look about him at the mental, nervous and physical states of most adults to see that the activity which daily living calls forth is not adequate to keep one's mind and body at their highest level for any number of years. Just living, or trying to save oneself by inactivity, is dangerous. Nor does honest, hard work suffice. For, whatever the nature of one's occupation—domestic, manual, clerical, business or professional—the bodily activity necessitated by it is almost invariably limited or agingly monotonous or such that it tends to undermine rather than to upbuild one's energies.

We must be our own keepers, physically as well as morally.

We must allure health to abide with us by making conditions favorable to it. These conditions can be achieved (1) by tonic thought-habits, (2) by the daily vitalization of every part of the organism, and (3) by the habitual right mechanical adjustment and use of the body.

### *Tonic Thought-Habits*

Thought-habits are the most subtle and difficult of all habits to master by direct attack. Fortunately, there is an indirect mode of attack through the bodily activities that is simple and effective.

### *Mental and Physical Reactions*

The interrelation of mind and body, and their actions and reactions upon each other are facts established beyond dispute. As Laurence Sterne expressed it, "A man's body and his mind (with the utmost reverence to both, I speak it) are exactly like a jerkin and a jerkin's lining—rumple the one, you rumple the other." Also, if you smooth out one, the other loses its wrinkles. Not only does despondency show itself in a depressed chest, a dragging gait and general muscular inertness, but an animated poise, a buoyant step

and general muscular aliveness incline the mind away from despondency. Browning appreciates this reactionary effect of physical action upon mental states when he says:

“Then we began to ride. My soul  
Smoothed itself out, a long-cramped scroll  
Freshening and fluttering in the wind.”

We must, indeed, become masters of our moods if we would maintain physical harmony. And, happily, one of the surest ways of doing so is by paying heed to such tangible things as our bodily expressions. For “from our acts and attitudes, ceaseless inpouring currents of sensation come, which help to determine, from moment to moment what our inner state shall be.”\*

### *Daily Vitalization of the Organism*

Activity is life, non-activity is death. If the muscles of the arm be denied activity, in time, they atrophy; likewise, unless every part of the body is vitalized daily by work, play or physical exercise, there is a lessening of life—vigor and endurance. This applies with particular force to the vital organs upon which life depends, the lungs, heart and digestive organs. Some of the most dreaded physical conditions, as tumors and

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\*JAMES, *Psychology*.

cancers, frequently have their origin in local congestion and in torpid circulation.

He who is guilty of what David Starr Jordan calls "the sin of undervitalization" invites physical calamities.

### *Right Mechanical Adjustment of the Body*

Possibly these words may be misleading to some. Pray, do not think that I am suggesting that our bodily actions should be mechanical, precise or like those of wound up automatons. Quite the contrary. The more varied, spontaneous and play-like they are, the better, because the more natural and unconscious. But the body is a wonderful organism, and in order that the spirit and will of the man who inhabits it may have the freest play, the *true relations between the different parts of the organism must be maintained at all times*. It is in this sense that I speak of the mechanical adjustment of the body; right use naturally follows right adjustment. [See topics, *Standing*, page 46, *Sitting*, 50, and *Walking*, page 52.]

### *Nonsense or Sense*

Whatever the order of one's life may be there are certain fundamental uses to which the body is put. We stand, sit, walk, mount stairs, bend,

reach, lift and let go, or do nothing. Does it seem nonsense to learn how to do such ordinary acts? Any one with common sense, you say, knows how to stand, walk and so on? Common sense must be at a premium, then, judging from the way these acts are commonly executed by those unschooled in the use of the body. Ah, my friend, do not scorn the day of little things! And these are big things, too, tremendously so, in their vital significance. Your physical breakdown or your ruggedness at sixty may depend upon the way you habitually sit and stand at thirty.

### *The Old and the Coming Order*

It is small wonder, though, that to some it should seem absurd to pay heed to such commonplace doings when we remember that the government of the body and of the thoughts is a topic at which educational curriculums have seldom hinted until quite recently.

Thirty years ago Herbert Spencer wrote: "It seems strange that while the raising of first-class bullocks is an occupation in which men of education willingly bestow much time, inquiry and thought, the bringing up of fine human beings is an occupation tacitly voted unworthy their attention." But the star of hope is in the ascendent. Many schools now give some attention—more or less intelligent—to the physical child; there are

organized efforts to prevent the spread of tuberculosis; educational institutions are inaugurating courses in physical efficiency; the then President Roosevelt, in a message to Congress, declared; "The problem of national efficiency is the greatest problem with which the nation must hereafter grapple, if it is to live;" and a Committee of One Hundred on National Health has been organized. That this committee petitioned for a health cabinet officer and for \$100,000,000 appropriation to be used toward the health and betterment of human beings is very significant.

Perhaps, some day, avoidable sickness will be regarded as a lack of refinement, as an ignoble, selfish vice. In the meantime, each one of us can help to bring about these happier general conditions and, at the same time, can make his or her life—and body—more beautiful by daily doing the simple, concrete things that make for the habit of health.

### III

#### DAILY ACTS

THE body's continued prosperity depends largely upon how we do the innumerable and unavoidable little acts of daily living.

We can form and maintain the habit of health by such simple means as ever and again taking a big breath, lifting the ribs, expanding the lungs, flattening the back, letting go the nervous tension in the shoulder, jaw, throat, back, arms and digestive organs, and by frequently stretching every muscle of the body as a cat does, by standing well poised, and by walking buoyantly as "children of light."

#### BREATHING

The primary function of breathing is, of course, to purify and revitalize the blood. This means much more than many persons think; for instance, rheumatism is a disease of the blood, and is affected by the amount of oxygen taken into the system through the lungs. One-third of all

the poison generated in the body is excreted through the lungs.

### *Important Health Aids*

Dynamic breathing is an aid to health in many ways other than directly to purify the blood. It quickens the circulation; it has a salutary influence upon the liver; it makes the lungs resistant to disease-microbes; it is the best digestive tonic in nature's pharmacy; it is without a rival in banishing nervousness and overcoming insomnia. This means that it reaches back to the mental causes of nervousness and insomnia for they are mental diseases.

### *Mental States Revealed by Breathing*

Nowhere else is the intimate relation between our thoughts and feelings and our bodily functions so immediately noticeable as it is in our different kinds of breathing.

Have you ever noticed how you breathe when you are nervous or irritable? Do notice, the next time such moods assail you; not only notice, but change your psychic state by consciously taking big, heavy breaths for two minutes.

Right breathing tends to induce right thinking and feeling. That young woman was eminently practical who, after closing the door upon a gar-

rulous caller, exclaimed, "That woman has set me nearly frantic! I must go for a walk and breathe awhile to calm myself!"

Great excitement expresses itself in gasping, irregular breaths; melancholy, grief and depression in slow, slight breaths; calm, peaceful happiness in deep, tranquil breaths; while courage and the joy of living express themselves in rather rapid, deep, dynamic breaths.

### *A Concentration Test*

Before reading beyond this paragraph, please lift your eyes from the page, look steadily in front of you, and listen intently for a moment. See if by concentration you cannot hear some remote sound, perhaps the notes of a bird, that ordinarily you would not notice. If you do not hear anything at first, listen still more intently. Shut out all other thoughts—this is a good exercise in mental concentration. One can often put oneself to sleep by such focusing of the mind.

You made the experiment? Yes, that long, sighing breath answers for you. Do you know why you involuntarily took that breath of relief when you ceased listening? Simply this: your system was hungry for oxygen because the concentrated, or held, state of your mind in listening affected your breathing similarly. You uncon-

sciously held your breath while you held your attention to one issue.

### *Oxygen-Hunger*

We sigh when we are depressed not because of our emotion, but because the mental state of depression expresses itself in meagre breathing, which produces oxygen-hunger in our system, and, contrariwise, oxygen-hunger deadens enthusiasm. The occasional involuntary long breath, or sigh, is nature's way of partially protecting us from the poison or suffocation of our griefs. We should take the hint and co-operate with her. We would come into a larger share of our birthright—health and high spirits—if we were to recognize and satisfy the hunger of the tissues for oxygen as quickly as we do the so-called hunger of the stomach for food; this latter is also hunger of the tissues for the head and feet cry for nourishment as much as the stomach does. Every sigh should be the signal for us consciously to take half a dozen or more deep, forceful inhalations. Depressed mental states never thrive in company with such order of breathing.

The close sympathy between mind states and breathing habits—which exists irrespective of our will or desire—makes it imperative that persons whose work calls for mental concentration should accustom themselves to take long, deep breaths

during hundreds of odd moments each day. To do this only requires a *flash of attention*—not an interruption of one's work any more than the turning of the pages of a book is an interruption of one's reading—and, moreover, it soon becomes a habit and does itself, practically. Such breathing greatly reduces the exhaustion incident upon close application.

The habit of taking deep, dynamic breaths (See topic, *For Breathing Abundantly*, page—) is one of the simplest and surest ways to health for all persons no matter what their occupation, age or bodily estate may be. The majority of persons under-breathe. Who ever heard of any one's over-breathing?

### *Make Your Own Demonstration*

Headache, lassitude, nausea and the beginning of a cold can frequently be breathed away. Prove it for yourself. If your head throbs and aches, lie or sit perfectly relaxed, close your eyes, and inhale slowly and deeply. You should be conscious of a decided rhythmical motion in the intercostal and abdominal muscles, but the chest should be practically quiet. After a few breaths, concentrate your attention upon your feet. Try to feel the blood coursing through the arteries, the minute capillaries and the veins. If the feet are cold, *will* that they shall be warmed by the rich

supply of blood your thought is sending to them. Five minutes of complete relaxation and of deep breathing combined with this mental focusing on the extremities will often relieve slight congestion of the brain. To overcome lassitude and to ward off a cold, more rapid and vigorous breathing is effective. [See topic, *For Overcoming Chills and Preventing Colds*, page 226.]

### *Bad Air and Bad Breathing*

All fatigue of mind or body can be alleviated by sufficient breathing of good air. Fatigue is a kind of poisoning which results from the creation of carbonic acid and other chemical products of decomposition of the tissues. Getting abundant oxygen into the system is one of the best ways of getting the poisons out of it.

Drowsiness is often a symptom of oxygen-starvation. Have you not before now dispelled a seeming sleep-hunger by opening the windows and getting more oxygen into the blood? Do not deep inhalations of fresh air "taste good" after an hour in a crowded church, lecture room or theatre?

Some degree of poisoning always results from the breathing of bad air, and also from the *bad breathing of good air*. In the first, there is absorption of contaminating substances, in the sec-

ond, there is the retention of the poisonous carbonic acid in the blood.

Taking in good air is taking in life. Being "too lazy to breathe"—to breathe deep, full breaths all of the time—is letting go of life, or slow suicide.

### *RELAXATION*

Nervousness is occasionally the result of some physical condition, but in a very large majority of cases, its causè is mental—worry, false ambition, over-conscientiousness. We cross bridges before they are built; we strain every faculty to attain eminence, and then further strain to retain it; we fear we may lose our property, our social prestige, or political hold; our work shadows us; we take our business cares home with us at night, they sit beside us while we dine—and are not merry—and they follow us to our pillows.

#### *Dangers of Being Over-Strenuous*

Mutiny in our nerve-cells can best be guarded against by reforming our mental states and our self-standards. The strenuous life, the life of practically constant vigorous exertion, has of late years become the standard which many persons set up for themselves. They seem to think that only strenuous living denotes personal efficiency.

Nothing could be wider of the mark for much of the best work of the world has been done by "easy workers." Moreover, that which is play, or nature's spontaneous demand for physical activity, for some exceptionally robust individuals, would be a hazarding of health for others less vitally endowed even to attempt.

### *Over-Effort not Over-Work*

The hazard taken would not be in the work actually done by these over-ambitious persons, but would lie in the over-effort, or mind and nerve-strain, made by them. Work, hard work is, physiologically and psychologically, good for all of us. But over-trying is bad, often ruinous. It causes unnecessary fatigue from one's work, and causes the continuance of nervous-strain after one's work is done. Unless relaxation follows work, recuperation is impossible for it is during moments or longer periods of relaxation that the nerve-cells stoke up with energy. When they have not due opportunity for this, there ensues a piling up of each day's residue of fatigue, or poison, until brain, nerves, muscles can do no more—then, nervous breakdown or worse.

Shall we not seriously heed Stevenson's "warning" and inaugurate saner ways of working? And do this before we get so near the precipice of vital collapse that it is difficult or impossible to re-

cover one's nerve-equilibrium? Shall we not join that exclusive set of poised human beings who "work easy" and know how to "loaf and invite their souls?"

### *Tension*

Tension, or over-nervation, is a two-edged sword haggling at health with both edges; it makes way with the energy one has and prevents the accumulation of more.

Sometimes over-nervation is apparent, and sometimes it is covered. Muscles must contract for movement, but sustained contraction of muscles when they are not working is over-nervation. Illustrations: Holding the shoulders a little raised or back, hugging the arms to the sides, holding the abdomen in, pursing the lips, contracting the eyebrows, setting the jaw, clinching the hands, curling up like a ball when lying down—is *apparent over-nervation*, or tension. It is expenditure of nervous energy to the accomplishment of nothing.

When the muscles are contracted for a legitimate purpose—for movement or work of any kind—and more energy is used than is necessary that, again, is over-nervation, albeit it may be covered, or not distinguishable from the effort necessary for the act. The difference between a graceful and a clumsy way of moving one's arm is the

difference between using just enough nerve-energy and using too much. Illustrations: If in walking more nerve-energy is used than is essential to swing the legs and carry the body forward, if in holding a pen or lifting a chair or making any bodily movement, whatsoever, or in saying, "Good morning," more nervous energy is used than is necessary that is *covered over-nervation*. Easy-going, good-natured persons, clumsy growing boys and manual laborers are generally quite free from the first kind of over-nervation, but are much given to the second.

### *Repression*

There are many "shut-in" persons besides those whom some dire physical misfortune chains to bed or chair; persons whose feelings are shut-in, repressed. The emotions demand expression as much as the body demands exercise—both are primal hungers. Parents and teachers often inflict suffering on children that is little short of mental agony by unconsciously making them cow in spirit and fear to express their emotions. Repressed emotion always works some kind of havoc upon the body, frequently upon the interior organs by constraining their harmonious functioning. A change of teachers may change a shy, puny child into a frank, hearty one. Parents, too, might sometimes be changed to advantage.

Repression is equally harmful when self-inflicted. To repress and keep one's nervousness to oneself exhausts more than to fret and fume. Many men who have expressed no outward signs of strain suddenly collapse—victims of nervous prostration or paresis.

### *Saving Nervous Energy*

*The first step* toward overcoming the habit of over-nervation, apparent or covered, is to watch one's thought-habits. They must be kept wholesome and as playful as possible. Truly, there is a saving grace in humor; taking the world or oneself too seriously induces tension, merriment relaxes. Emerson speaks of the "rest and refreshment that comes of shaking one's sides with laughter"; laughter has been known to cure insanity resulting from melancholia.

*The second step* is to move the body or any part of it in the easiest and, therefore, the most graceful way. All of our ordinary movements should be of the nature of light, rhythmical gymnastics, not heavy ones. (See Chapter, "Kinds and Significance of Exercise," page 104.)

*The third step* is to relax the muscles whenever they are not energized for a definite purpose. This only means that we should do nothing, muscularly, unless we are doing something to some end. A little child lets its arms, hands, legs, fall

relaxed when they are not in use. Why should we not be equally trustful?

Muscular relaxation reacts upon mind-states. Edward Rowland Sill's lines on "Peace" are good orthodox psychology:

"Not for thy crying,  
Not for thy loud beseeching,  
Will peace draw near;  
Rest with palms folded;  
Rest with thine eyelids fallen—  
Lo! peace is here."

### *STANDING*

"The whole boy is sent to school." Not only must the brain have its cells wisely trained, or impressed, but the body must have its cells, muscles and complex machinery trained, or wisely impressed, toward habits and usages that shall best equip the boy or girl or man or woman for happy, efficient life.

First of importance in this physical department of our education comes the right mechanical adjustment and use of the structural machine as distinguished from the organic, or vital parts. The three great structural divisions, the head, trunk and legs must be habituated to the easiest and most successful partnership relations; and this,

whether the order of the hour be work or play.

### *Good Bodily Poise Essential to Health*

This harmonious adjustment constitutes poise of the body—standing or sitting poise. It makes possible—but not inevitable—the most economical movement and use of the body at all times and for all purposes; and, what is of even greater moment, it is the poise that is absolutely essential in order that the life-sustaining processes, respiration, circulation and digestion—and all the astounding chemical and mechanical operations that those words imply—*may have an opportunity* to proceed in an orderly and healthful fashion. These vital functionings may be thwarted in many ways when the individual is not “accessory to the act,” but whether or not they shall be given this most fundamental opportunity depends solely upon each individual. Every one can learn to stand and to sit after nature’s ordering, and to do so is the first obligation that health imposes on every one.

Health, many times, is a cause-and-effect chain, the first link of which is poise. To illustrate: A person is suffering from an impoverished condition of the blood, the immediate cause of this is bad nutrition, and this cause may be the effect of inactivity of the liver, and the cause of this is in-

sufficient massaging by the diaphragm, and this cause may be the effect of bad poise which made deep, full breathing impossible. Many physical ills could thus be traced back, link by link, to bad adjustment, or poise, as the original cause. It is a conservative statement to say that unless a person habitually stands and sits in good poise, he cannot have as good health or as great endurance as is normally his. One may be comparatively well whose poise is far from nature's lines of beauty; but being well, or not suffering bodily discomfort, is often quite different from one's possible high degree of health—the exuberance of health.

### *Standing Too Straight*

There is some literalness in the saying, "He stood so straight that he fell over backwards." Many persons in their well-intentioned efforts to be straight rigidly hold their shoulders too far back; to counterbalance this abnormal backward weight, the hips and the abdomen are thrust correspondingly too far forward. This tense, over-straight position puts a strain upon the muscles of the back, prevents the pelvic organs from maintaining the definite positions assigned them in our body's republic, and throws the centre of gravity over the heels which causes a jar to the spine with every step. Many a headache and backache

are due either directly or indirectly to this lack of right mechanical adjustment of the body. The expression of such positions is aggressiveness, self-assertion or self-satisfaction.

### *Not Standing Straight Enough*

The opposite extreme to this rigid position is the stooped one where the back is one outward hoop, or bow, from the neck to the base of the spine, and the chest is flat or sunken. While the shoulders are in no way directly responsible for this bad position, they sympathize with the general disorganization and sag despondently forward; the head, also, usually joins in the body's general surrender to gravity.

The trouble is with the guys, or back muscles, which control the adjustment of the spine and shoulders; they are, in such case, habitually too relaxed, or too long—they must be contracted and made to hold the ribs up; and those of the front waist, which are disastrously shortened, must be stretched. Dr. J. H. Kellogg says of the results of this bad position in standing and sitting: "The stomach is often pushed downward from one to three inches and the spleen literally crowded out of house and home."

Corpulency, dyspepsia and lung troubles are some of the health-foes which this position aids

and abets. The expression of such positions is fatigue, despondency or weakness.

### *Standing One-Sided*

A third bad adjustment of the framework of the body is the one in which the weight of the torso rests principally on one side of the pelvis. This causes one-sidedness and curvature of the spine which imply far more than an unsymmetrical figure; the vertebræ are crowded closer together on one side than on the other, which causes pressure upon the nerves, arteries and veins of the spinal region.

All attitudes of the body are closely related to attitudes of the mind. The best mechanical adjustment of the body, i.e., normal poise, is expressive of a balanced, or poised, mental state. It is neither self-assertive nor self-depreciatory, but expresses general aliveness, readiness for whatever may hap, graciousness to one's fellow mortals, and interest in living. Then let our first health-step be to "Stand erect under the stars."

### *SITTING*

"Remember to keep well!" That being our noble aim let no one forget that "everything de-

pend upon exercising the trunk," as Dr. G. Stanley Hall says.

In sitting, the mechanical adjustment of the body concerns only the head and that most versatile of all parts of the whole framework, the spinal column. One reason why exercising the trunk is a matter of A B C importance in one's physical attainment is because such exercising directly stimulates all of the vital processes; the other leading reason is because the adjustment of the wayward spinal column is wholly dependent upon the vigilant watchfulness of the back muscles; they must be strong and alert to keep this easily yielding member in the paths of rectitude. When the back muscles are weak or unduly elongated the spine has no moral stamina of its own. It readily succumbs to the downward temptation of gravity, and makes no effort to stand up under difficulties; in fact, it has neither the will nor power to do so. Therefore, pay heed to those muscles which keep the spine erect; they must be kept too strong to crave loafing. It is the shirking of their official duty that makes what is commonly called "breaking at the waist" and "caving in at the waist," possible. Such positions impinge upon the rights of the vital organs. The joints are nature's bending places, and we should comply with this arrangement of hers whenever we lean forward as in housework, sewing, writing,

or because of interest; and in reaching up for anything, whether we are standing or sitting, we should lean slightly forward from the hip joints; and in picking up anything from the floor, we should bend wholly from the hip joints—the back muscles being contracted—or call upon the knee joints for assistance; again, in stooping to lift a heavy weight it is from the hip and knee joints that we should bend, the back muscles by their firm contraction sustaining the spinal column in its working position.

A broken waist means broken health some day, and lessened health today.

### *WALKING*

To walk well is more than an element of personal attractiveness; it is a lessening of each day's wear and tear.

There are various substitutes for an easy, un-fatiguing, beautiful-to-see walk. Some persons drag the body hopelessly about as if their souls saw no daylight ahead either in this world or the next, others, prodigal of their nervous energy, lumber along unconcernedly, others mince or waddle or swagger, while very many who pride themselves on their fine carriage come down heavily on their heels with every step. These are all ugly and a waste of nervous energy.

*Habit and Other Causes*

Habit! That's the scapegoat for all our transgressions against self. We happened from some cause or other to do the bad way once and again, *then it did itself*. Other than habit, the chief causes of wasteful ways of walking are wasteful mental attitudes and conventionality.

*The Balancing Arms*

Conventionality says that girls must be lady-like and women, dignified. The result frequently is constraint, especially in the shoulders, hips and arms. "How shall I carry my arms?" is a question often asked. The answer is, "Don't carry them—just leave them alone." They naturally hang free from the shoulders and gently oscillate in opposition to the movement of the legs—as the right leg advances the left arm sways slightly forward to preserve easy equilibrium. Try swinging the leg and arm on the same side in unison if you doubt the part played by the arms in a free, graceful walk. Think of being bound to a conventional mode of holding the arms! A woman's arms, like a man's, will take a rather broad swing if the centre of gravity be over her heels and she walks rapidly with a long step; but if her body be poised well, the movement of her arms will not be conspicuous, and her whole

bodily expression will be that of grace—economy of force—and naturalness.

### *Walking Influenced by Mental States*

Many obsessed by the modern rush spirit assume muscular responsibility when driving or motoring. They unconsciously try to help the horses or machine along by tensing the muscles of their backs and legs. Is it any wonder that they over-tense them when the responsibility of locomotion is wholly theirs?

Laborers commonly walk with dead, unhurried heaviness; the order of their dominant mental state is matter-of-fact, staid, with no inspiriting enthusiasm. Children drag, shuffle or hop-skip-and-jump in quick response to their varying mental states.

It is with the mental states that any permanent reform in personal conduct must begin. In acquiring a free, unfatiguing walk, one should first master the mechanical means, or control of the body, and then pay no further heed to the body. Heed, rather, the mental attitude. Let one's spirit respond to the spirit of the buoyantly poised Apollo Belvedere or the Flying Mercury or the Dancing Faun.

## IV

### TWO HEALTH-FOES

WE must be on guard against two stealthy health-foes whose habit it is to steal upon us unawares. One, corpulency, is a physical condition, the other, insomnia, is primarily a mental condition.

### *CORPULENCY*

Corpulency is "excessive fatness"—fatness in excess of that which is needed as cushions and pads for the muscles, nerves, arteries and veins, and, especially, as a soft, thin covering under the skin for warmth. The due amount of "fatness" is not only essential to health, but is a chief source of beauty of contour, while an undue amount of "fatness" is worse than non-essential for it takes no part in the daily labor of the body-cells, but only encumbers and causes loss of beauty of contour.

*Conditions Favorable to Corpulency*

The remark is often made by corpulent persons, "Oh, I don't mind weighing as much as I do, but I wish my flesh was not almost all in one place, the abdominal region." There are two reasons why excessive fatness is usually imposed upon the abdomen; first, because here and under the chin are the places where adipose and areolar tissues—those tissues which nature chooses for the storage of fat—most abound; second, because nature is economical of effort and deposits the fatty substances in her chosen tissues where there is least resistance, which, again, is the abdominal region.

Muscles must have exercise to keep strong and be able to defend themselves against encumbering fat; and our ordinary daily activities afford but small opportunity for the abdominal muscles to improve themselves. It is only by their own direct contraction, by extreme stretching upward of the arms, and by vigorous torso-twisting, that these muscles receive any appreciable exercise. Only a few occupations are directly advantageous to them, as paperhanging, plastering, house-painting and wood-chopping; even in the varied movements of housework they are seldom vigorously exercised. Were dusting the ceilings, hanging pictures, reaching to high shelves frequent daily occurrences, there would be fewer corpulent housekeepers than there are.

*Caution That Does Not Protect*

Many persons most sedulously guard the abdominal region from that which alone can protect it, namely, exercise. Fearing injury to the delicate organs in the pelvic cavity some women mistakenly think that all movements that effect this region are dangerous. Young girls are cautioned about reaching upward; such unwise solicitude is born of ignorance. Any one who knows the rudiments of applied physiology knows that the best way to fortify these thin, elastic, naturally strong muscles against any special strain that they may have to bear in the future, is by doing that very thing—reaching and stretching upward.

Women after maternity often favor this part of the body by half-stooping when standing or sitting, thus causing the evils they are seeking to avoid. To stoop is to age rapidly, and to make the most favorable conditions for corpulency—habitually relaxed waist and abdominal muscles.

*Lack of Exercise and Over-Eating*

Lack of sufficient exercise and of the right kind is, then, the most common cause of corpulency; sometimes, there is another, over-eating or gluttony; this, of course, is a gross form of self-indulgence—indulgence of the sense of taste. Appe-

tite, or bodily hunger, never craves more than enough food to make good the wear and waste of the brain and body's activity. All that one eats beyond that amount is because "it tastes good" or, if the taste has been blunted, because of the habit of gorging. He—or she—who would approximately regain the lost symmetry of youth must be abstemious.

Not all extremely stout people, however, are taste-sensualists. By no means. Some frugal eaters have such a temperamental predisposition to fat accumulation that constant vigilance is required to prevent embarrassment of flesh. Margaret Deland declares that there are women who will grow fat on a straw a day.

Let me give you a homely illustration of the combined effects of under-exercising and over-eating: Fowls confined in limited quarters and well-fed fatten, that is, the muscles become soft, or "tender," from inactivity and offer no resistance to the accumulation of fat cells. Let those fat, or corpulent, fowls roam the fields and have to scratch for a living their fat would be burned off and their muscles would become hard, or "tough."

### *Rational Means of Prevention*

The fact that the abdominal region offers particularly favorable conditions for the accumula-

tion of fat makes it necessary that our efforts to prevent corpulency be signally directed to that region. Fat is simply an accumulation of unburnt, body-fuel oils. Exercise gets rid of it by burning it away. A chemical change, or combustion, like a miniature fire, takes place with every movement, even so slight a one as the winking of an eyelid. Obviously, the more vigorous any movement, the larger will be the purifying blaze.

The most effective exercises for overcoming abdominal corpulency are those which either contract or vigorously stretch the abdominal muscles. Such localized exercise gives the muscles resisting hardihood, and gradually burns off any surplus fat-cells already imposed upon them. Walking—a kind of exercise tried by many for overcoming corpulency—has but very little effect upon these muscles; running, kicking, or mountain-climbing would be more effective. Better still, are vigorous localized exercises. (See topic, *For Preventing and Overcoming Corpulency*, page 183.)

## INSOMNIA

Overcoming daytime nervousness is the best way of overcoming nighttime wakefulness.

If "Hurry is the devil," as the Arab proverb says, worry is the devil's mother or else his first-born. When psychologists settle their wrangle

as to whether we laugh because we are happy or are happy because we laugh, this hurry-worry relationship will be settled, too. Certain it is that persons who work with little hurry and less worry require less sleep than those "who rush around like the devil in a gale of wind," as one man said of his wife—a highly strung, nervously tired little woman. These easy workers are economical in their expenditure of nerve energy, therefore, they can make good their day's loss in a shorter time than those who have prodigally spent their energy to the last voltage. However, the former usually do sleep more—and better—than the latter, for they are also *good quitters*. When the hour strikes for stopping work, they quit, mentally and physically. Theirs, too, is the "balmy" childlike sleep that best refreshes body, nerves and self-respect.

### *The Cause*

Worry of some order is the commonest cause of sleeplessness, but it is not the only one. Pleasurable mental excitement holds sleep at bay; the child who on Christmas Eve is as "wide awake as an owl" hours beyond the customary time for his trip to "Shut-Eye-Town," is excited, but is not a worry victim. So of the accepted lover or the happy school girl after her first ball.

*The Physical Signs*

Whatever may be the mental cause for sleeplessness, two physical conditions are invariably present—the very rare exception only proving the rule. These physical manifestations are too much blood in the brain—often in the whole head—and tension in some parts of the body.

*Evidences of Tension*

Most commonly this tension is shown in the sustained contraction of certain exterior muscles, as the arms, shoulders or legs. Have you not felt the muscles of your body or even only those of your face *let go*, or relax, as you dozed off into semi-unconsciousness? Sometimes, though, the mental excitation is reflected only in the tension of the interior muscles and glands while the exterior muscles are quite relaxed.

Some of the evidences of interior tension are short and insufficient breaths, poor assimilation of food, and lessened circulation.

*A Useless Prescription*

The evident formula is: Have no excitement in the latter part of the day, pleasant or unpleasant, and banish all worries—big fears and little fears. True, no psychological cause for insomnia inheres

in such placidness, but one might as rationally say, if worry keeps you awake, go to sleep and banish worry.

### *Occasional and Protracted Sleeplessness*

In the first place, the occasional inability to go to sleep as soon as the head touches the pillow is not a matter of great concern, especially if the exciting cause of one's wakefulness be pleasurable; but continued sleeplessness is a foe that cannot be ignored. It must be fought out on rational lines of living "if it takes all summer" or all winter. However, insomnia is not a redoubtable foe. A few days of heroic self-treatment are usually enough to drive out the anxieties and hobgoblins that are prone to haunt the tortured hours of night.

### *The Remedy*

There are three immediate processes to this "consummation devoutly to be wished": First, such bodily activity as shall equalize the circulation; this cools off the brain, lessens its activities, and incidentally warms the extremities. Second, exercises which shall transform a nervously tense body into a recuperately relaxed one. Third, mental gymnastics, or concentration.

Concentration does not necessarily imply in-

jump a fence or recalling difficult mathematical rules often put one to sleep is due to the focusing of the attention upon one thing.

Psychology teaches that singleness of attention is the most fatiguing of all mental processes. No wonder that the day-tired brain balks at determined demands to do this hard work, and escapes by jumping over the border line into the realm of unconsciousness.

(See topic, *For Overcoming Insomnia*, page 262.)

## V

### SCRAPS OF TIME

'TIS said that a French family could live, and live well, on the scraps of edibles that are daily thrown away by the average American family. Likewise, it is possible for one to keep in good physical condition by the intelligent use of those scraps of time which the average over-employed person—not to mention the rational worker, the dawdler and the idler—throws away, squanders.

Sufficient exercise to uphold health of mind and body can be taken even during the busiest day, if we make good use of our odd moments. Moments that otherwise would be idle, waiting moments; or, worse than idle, would be impatient, fretting, angry, anxious or depressed moments.

#### *Habit Helps Us*

Using scraps of time in wholesome fashion is more significant than one might at first think. It practically results in living on a high health-level from the "Good morning" odd moment to

the "Good night" one; for, if we voluntarily turn the attention—even an unwilling attention—upon thinking and doing that which makes for health, say, ten times a day, in a short time the attention of itself will veer in the same direction many other times during the day. Soon, it will become our habit to think and act healthward. And the habit of health like all other habits will perpetuate itself unless some stronger force opposes.

### *Every One Has Odd Moments*

But the over-busy man or woman may be querying, "Where are the odd moments to be found? I haven't any in my schedule."

We must remember that moments are instants, or flashes, of time, not necessarily minutes. In every one of our days, no matter how rushed we may feel or be, there are many unavoidable odd moments. They are forced upon us by the machinery of living. Some of these are: Moments when one waits for a subway train, street car, carriage or auto; when one waits for change at the ticket booth, waits at the counter for attention, goods or change, waits for the elevator, for a response to a doorbell, for an answer to a question, for some one at an appointment or for the good pleasure of "Central." Those little scraps of time in the professional man or woman's "Hours," between the ushering out of one client

or patient and the ushering in of another; the flash moments between thoughts, as it were, at one's desk or easel or musical instrument; the thousand and one odd spare seconds in the teacher's day; the many waiting moments incident upon housework where one must wait for the water to run, the dishes to drain, the pot to boil, the flatiron to heat or to cool, the bread to toast, wait the courtesy of groceryman, milkman, baker and butcher; and the scraps of time between finishing one piece of work and commencing another.

### *Temptations or Opportunities, Which?*

These odd moments are frequently times of temptation when one's spirit and one's expression—vocal, bodily and facial—are prone to fall from grace. *We let down*, then. Not in the way of healthful relaxation of mind and muscle, but unprofitably and unbecomingly. We recklessly yield to the "I-don't-care" mood. We express annoyance, impatience—sometimes, going so far as to work ourselves into a poisonous passion just from foolish irritation. Or, we become the unresisting victims of our own fatigue; a tired body sends discouraging suggestions to the brain, and we believe them and become depressed. Or, our thoughts take the initiative and tell the body that it is tired and overworked, and it responds by looking the part; it settles or collapses dejectedly

or becomes more tense and resentful. Thus do we unthinkingly invite old-age expressions, and habits that are foes to health.

But we can make these odd moments our blessed opportunities for self-protection; in them, spirit and body can be refreshed. The following chapter gives practical suggestions to that end.

### *Different Health States*

In maintaining that we can do so much for our self-betterment during our odd moments, I am not, by any means, suggesting that miracle cures can be wrought by exercise "while you wait." There is a great difference between preventing adverse conditions and overcoming them.

*To maintain* health and youngness of body when one has them is a simple proposition. The living demonstration of it can easily be worked out in the odd moments of any man or woman's busy days.

*To retain* these conditions when they are inclined to go, when the body is already in rebellion at neglect and misuse, is a more complex proposition. The employment of odd moments in health ways may not then suffice. It may be necessary to devote considerable time, religiously and regularly, to the paying business of getting well.

*To regain* these conditions when they are gone

is a still more complex proposition. But even when one's physical resources are on the edge of bankruptcy one should not despair. Thousands of cases bear witness that so simple, so mysterious a restorative agency as dynamic exercises of mind and body often succeeds in supplanting a well-established habit of invalidism by the habit of health. Moreover, the man who makes a determined effort to regain the health-goal never has to struggle single-handed. Nature is always his ingenious partner.

## VI

### SIMPLE EXERCISES FOR ODD MOMENTS

MAINTAINING health is like maintaining morality. It requires continuous virtuous conduct, not spasmodic or periodic effort in the right direction. To devote a few minutes once or twice a day to Health Exercises and throughout the rest of the waking hours to transgress—either by commission or omission—the laws of rational doing and thinking, counts about as much for health of body and mind as Sunday prayers and solemnity count for holiness of character when the weekday life is selfish and unscrupulous.

Special times for spiritual meditation and for definite Health Exercises are a part of rational living, but only a part; the other part is *doing the right act at every opportunity*.

#### *Play Movements for Odd Moments*

If a choice had to be made between systematic, definite physical exercises for ten or twenty or even thirty minutes daily, and the many, many

Play Movements which can be taken during the odd moments of the busiest day, the latter generally would insure the body's enduring prosperity better than the former.

A Health Calendar for a month is here given. It should be repeated month after month until habit makes these Play Movements a spontaneous part of one's life each day, and all the days of one's years.

Such happy surprises as greater endurance, less fatigue, increased bodily resistance, more youthful figures and greater buoyancy of mind and body will reward those who are faithful without faltering in these natural "first aids" to health.

A stimulating health-quotation is given for each day. Add this to your mental storehouse in the morning, and *wilfully make the attention* revert to it again and again during the day. If you are a city patron of subways and street cars, instead of idly reading and rereading the hypnotic advertisements in the cars, concentrate your attention upon the health-message for the day and for the preceding days in your Health Calendar. Such dwelling upon wholesome ideas and ideals has a steadying influence upon the tendencies of one's thought. It helps one to shut out morbid thoughts, to keep a sense of relative values, to realize with Emerson that "Health is the first wealth."

These Play Movements are a complementary

help to definite Health Exercises, but are not a substitute for them. In many instances, they are quite inadequate to bring about certain desirable results which may be readily achieved by specific exercises for particular conditions. (See Chapter, "One's Best Physician," page 117.)

## *A MONTH'S HEALTH CALENDAR*

### *First Day of the Month*

"Get health. No labor, pains, nor exercise that can gain it must be grudged."

EMERSON.

Bend a little forward from the hips, and lift your arms up close beside your head. Uplift and stretch energetically with both arms; then stretch, first one arm and then the other, several times. Drop them, and stretch again.

### *Second Day of the Month*

"There are conditions for each individual under which he can do the most and the best work. It is his business to ascertain those conditions and to comply with them."

LUTHER GULICK.

Place either hand on the ribs underneath its own arm. Vigorously stretch and lift the body on that side as high as you possibly can. Relax, and repeat two or three times. Give the other side the same kind of stimulation.

### *Third Day of the Month*

“The wise for cure on exercise depend,  
God never made his work for man to mend.”

DRYDEN.

Stand alertly on one foot and, keeping the torso quiet, swing the other leg *freely* forward and back. Do not kick, just swing. Transfer the weight, and swing the other leg in same fashion.

Note the general feeling of lightness and buoyancy which results.

### *Fourth Day of the Month*

“Every one should relax and be a holy vegetable occasionally.”

SYDNEY SMITH.

Stretch in any and every direction with every member of the body, at the same time open the mouth and take a big, deep breath.

This will force a genuine yawn which always means rest and some degree of rebuilding.

*Fifth Day of the Month*

“To train the mind and neglect the body is to produce a cripple.”

PLATO.

Inhale quickly, and lift the shoulders high. Hold them uplifted a moment, then crowd them back and down, uplifting the chest, and bending slightly forward from the hips at the same time. Hold this animated position a moment, then inhale, and relax the shoulder muscles, but not the waist muscles.

*Sixth Day of the Month*

“A vigorous health and its accompanying high spirits are larger elements of happiness than any other things whatsoever; the teaching how to maintain them is a teaching that should yield in moment to no other whatever.”

HERBERT SPENCER.

Take a big, deep breath, and push at the sides of the body as if trying to burst imaginary bands two or three inches above the belt line; then exhale, and repeat quickly several times.

This produces a bellows-like action at the diaphragm zone. It is an easy, effective stimulation of the digestive processes.

*Seventh Day of the Month*

"To cure was the voice of the past, to prevent is the divine whisper of today."

KATE DOUGLAS WIGGIN.

Sitting well back in your chair, lift both legs out straight in front, level with the hips, and energize them vigorously. Push with the heels, push with the toes. Move the toes about—move the feet at the ankles. Relax, and let the legs drop. Repeat several times.

The circulation is thus stimulated and the brain somewhat rested.

*Eighth Day of the Month*

"Relaxation is a negative condition so far as activity is concerned, although it is often a positive condition so far as growth is concerned."

HAMILTON W. MABIE.

Lean lazily back in your chair with your head supported, and completely let go. Feel that by an act of will you untie every kink and knot in the nerves, muscles and brain. Be dead to all outside appeals for one minute—or more.

*Ninth Day of the Month*

“The gymnastic that makes you hold your head up tends to straighten your moral behavior.”

EDWARD HOWARD GRIGGS.

Stand or sit very erect.

Close the hands tightly and place each on the outer edge of the chest as near the shoulder as possible, the elbows being close to the sides of the body. Inhale, and with great energy slowly lift the elbows as if resisting a heavy weight until they are even with the top line of the shoulders. Relax, exhale, and repeat two or three times. Then inhale, and, allowing the forearms to spread somewhat, rotate the flexed arms backward vigorously.

This exercise lifts the ribs, flattens the shoulders, and expands the chest.

*Tenth Day of the Month*

“A good education is that which assures to the body all the perfection of which it is capable.”

PLATO.

Stand in the doorway and reach up first with one hand and then with the other. See how high the tip end of the fingers can reach in your biggest stretch.

Note the increase of mobility in your muscles after a few days' practice of this simple stretching exercise.

### *Eleventh Day of the Month*

“Weakness of memory, low spirits, ill-temper and even insanity often penetrate the mind of persons so deeply through their bad physical condition, as to cast out and dispose knowledge itself.”

SOCRATES.

Standing well poised, lightly and quickly hop ten or twelve times, first on one foot and then on the other.

This simple exercise may seem “so silly” to certain staid, set individuals. What is really foolish is for human beings ever to lose such spontaneous expressions of youthfulness.

### *Twelfth Day of the Month*

“We do wrong when we live beneath our privilege; and knowing that we ought to exercise every day, we sin when we yield to the constant, deadening habit of sedentary life.”

FRANCES WILLARD.

Stretch your arms straight out in front, shoulder high; quickly open and close the fingers with great energy ten or fifteen times.

This is effective in keeping the hands young, flexible and expressive. It is especially protective to typewriters, telegraphers and others whose work demands the same contractions of the fingers over and over again.

### *Thirteenth Day of the Month*

“To carry out the rich emotional and intellectual life of humanity, we need a good tool, a good body, a strong and beautiful and well-trained organism, and this is gained only through cultivation.”

C. HANFORD HENDERSON.

Sitting or standing, fold your arms back of you, and bend slightly forward from the hips. Very easily drop the head well backward, keeping the mouth closed, then shorten the distance between the head and arms as much as you can by contracting the back muscles.

This stimulates the spinal nerves, counteracts a tendency to round shoulders, and is protective against accumulation of fat under the chin.

*Fourteenth Day of the Month*

“In any man or woman, a clear, strong, well-fibred body is more beautiful than the most beautiful face.”

WALT WHITMAN.

Rise on the balls of the feet, and hold yourself lightly poised while you mentally or orally say: “Buoyancy, joyousness, health—no settling down to oldness for me.” Rise on the ball of each foot, alternately, and hold without wavering for a few moments.

*Fifteenth Day of the Month*

“For the long breath, the deep breath, the breath of the heart without care—

I will give thanks and adore thee,  
God of the open air!”

HENRY VAN DYKE.

Lift one shoulder very high, bringing it up in caressing fashion near your face. Quickly relax, and lift again. Do this several times with each shoulder, then uplift both shoulders and take a deep breath; hold the position a moment, then relax the shoulders, after which slowly exhale.

This exercise will prove very restful as it removes over-nervation in the muscles of the back.

*Sixteenth Day of the Month*

“Of all base passions fear is the most accursed.”

SHAKESPEARE.

Sitting well back in your chair rest against the back of it. Relax the arms and legs. Look fixedly at some point in front of you for a moment, and mentally repeat several times: “Rest, peace, I am resting—resting,” then slowly drop the head until it rests upon the chest; gently roll it around in a complete circle, bringing it back at rest upon the chest. After a moment, lift the head very slowly; when the head is erect, open the eyes, and view the world and your work with a fresh vision.

Fear causes tension and nervousness.

*Seventeenth Day of the Month*

“A main fact in the history of manners is the wonderful expression of the human body.”

EMERSON.

Stand very erect and stretch upward as if pulling the trunk of the body away from its attachments at the hips.

If you do this correctly, after a few days' practice, you will have a new feeling of freedom and slimness in the waist region.

*Eighteenth Day of the Month*

"The great thing in all education is to make our nervous system our ally instead of our enemy."

WILLIAM JAMES.

In the midst of your most trying hour of the day, sit quietly for a moment and close the eyes. Place the thumb and middle finger respectively on the outer sides of the eyeballs. Gently but firmly press against the eyeballs for a moment; then relax the pressure, and gently pass thumb and finger inward over the eyes before opening them.

This affords relief to the much-overtaxed optic nerves; it forces a little relaxation of some of the eye muscles which are habitually on the strain.

*Nineteenth Day of the Month*

"There are many troubles which you cannot cure by the Bible or Hymn Book, but which you can cure by good perspiration and a breath of fresh air."

HENRY WARD BEECHER.

Advance one foot as in a step and transfer the weight to it. Inhale deeply and, retaining the breath, swing the arms rapidly and freely in large circles from front to back, that is, swing forward,

up and back instead of the reverse. The latter would tend to contract the chest, while the former expands it. Make ten or fifteen rotations, then exhale, and rest. Repeat several times with each foot advanced, alternately.

This is a quick stimulation to the circulation and respiration. It calls all of the torso muscles into play, especially developing those in front of the arm-sockets which fills out ugly hollows there.

*Twentieth Day of the Month*

“You may think that you are only patching up the house a little so that it will be more comfortable to live in, but what you are really doing is inviting good temper, cool judgment, a happy heart and the joy of life to come and dwell with you.”

FRANKLIN BERRY.

Standing in easy position, keep the heels firmly fixed, and lift the instep as high as possible by repeatedly drawing the toes in and under. This exercise may be a little hard to accomplish at first, and frequently it causes temporary pain in the instep.

It is excellent for the circulation, besides being one of the very few recommended by eminent orthopedic physicians as a preventive of what is

commonly known as the breaking down of the instep.

### *Twenty-first Day of the Month*

“The pedigree of health stretches back to the very dawn of time.”

WOODS HUTCHINSON.

Stand well-poised with all the muscles vigorously energized. Keep the chest well forward, and place the fingers at the base of the brain; firmly knead all the muscles in this region for a moment, even those that extend well into the roots of the hair—knead forward toward the ears and lower jaw.

This tends to relieve any slight congestion in that region, and is restful to the nerves.

### *Twenty-second Day of the Month*

“Everything depends upon exercising the trunk.”

G. STANLEY HALL.

Sitting somewhat forward in your chair, easily roll the body from the hips in all directions—first forward, then from side to side, then from the left side well forward and to the right side, then slightly backward and again to the left side; reverse the order. Do this all playfully, never

with strained exertion. It is a light, not a heavy gymnastic.

Take the same rolling movements when standing, only be careful to roll the body but slightly backward. The more relaxed and free the muscles of the trunk are, the better will the results be.

This exercise taken for a minute each day will do much to counteract some of the bad effects of a sedentary life. It gives relief to the back and waist muscles, and particularly stimulates intestinal activity.

*Twenty-third Day of the Month*

“In quietness and in confidence shall be your strength.”

ISAIAH XXX. 15.

Lift one foot from the floor, bending the leg below the knee backward. Stand with the weight on the ball of the other foot, and lightly lift and lower the heel five or six times. Repeat on the opposite side.

*Twenty-fourth Day of the Month*

“Keep the faculty of effort alive in you by giving it a little gratuitous exercise every day.”

WILLIAM JAMES.

Keeping the shoulders perfectly quiet, vigorously contract the abdominal muscles, eight or ten times. Do this wholly by will-direction without the aid of the breath. You can, if you concentrate your attention upon it.

This exercise stimulates intestinal activity, and is one of the best means of preventing corpulency.

*Twenty-fifth Day of the Month.*

“All time and money spent in training the voice and the body is an investment that pays a larger interest than any other.”

GLADSTONE.

Place both hands on the spine two or three inches above the waist line with the thumbs pointing forward. Uplift the body, narrow the back, and move the trunk from side to side with a quick swaying motion exerting considerable energy.

This is a fine digestive as well as circulatory stimulation.

*Twenty-sixth Day of the Month*

“He lives most life whoever  
breathes most air.”

ELIZABETH BARRETT BROWNING.

Place both hands on the chest. Inhale, and bombastically lift the chest upward and outward, at the same time vigorously drawing the abdomen upward and inward. Repeat three or four times.

This develops the upper part of the lungs, and stimulates the digestive processes.

*Twenty-seventh Day of the Month*

“All means that conduce to health can neither be too painful nor too dear to me.”

MONTAIGNE.

Bend a little forward from the hips.

Inhale, and stretch the arms straight out at the sides, level with the shoulders. Energize vigorously to the finger tips; hold for a moment, then exhale, and slightly relax. Inhale again, energize, and stretch still farther. Repeat three or four times.

*Twenty-eighth Day of the Month*

“The best cough syrup ever prescribed for weak lungs is a ten minutes’ practice of deep breathing.”

GEORGE L. BEARDSLEY.

Place the open hands on the sides of the body three or four inches above the waist line. Press with them as if crowding the ribs together, and, at the same time, blow the breath gently out through slightly parted lips. When the breath seems quite exhausted, quickly relax all restraint, thus making the best conditions for a deep, full breath. Repeat several times.

A feeling of general refreshment will result from this special oxygen-treat.

### *Twenty-ninth Day of the Month*

“Dejection which becomes habitual is consumption of character.”

HERBART.

Stand with the weight over both heels. Lightly lift and lower the balls of the feet in quick succession, ten or fifteen times; then sway the weight over on the balls of the feet, and lightly lift and lower the heels in quick succession until it is painful to do so.

These movements are restful to the brain, and often will relieve headache as they induce a rich supply of blood to the legs and feet, thus equalizing the circulation.

### *Thirtieth Day of the Month*

“It is a good thing to laugh, to

throw the head back and let the blood into the veins, and let the arteries rest, so that we may store up energy."

G. STANLEY HALL.

Stand with the weight on the right foot, being careful not to bend forward even slightly during the exercise. Hold the left hand, the palm downward, straight out in front, level with the shoulders; keeping the knees straight, lightly swing the left foot upward and touch the palm of the outstretched hand several times. Transfer the weight to the left foot and repeat.

*Thirty-first Day of the Month*

"We have had something too much of the gospel of work. It is time to preach the gospel of relaxation."

HERBERT SPENCER.

Stretch and breathe, breathe and stretch, whenever you have an odd moment. As you do so, mentally assert that your brain and body shall be abundantly nourished with oxygen—the first and most essential food.

If your gain at the end of the first month is not as marked as you hoped for, never mind, there

is another month right at hand. One's second nature is not to be thrown off as a snake throws off its skin. Habits are more than skin deep, they are nerve-cell deep. Remember it is the "daily stroke" that counts. Professor James says: "In the acquisition of a new habit, or the leaving off of an old one, never suffer an exception to occur until the new habit is securely rooted in your life. . . . By neglecting the necessary concrete labor, by sparing ourselves the little daily tax, we are positively digging the graves of our higher possibilities."\*

\*JAMES, *Talks to Teachers*.

## VII

### THE DIAPHRAGM, BACK AND ABDOMINAL MUSCLES

It seems incredible to us today that people could have had bodies from the advent of the human race up to the seventeenth century and, so far as we know, never have discovered until then the purpose of the arteries. Or, that for centuries the learned and the wise should have thought that the purpose of the lungs was to keep the heart cool!

Query: May it not seem surprisingly curious to future peoples further advanced in self-knowledge than we are, that in our age and generation very many intelligent persons did not know such intimate personal facts as the following: (1) The location and office of the diaphragm, and that its inactivity leads to inefficiency and invalidism. (2) That there are two sets of muscles extending along the spinal column which it is more essential to strengthen than to develop biceps, triceps or any other big muscles of the body. (3) That keeping the abdominal muscles well toned up is one of the "first aids" to health maintenance.

*Technical and Applied Knowledge*

Today every high school student has a fair amount of information concerning the structure and functions of the body. But how many know that their thought-habits have a paralyzing or a stimulating effect upon the vital functions? How many appreciate, even in a slight degree, the masterful part the will plays in keeping the body resistant to disease? How many know how to form the habit of health by the right daily use of the body?

Bits of lumber stored away in a garret have no part in the fashioning of the house in which they are stored. No more do bits of physiological information stored away in one's mental rubbish room have part in the fashioning of one's body. Applied physiology and psychology have been the great needs, that is, knowledge concerning our bodies and brains applied directly to daily living, to promoting health and good spirits, to making men and women more efficient social units.

*"Know Thyself"—Somewhat*

The diaphragm, the back and abdominal muscles are the three parts of the body with which we should first come to an understanding. The body as a whole cannot *by any possible makeshift* manifest its heritage of health, endurance

and symmetry of form unless these muscles do their rightful work habitually.

The diaphragm should be allowed free opportunity to perform its work without restriction or interference, either from within or without, and the back and abdominal muscles be made to do their regular official work faithfully. It is their work to maintain the poise of the body. Of all the muscles of the body, none requires specific contracting exercises to insure their strength as much as these do. But—and this is a far-reaching exception—neither the back nor the abdominal muscles *should be held in an over-tense* state. To tense these muscles vigorously for a few minutes *in a localized exercise for a specific result*, is excellent. It is a necessity to their best vigor; whereas, habitually to hold them over-tense is a serious strain upon the nervous system.

### *The Back*

“*Punch*” tells of a little girl who, when her aunt suggested that she ought to tie her own apron-strings, replied: “How can I, aunty? I’m in front, you know.” From their disregard of their backs, it would seem that many adults have similar notions as to the location of the “I.”

The chest and shoulders are the agents to which attention is commonly directed—even by some teachers of physical culture—when fine bod-

ily carriage is sought; few mothers are not guilty of saying to their children, "Hold up your chest," or "Put your shoulders back!"

As a matter of fact, the chest muscles are powerless to uplift the body; indeed, when they work, i.e., contract, an effect antagonistic to good poise is produced for the shoulders are drawn forward and the chest is narrowed. Nor have the shoulders any greater *direct* influence on the poise of the body. They may be crowded back until the blades all but touch without the general poise being one whit improved. "Putting the shoulders back" usually does result in a temporary betterment of poise; this is simply because other muscles sympathetically act with the shoulder muscles.

### *Servants of First Importance*

Good poise, physical youngness and, in a marked degree, health depends upon the work of two long, slender muscles situated on each side of the spinal column. Their name, erector spinæ muscles, is derived from their work. It is their office to hold the spinal column erect. No other muscles are required to be such vigilant servants as these. They must *always be fit* for they are on active duty at all times except when one is lying down.

The only way to keep muscles strong and capa-

ble is to make them work, work with a will, with all of one's will, occasionally.

Because our daily occupations offer so many perilous temptations to the erector spinæ muscles to loaf and shirk their work, it is especially necessary that they should frequently be made to contract energetically. This requires a conscious will-act. Such contraction forces more blood and nourishment into their cells and gives them vigor and hardihood. When these muscles are strong and quickly obedient, good poise is more natural and easier than bad poise.

Besides the erector spinæ muscles, there are two other muscles that hug the spinal column. These arise in the shoulder region of the column, and extend to the base of the skull. This set of muscles has primary charge of the poise of the head. They require an odd moment's contraction now and again during the day, else they are liable to become too relaxed, or stretched, which results in a drooping, or "hang-dog" poise of the head.

*Some of the Responsibilities of the Neck Erectors  
and the Erector Spinæ Muscles*

They determine the position of the chest, shoulders and head; the mobility and youthfulness of the body proper and the strength of the back; they make possible a fine chest development and large lung capacity; they are largely responsible

for the position of the ribs, whether they sag or not, and, therefore, for pressure upon the spinal nerves; and, indirectly, through the poise of the body, the digestion, circulation and entire nervous system are materially affected by the order of service which these muscles render.

### *A Compact of Honor*

Will not each one of you make a compact of honor with himself or herself not to let a day pass—from today on through all tomorrows—without giving an odd moment, or several, to helping these muscles to help you? Their strength means that you can do better work with less fatigue. It means that you will last longer. (See topic, *For Strengthening the Back Muscles*, page 154.)

### *The Play of the Diaphragm*

Only when the diaphragm plays freely is a really deep breath possible.

Without such free action, it is possible to take a big chest breath, but not the full, deep breaths that inflate all the millions of cells in the lungs, that quiet the nerves, that induce poised mental states, that especially keep the liver from sluggishness, and that gently stimulate the digestion.

Every one's diaphragm plays somewhat. It and the beat of the heart are the self-acting propellers which keep the human machine running. Seldom, however, does the diaphragm have full, free-play in these days. Our thought-habits are restrictive. Our bodily habits are often such as immediately interfere with the natural action of the diaphragm.

Did we but realize how many bodily ills could be prevented by *the vital stimulation that results from habitual vigorous action of the diaphragm*, every intelligent person would, in self-protection, see to it that his diaphragm did its full quota of work.

### *Meagre Diaphragm Action a Cause*

Honestly, have you ever thought of connecting liver trouble, chronic indigestion, lung affections, colds, headaches, septic poisoning, nervousness with meagre diaphragm action? Don't jump at conclusions, my impulsive friend, and exclaim, "Just think, you can cure all of these dreadful things if only your diaphragm works enough!" Dynamic action of the diaphragm can, in time, cure many of the lesser mal-states, but it is far safer to regard it as a prevention instead of a cure.

To appreciate the significance of its work, one must be somewhat acquainted with the diaphragm

—a little more technically so than was the boy who, when asked in a physiology examination to describe the diaphragm, answered, "It's what girls don't breathe with. That's why they can't run."

### *The Diaphragm*

This muscle, that is in a class all by itself, is a thin, elastic partition extending through the central part of the trunk. It separates the lungs and heart on the upper side from the abdominal organs on the lower side. One can get a fair idea of its shape and position by imagining it to be shaped much like a very broad leaf with a round end. The stem-end being pulled down and around the spinal column and attached thereto, its sides being fastened to the lower edges of the ribs, and its extreme front to the lowest point of the breast bone. Again, imagine the center of the leaf raised as if trying to pull its edges free from their attachments. This is its dome-like position of rest. When active, it pushes downward and becomes a nearly straight muscle extending from spinal column to breast bone, and from rib-side to rib-side.

### *A Director of Several Concerns*

The diaphragm is universally recognized as the chief agent of respiration and of voice control.

Sir Morrell McKenzie went so far as to call it "the soul of the voice." Assuredly, there can be no soul, no feeling, in the voice unless the tone is governed and sustained by this springboard-like muscle.

But the responsibilities of the diaphragm are by no means confined to the control of the respiration. It also exerts a direct, never-ceasing influence upon the circulation and digestion. In the degree that its action is free and strong, that influence is for efficiency and health. In the degree that it is restricted and weak, it is for inefficiency and sickness.

### *To Observe the Diaphragm's Action*

It is not possible to observe directly the movements of the diaphragm, but the movements of those muscles that are immediately associated with it are easily observable, namely, the abdominal and intercostal muscles. As the central part of the diaphragm moves downward, pressing against the liver, stomach and spleen, the abdominal muscles distend outward, while the lower half of the ribs and their muscles expand at the sides of the trunk; the greatest degree of expansion will be three or four inches above the so-called waist line. When the diaphragm springs upward to its passive position, as it does in unrestrained exhalation, the intercostal and abdom-

inal muscles relax and the sides of the trunk sink inward to their normally passive outline. To mark the amount of the diaphragm's action, it is best to direct one's attention to the movement of the side-ribs.

Two suctionings are made by the diaphragm's action. Its downward movement makes a suction on the lungs. Inhalation results; the air rushes in to fill the partial vacuum so formed. Its upward spring, which accompanies exhalation, makes a suction on the liver, stomach and spleen carrying them upward with it on its return trip.

### *Natural Massage of the Liver*

The liver, the largest and most overburdened vital organ, extends from the back around the right side of the body past the medial line in front until it directly adjoins the stomach. The whole of its upper surface lies closely under the elastic diaphragm.

Deep, diaphragmatic breathing acts like a gentle, persistent manipulation, or massage, of the liver.

Every time that the diaphragm moves downward as in a deep inhalation pressure is exerted upon this spongy organ. The effect of this pressure is to squeeze, or to push, the blood vigorously through the multitude of minute channels and cells that intersect the liver. Every time that the

diaphragm springs up as in free exhalation, an action similar to the uplift of the piston in a suction pump is exerted upon the liver. The effect of this is to draw blood rapidly into that large portion of the organ which is closely associated with the diaphragm. The result of the two movements, pressure and suction, upon the liver is obviously to better its circulation.

### *Man a Unit*

Better the circulation of the liver! That is a process simple in itself, but complex and far-reaching in its effects. It means improvement in the digestion and assimilation of food—better nourished muscles, nerves and brain. It means better elimination of the waste-products of the system from all of the excretory organs. And this means that we are better protected against septic, or poisonous, conditions of the blood. These are sometimes fatal, often dangerous, always debilitating; many times, moreover, they are most annoying in their minor manifestations as skin eruptions, blotches on the face, a lifeless, anæmic complexion. We must never forget that the liver is the chief agent in our living chemical laboratory for extracting the solid poisons and waste substances from the blood.

Nor is it safe for us to think that "the liver will get along all right without any of our help."

For it won't. It is bulky and inert, and has no direct power to move—that is, to contract and relax; and it has only a very little indirect blood-propelling power in its outer muscle-sheathing. So we must make sure that the diaphragm faithfully co-operates with it, and forces its activity.

### *Children Protected by Play*

Liver complaint is not one of the so-called "children's diseases." Children unknowingly guard themselves against it. They give their diaphragms splendid invigorating exercise by their shouting, crying, laughing, running, jumping and by their general enthusiasm. If adults knowingly kept their diaphragms equally active by simple exercises they would be much less plagued by torpid livers, bilious attacks, and "all the train that waits on them"—morbidity, loss of energy, loss of interest, and a liver-yellowed complexion.

### *The Abdominal Muscles*

There are several sets of these muscles. They form the supporting walls of the pelvic organs. The fact that these organs—among which are the four to six pounds liver and the far heavier intestines—have no other external support, is, in itself, evident reason why the abdominal muscles should be kept firm and strong.

To this end, special exercises are essential. (See topics, *For Strengthening the Abdominal Muscles*, page 175, and *Preventing Corpulency*, page 183.) The activities of our restricted conventional life afford these muscles but small opportunity for the vigorous contraction and habitual play that are essential to their vigor. If we adults twisted, turned, bent, kicked, rolled and romped as children do, the story would be different.

### *Corpulency and Worse*

As it is, the only demand habitually made upon the abdominal muscles is the light work of assisting in the maintenance of an alive and alert standing poise; and this demand is all too rare because the poise of children, men and women is often somewhat relaxed. Relaxed, bad poise gives the abdominal muscles no opportunity for tensing, for keeping their strength; so they laze and grow fat, and become incapable of work; or, if one is not inclined to flesh, they none the less laze and grow weak. And worse. Medical statistics show that about one person in twelve has some form of hernia, the majority of the victims being men. Not that their abdominal muscles are naturally less resistant than women's, but they are more neglected. The more exacting standard set for women than for men in the requirements of bod-

ily attractiveness has its advantages. Many a man whose abdomen is conspicuously out of proportion to the rest of his body prides himself on his "fine physique." Should a woman who has allowed herself to become similarly disproportioned meekly hint that her figure is not bad, she would be met with ridicule.

### *Good and Bad Ways of Protecting Oneself*

The horror of becoming corpulent has made many thousands of women take heroic—if bad—means to prevent it. A common means is "to hold the stomach in." Holding the stomach in is nothing more nor less than keeping the abdominal muscles contracted practically all of the time. This cannot fail to make these muscles, in a measure, resistant to the inroads of fatty deposits. But grave dangers attend the remedy. There is, however, a perfectly safe way to the desired end. Yes, and more than safe, for it immediately stimulates the digestive processes, particularly, the work of the intestines.

Especially should the oblique abdominal muscles be fortified by special contracting exercises, by stretching and by various inflections of the upper trunk. The most common form of hernia is rupture of these thin fan-shaped muscles. The only prevention is localized exercise which shall strengthen them.

Strain, or rather, sudden violent movements, which are usually the cause of physical strain, cannot be avoided. They are often the involuntary response to the call of some crisis. But the abdominal muscles can and should be habituated to stressful movements; then, they would have self-resident protection against emergencies. These muscles naturally are extremely elastic, and capable of bearing great strain. Their strength should be cultivated from childhood on—always.

Still another reason why the abdominal muscles should be contracted, uplifted, twisted, stretched and pulled by some vigorous exercise during a few odd moments of every day, is the benefit conferred upon all of the pelvic organs by such exercise. It gives them a fine massage, or kneading. Congestion, inflammation, appendicitis and tumors may result from inactivity and restriction.

An ounce of prevention is far easier and pleasanter to take than a pound of cure. And its effects are far more certain.

## VIII

### KINDS AND SIGNIFICANCE OF EXERCISE

“KNOWLEDGE comes but wisdom lingers.” Our knowledge of the blessings that exercise bestows has greatly increased during the last score of years. Formerly, gymnastics were popularly regarded as a means for the development of big muscles and unusual strength; as such they concerned only athletes and would be “strong men.” Today, conscious bodily exercise—physical training, health culture, psycho-physical culture or physical education—is pretty generally recognized as something that concerns all of us regardless of “age, sex or previous condition of servitude.” Let us pray that wisdom may not linger too long. Let us pray to see the relative value of our daily doings. Are we not justified in believing that intelligent daily exercise *of the sort to profit us according to our needs* will some day be reckoned a part of moral living?

#### *Why Exercise Is Imperative*

What is the chief benefit of exercise? Put this question to a hundred educated persons outside

of the medical and related professions, what would the answer be? Doubtless many concrete benefits would be named—to tone up the system, to improve the circulation, to keep one from getting settled and stiff, to aid digestion and so on. Not many persons, I fancy, would unhesitatingly answer to protect us from self-poisoning, or auto-toxichemia, as it is technically termed.

All the tissues—brain, nerves, glands, muscles—become saturated with the poison of their own waste-products. This generation of poison is inevitable. It is a part of the living chemistry of all animal life, but health of mind and body requires that these poisons shall be gotten out of the system with all expedition. The question is, How? First, the tissues must be freed from them. Here is where exercise is invaluable; by kneading, squeezing, pulling, twisting, even wringing the tissues it forces the poisons out into the channels of expulsion, the veins, whence they are carried to the excreting lungs, skin, kidneys and liver. This, then, is the greatest ministrations of exercise—to relieve the poison-laden tissues of their poison. Unless such relief is effected in some way, physical deterioration or incapacity, as lassitude, nervousness, aches and pains, diminished efficiency, sickness—passive, chronic or acute—will follow as surely as the night the day.

*KINDS OF EXERCISES*

*Contracting Exercises* for strengthening and developing the muscles and for stimulating the vital processes; they embrace all energizing, rigid and tensing movements.

*Relaxing Exercises* for relieving muscle, nerve and brain tension, and for conscious muscular rest.

*Breathing Exercises* for the *direct* elimination of poison from the system and for vital invigoration.

*Rhythmical Exercises* for promoting assimilation, for gracefulness of movement, for tranquilizing the nervous system, and for their effect upon the psychic states.

*Stretching Exercises* for mobility—the free, youthful play of the muscles in all movements—and for invigorating the whole organism.

*Muscular Movement and Passivity*

To “speak by the book,” every movement of the body or any part of it implies two things, i.e., the contraction, or shortening, of some muscle or muscles and the relaxation, or elongation, of some muscle or muscles. For illustration: When a boy energetically bends his forearm on his upper arm to show you “how hard his muscle is”—the biceps, or upper arm muscle, is greatly contracted while the triceps, or under-arm muscle,

is relaxed. These are the technical terms, but the popular meaning of relaxation as applied to the muscles signifies quite a different muscular condition. It is not the elongation, or yielding, of one muscle because an opposing muscle pulls it. Instead, it is that condition of a member of the body, as an arm, or the whole body, where opposing muscles neither pull nor are pulled. This means that there is no movement, that the arm is in a passive, or quiescent state; in other words, *it is free from all volitional-energy*. When the terms "relax," "relaxing exercises" and "relaxation" are used in this book it will be in this popular sense.

### *An Evolution in Gymnastics*

Some leading teachers of the "regular schools" of gymnastics were formerly inclined to pooh-pooh teaching relaxation. Professor William James' *Psychology of Relaxation* did much to convert these conservatives to more liberal views. Here was authority not to be ignored. Today, *Relaxing Exercises* are embodied to some extent in nearly all systems of conscious bodily exercise.

*Rhythmical Exercises* have also gained recent dignity. They are no longer damned with faint praise as "Yes, pretty and attractive, but——" Progressive educators now recognize their psychological and physiological importance. Dr. G.

Stanley Hall says, "It seems as if the emotions are controlled by action and rhythm. The history of the dance throws a very important light upon physical culture; and I do wish somebody would come to the front and be a professor of dancing in the broad historical, psychological sense."

*Stretching Exercises* also are being recognized more and more as natural health-promoters. This is really a reversion to nature for stretching and yawning are the natural gymnastics. Birds, beasts, babies and, sometimes, men spontaneously stretch. A good horse turned loose after a day's work lies down, stretches, rolls over two or three times and then gives himself a good grooming shake. A cat or dog yawns and stretches itself

up, will of necessity breathe deeply, exercise the diaphragm and, I believe, in most cases, will ward off disease and keep old age waiting for long. The person who does this daily for five minutes as a habit, will probably have no need of a physician.”\*

### *Heavy and Light Gymnastics*

*Contracting Exercises per se* are what are commonly called *heavy gymnastics*, that is, gymnastics which demand a large expenditure of energy. Apparatus is frequently used with these, but it is not essential. Tremendous energy can be exerted in different sets of muscles by will-command, alone. Rolando—the strongest man of the present hour, and a great teacher as well—gets his best results by “rigid,” or will exercises, combined always with breathing exercises.

All gymnastics which require but comparatively small expenditure of energy are commonly called *light gymnastics*. Regarding the general value of heavy and light exercise, Mosso, the eminent Italian physiologist, says: “Important investigations have been made which prove unquestionably that gymnastics owe their great usefulness to the fact that the muscles in their activity “knead” themselves, and that light motion aids the con-

\*HAECKEL, *Development*.

stant flow of lymph and blood better than strong and sudden motion."

All the acts of our daily life partake of the nature of either heavy or light gymnastics, according to the amount of energy expended in doing them. The lighter we can keep them, the better, for the more one can make the spirit of play, of joyousness, pervade his life, the better will his brain and body fare.

### *The Way We Work*

Two men pitching hay, two women doing housework under the same conditions will do the work in radically different ways as regards the expenditure of nervous energy. The one will make of work a light gymnastic, the other, a heavy gymnastic. The large majority of manual laborers, farmers, farmers' wives and houseworkers in general do the latter. They should make their work play by doing it with a light touch, by stepping trippingly, by letting all the muscles, not employed to some end, rest, and by ever and anon stretching which gives incalculable relief to muscles used in tiring, routine ways. Instead, they let the trunk sag which makes buoyant light movement of the body impossible, and they move with slow heaviness or over-energetically, which doubles the fatigue incident to their work and lessens their general vitality. Such workers age early.

Physical work may or may not be good physical exercise, much depends upon how it is done.

### *The Mental Attitude*

“Play is the exercise you like, and work is the exercise you don’t like,” declared a small boy. Turn this about, and we have another classification of exercise—and a significant one—exercise that is play and exercise that is work.

Whether any physical act shall be work or play depends quite as much upon our mental attitude towards it as upon the quality of the act itself. The boy who drags his body reluctantly along to school is in the drudgery mood. But let his father call to him *that he can have a holiday*, his mood, in the twinkling of an eye, becomes the play mood. Exuberant physical activity is then a happy necessity. Up goes his cap in the air, he shouts and runs and jumps—the natural bodily response to his new mood. These latter acts demand much greater expenditure of energy than does the simple act of walking; but they were spontaneous play to the boy, while walking to school was tiresome work. “The labor one delights in physics pain.”

### *Unknown Causes*

To get the best results from Health Exercises, the mind’s attitude should be a compound of play-

fulness and loving attention. If you ask *why* certain mental states release energy and others inhibit it, the answer is, "no one knows." Nor does any one know why sap ascends from the roots of the tree to the topmost leaves in defiance of the law of gravitation. But it ascends. Likewise, it has been scientifically demonstrated that the supply of blood sent to an exercised part of the body is richer when one's mind is interestingly centered on the movement—or on its effects—than when the mind is indifferent and the movement is made in a mechanical or automatic way. "Enthusiasm is the only virtue, inertia, the only vice," says Rostand.

## IX

### THE WILL TO BE WELL

HEALTH, in the broad sense is, at least, three-fourths a matter of the mind. First, there is the direct effect of emotional states and their nerve-vibrations, high or low, freeing or restrictive, upon all of the bodily organs and processes. Second, there is the intellect factor, the mere knowing—or the not knowing—what to do to promote health. Knowing what order of thoughts to encourage and what order to discourage; what daily physical habits, attitudes, positions, activities, work and play are to one's advantage and what to one's disadvantage. And last, the *will to be well*. This mental state in itself is a tonic of high potency.

Willing is not mere longing or desiring. It is the executive mental state that actualizes thoughts and desires. The will to be well makes one *do*—not merely think or talk about—that which shall guard and redeem one from physical breakdown, suffering, humiliating inefficiency and premature old age. Just sheer will to live has saved many a person's life at some critical juncture.

*Honest Confession Good for the Will*

A little self-scrutiny is profitable, it helps to get one's bearings. It is well upon occasion to put plain questions to oneself and not to dodge the answers. "Have I the will to be well? Have I the strength of character to do that which I know will insure my health and keep my brain awake and efficient?" Honest judgment of yourself up to the time of asking the questions may compel you to answer in the negative. Perhaps you know that your habit has been to begin things, but not to finish them. Yours has been a Rip Van Winkle kind of will. All right, squarely acknowledge your bad record, and begin a new account. You are not the person today that you were yesterday. Remember we "rise to higher things on stepping-stones of our dead selves." A new incentive stimulates your will. You now realize that no Titanic effort is required of you, realize that the ways to health are daily ways, easily lived.

*Profitable and Dangerous Sayings to Oneself*

This is the day to begin your health quest. Get your mental attitude toward yourself straight. Say, "I have not shown strength of character in my shilly-shally habits of yesterday. But what of that? I have a *latent* strong will. Now, it's going to be a dynamic strong will. I know I can

do what I set out to do. 'I am a soul and have a body.' It is my business to keep that body in its best condition for serving the real me. From henceforth, I am in league with health. I command my will to hold me up to my highest level of action and I expect it to obey my command." Give yourself such positive auto-suggestions over and over, and never cease or falter in giving them. They cannot fail of bringing good results when once they become your dominant attitude toward yourself.

It is equally important that you be on your guard against unfavorable and weakening auto-suggestions. They quadruple the difficulties of your health and happiness quest. Banish them by a laugh or some confident expectation or, better yet, by doing the thing they would paralyze your ability to do. The best way to refute a falsehood is to do the true act. Many persons tell damaging falsehoods to themselves about themselves who could not be tempted to speak falsely of another.

### *A Vice That Parades as a Virtue*

Persons of industrious bent often exercise their wills to their health's undoing. They obey a wolf-in-sheep's-clothing kind of auto-suggestion which nags their energies incessantly, and keeps them *always at it*, whatever *it* may be. The size and importance of it has practically nothing to do

with the intensity of their self-goading. There are always "important" things to be done if one encourages a weakness for ferreting them out. The over-industrious person says to himself or herself, "Just as soon as I can, I'll finish this, then my next piece of work will be so and so, after that I'll tackle that job and after that"—in imagination an endless perspective of things to be done crowds up and drives these self-denying souls to the verge of physical breakdown. "Extreme busyness, whether at school or college, kirk or market, is a symptom of deficient vitality," said Robert Louis Stevenson.

To inhibit, to put the brakes on our mental or physical activities is one of the highest exercises of the will. Dr. G. Stanley Hall says, "Some persons live and die with this highest story never developed—the power to inhibit."

### *Our Good Fortune*

Another vicious form of unconscious auto-suggestion is the habit of saying to oneself or of oneself in extenuation for any faltering of spirit or failure of accomplishment, "Oh, well, I'm made that way!" It is our good fortune that we are not made nor ever will be. The process is continuous; "the flowing conditions of life are our opportunity; everything is subject to the power of the will," says Emerson.

## X

### ONE'S BEST PHYSICIAN

CENTURIES ago Galen said, "He is the best physician who is the best teacher of gymnastics."

The detailed directions herein given for *Specific Health Exercises which directly benefit specific conditions, physical and mental*, enable every one to be his or her own "best physician."

Psycho-therapeutics has proven beyond dispute that the mental attitude which best accelerates physical repairs is confidence. There is ample warrant for this attitude regarding these Health Exercises for their effectiveness has been tested and attested by thousands of the writer's immediate pupils.

Not only confidence in what one is doing but confidence in oneself, and all roseate mental states forward health. Pessimism is contractive and lowers the vital tone. Enthusiasm is an elixir; it invigorates the vital processes and gives tonicity to the muscular system. We can make the mental condition for getting the best from Health Exercises—and from life—by following Emerson's

advice: "Omit the negative proposition; nerve us with incessant affirmations."

### *Changing One's Mental Attitude*

If you bring a negative mood to your practice, do not go through a certain number of exercises with martyr-like resignation for that would be to minimize the possible benefit accruing from them; rather, recognize the mood, and banish it at once by some lively exercise of the feet—a standing run or a backward and upward kicking or by an invigorating swinging step and upward stretch of the arms—any physical exercise of buoyant and playful nature. Such physical activity reacts upon the mental state and soon converts it into one of interested helpfulness.

### *Practice Suggestions*

Many of the exercises herein given are very light ones—practically, muscle-play; some are of the nature of non-activity being primarily nervous and muscular relaxation; others are vigorous; none are violent. Nor will any of them be exhausting to persons possessing a fair degree of energy; however, the strength and the condition of the individual should always determine the amount and the kind of exercise to be taken. It is better for those who are just commencing to

discipline their bodies to underdo than to overdo. Begin by doing a little, but increase that little to more day by day.

In all practice, it is wise to begin with some light exercises and to work up to more vigorous activity, and then to slow down toward the end. This order imposes the least strain upon the heart. We should especially avoid sudden cessation from any vigorous activity whether it be exercises that are wilfully taken for health's sake or activity which is incident upon daily living. The heart must be given a little time to accommodate itself to the widely different demands made upon it by extra physical exertion, and by physical repose.

[In the arrangement of the following exercises under various topics, the aim has been to get them into easily useful form; for this reason some of them appear under two topics. All exercises confer major and minor benefits; when any exercise ranks as major under more than two topics it has been listed at the end of the other topic or topics.]

NOTE I. *Commence all Health Exercise Series—no matter what their nature or purpose—with a few “warming-up” stretching movements.*

NOTE II. *In all exercises where the arms are raised in any direction bend from the hips slightly forward of the normal poise.*

NOTE III. *In all Standing Exercises, unless otherwise directed, keep the center of gravity over the balls of the feet.*

NOTE IV. *In all Breathing Exercises, the inhalation and exhalation should be through the nostrils unless exhalation through the mouth is especially mentioned. Yawning is the only exercise where inhalation is partially through the mouth.*

### FOR ESTABLISHING GOOD STANDING POISE

(Read topic, *Standing*, page 46.)

Don't put the shoulders back,  
 let the ribs sag,  
 put the hips back,  
 hold the abdomen in,  
 thrust the chest out or up,  
 let the head droop,  
 settle in one hip or  
 keep the weight, or center of gravity,  
 over the heels.

Do keep the erector spinæ muscles strengthened,  
 hold the rib-cage well up,  
 keep the shoulders free from tension,

keep the chest in advance of the abdomen,  
push upward with the crown of the head,  
use each leg equally in supporting the trunk, and  
keep the weight, or center of gravity,  
over the balls of the feet.

### *Hip-Bending Exercises*

*A.* Place the hands lightly upon the hips.

Keeping the knees straight, and inclining the head back more and more as the trunk descends, bend easily forward from the hips until the line of the back is at a right angle with the line of the legs. Hold this position for a moment, then raise the torso to an upright position, and stretch the back-neck muscles in an effort to push the crown of the head upward. Repeat several times, aiming to use less and less energy in bending and in raising the heavy torso; make this a light, playful gymnastic, not a heavy, fatiguing one.

### RESULTS

This exercise makes *possible* a free and ready adjustment, or poise, of the three main divisions of the body, and gives a fine pull to the under-leg muscles and ligaments. Let no one confuse the position produced by it with that commonly called "putting the hips back." The latter causes

a contraction of the lower-back muscles which results in a tense and strained expression of the body; but, in this exercise, no contraction is induced in the back muscles; the trunk from its socket cradle merely sways easily forward, which brings the whole body into an active, uplifted poise.

*B.* Immediately follow "*A*" by bending about one-half as far forward, being sure to let the head incline proportionately backward in opposition to the forward movement of the trunk; then bend still less and less, until finally, the forward movement from the hips is so slight as to be hardly called a movement. It being, rather, a change in bodily expression—a change from a careless, unanimated expression to a magnetic, interested one.

### *Normal Poise Movement*

As exercise of the right order will decrease an excessive accumulation of fat, and at the same time increase the size and strength of muscles, so the same bodily movement for effecting the right mechanical adjustment of the body will give equally satisfactory results in the case of two radically different conditions. Practically, the same very simple movement—it is too simple to be called an exercise—will transform a relaxed, sunken-chest, sagging-shoulders position, and a tense, assertive-

chest, bracing-shoulders position into an easy self-respecting, health-forwarding poise. All that such transformation of bodily expression requires is for one *to come forward from the hips until the weight is over the balls of the feet, and to be as tall as one's stature allows*. That is all that one has to do in order to gain an ideal poise *except not to do anything else*—the head, shoulders and chest must not take an active part in the movement; they are the parts to be adjusted, not the adjustors.

Lift and lower the heels several times—the body from the hips up being exempt from all strain or work—then let the heels lightly touch the floor but do not transfer any of the weight of the body to them; in other words, while the whole of the feet touch the floor, the center of gravity is entirely over the balls, and you are standing at your maximum height. *This is the normal poise of the body*.

The mechanism of the movement is the rolling forward of the pelvic-socket on the ball-end of the femur to just that finely balanced point where the trunk neither tips backward of, nor forward from a vertical line, or line of gravity.

## RESULTS

The whole bodily expression is transformed; the knees straighten, the head and ribs lift, the back flattens and shortens, the front-waist length-

ens, the sunken chest becomes active, the hips which were too far forward recede, and the shoulders assume their rightful position as they always must do when the body as a whole is well poised. (See Chapter, "The Diaphragm, Back and Abdominal Muscles," page 89.)

The change from the bad position where the body settles in one hip to the normal poise is effected in the same way plus one other thing; if one's habit is to settle in the right hip, then the weight must be transferred to the left leg as one sways forward to one's greatest height, or vice versa if the left hip has been the overtaxed one.

In the maintenance of an ideal poise, it matters not whether one stands upon either foot or upon both feet, unless one has to overcome the habit of settling in one hip.

There is one bad position—fortunately not a common one—where a change to a better poise cannot be brought about by swaying forward from the hips. It is the position where the head and upper part of the trunk are already far in advance of the rest of the body. This position is often a more or less fixed one, because from long-continued sagging of the ribs the little cartilage cushions between the vertebræ have been pinched and thinned on the inner side and, of course, correspondingly thickened on the outer side. This is a very difficult position to alter, materially. The *Chest Mobility Exercise*, page 137, and *Back Con-*

*tracting Exercise*, page 138, are among the best for regaining somewhat of the lost plasticity.

If one's habit has been to have the center of gravity over the heels, when it is changed to the balls of the feet, one may at first feel as if about to fall forward; the trunk does fall forward from half an inch to two or three inches—it falls to a straight line. Often in first lessons a student ejaculates: "Oh! I could not stand this way always; I should tip over. It is so unnatural!" The same person after ten days' practice will say, "I stand in the natural poise all the time now, it is the easiest position I ever had; besides, I feel so much lighter and younger than when the weight rested heavily upon the heels."

Habit is often mistaken for first nature.

### *Ankle Swaying Exercises*

*A.* Stand with the weight on both feet.

Keeping the knee, hip and shoulder joints stationary, and moving the body as one member from the ankles to the crown of the head, sway slowly backward until the center of gravity is over the heels, than sway forward to the original position. Repeat many times, varying the time of the movement from slow to quick and then to very slow.

*B.* Slightly advance one foot and stand with the center of gravity over the ball of that foot.

Sway as before, transferring the weight, in turn, over to the heel of the forward foot, the heel of the backward foot, the ball of the backward foot and again over the ball of the forward foot. Repeat several times; then standing on the forward foot, advance the other foot, and repeat as before. Always have the center of gravity over the forward foot when you discontinue the exercise.

Many a disadvantageous emotional state can be dislodged by a buoyant bodily poise.

### *Transferring Weight Exercise*

A. Stand with the weight on the left foot. Without moving the body proper, advance the right foot the length of an ordinary step touching only the ball of that foot to the floor. To prove that no part of the weight shifted to the right foot as it swung forward, lightly lift it from the floor three or four times. Then raise the heel of the left foot, and, keeping the body at its full height, steadily sway forward until the center of gravity is entirely over the ball of the forward foot. As the transference of weight takes place, the whole of the forward foot comes to the floor, while all except the toe of the back foot lifts from the floor. Next, raise the heel of the forward foot, and steadily sway backward until the center of gravity is again entirely over the back foot.

Repeat many times, making the movement slowly at first and then more quickly. Stand upon the right foot, advance the left foot, and repeat.

*B.* Stand with the weight on the left foot. Swing the right foot directly out at the side as far as may be without disturbing the poise of the body, and let the right toe touch the floor in line with the left toe. Lift the heel of the left foot, and transfer the weight to the right foot; then sway over to the left foot. Ease and steadiness of movement will soon result.

Briefly, *to transfer the weight of the body* means not to change the position of the feet, but to change only the center of gravity by swaying the body from one foot to the other, no matter what the position of the feet may be. It is an exceedingly simple movement, but many persons have difficulty with it at first, and as it is fundamental to many of the more complex Health Exercises, it is explained in detail. Practice it during odd moments of enforced waiting.

Good poise of the body first of all demands strong back muscles, therefore, taking exercises for the strengthening of these muscles should become and *remain* one's daily habit.

Include in this series:

*Pinching-Spine Exercise*, page 157,

*Chest Mobility Exercise*, page 137,

*Neck-Pressure Exercise*, page 156,

*Shoulder-Shaving Exercise*, page 159,  
*Back-Contracting Exercise*, page 138, and  
*Back Rib-Lifting Exercise*, page 154.

### FOR BUOYANCY AND LIGHTNESS OF MOVEMENT

There is positive, magnetic attraction in physical buoyancy and lightness of movement. And this unfailing charm lies within the reach of all who will "sail on the top of their sea of troubles," and will keep their bodies expressive of such victorious voyaging by not allowing them to stoop, sag or drag. A friend who has made a brave fight for years against a bad physical inheritance recently said, "Well, I've accomplished one thing. People always think I'm younger than I am. This is not because my face looks so, but because I move like a young, enthusiastic person. You see, I've made my muscles pretend life was great sport." Let us all play and pretend and realize.

#### *Play Movements for Buoyancy*

*A.* Standing well poised, lightly and quickly hop first on the ball of one foot and then on the ball of the other.

*B.* Feet in normal position, weight over the balls.

Lift the ribs high, and keeping the head well poised, quickly rise and sink on the balls of the feet a dozen or more times, scarcely touching the heel to the floor,

C. Advance one foot, weight over it. Rise and sink rapidly on the ball of the forward foot. Advance the other foot, and repeat.

D. Stand alertly on the right foot.

Swing the left leg freely forward and back. Do not kick, just swing. Advance the left foot, and repeat.

E. Uplift the ribs, and place the open hands lightly on the sides of the body a little above the waist line. Center the attention on the muscles under the hands, take in a quick, big breath, and push the hands well out by the action of the diaphragm in inhalation. Exhale, rest, and repeat several times.

F. Playfully swing the arms forward, upward and outward in a circular movement, at the same time bending the knees and quickly straightening them; repeat several times. Then swing the arms as before and lightly spring upward, raising both feet from the floor for an instant.

### *Quick-Command Exercises*

Stand well poised, the weight being over the ball of one foot. Keep the other members of

the body perfectly quiet while you move the free leg lightly and very quickly in many directions. Move it forward, first touching the toe to the floor, then the heel, and then the whole foot; move it out at the side, forward, back, cross it over the other leg, and bring it to place; lift the thigh until the knee is on a line with the hip, the leg below the knee being relaxed, and bring the foot down, the toe touching the floor; lift it again and bring it down, the heel lightly touching.

It is much better if this play exercise be practiced with some one else, or better still, with several others, letting one person give the commands for the various changes, and all follow the commands, vying with each other to excel in quickness and accuracy.

Also practice different movements of the arms, as right arm up, left arm out in front; left arm out at side, right arm out in front, and other combinations. Each command must be executed without an instant's hesitation.

## RESULTS

The primary object of these exercises is to establish quick co-ordination between the mind and muscles. Other things being equal, the quicker a person's co-ordinations, the greater his efficiency.

Some children temperamentally have slow muscular responses, and many adults allow them-

selves to become unnecessarily dull and monotonous in their bodily movements—in other words, old. To both classes, quick co-ordination exercises will prove physically and mentally stimulating. A noticeable feeling of buoyancy and of playfulness of spirit usually results from two minutes' practice of these rapid changes of the positions of the feet. Unquestionably, there is good psychological argument for dancing, not only as recreation but, therapeutically, as a re-creative agency. When rapid physical movements are carried to excess as in the wild barbaric dances of some savage tribes, the mental stimulation reaches frenzy.

### *Quick Step and Swing Exercise*

Standing on the left foot, lightly spring diagonally forward on the right foot, and swing the right arm forward and upward high above the head; inhale as you do so. Making the movement continuous and rhythmical as in dancing, quickly sway back to the left foot, bringing the right foot to place beside it and the right arm down; exhale as you do so. Without interrupting the movement, repeat until your nerves are exhilarated. Stand on the right foot, and repeat.

### RESULTS

This exercise, besides developing lightness of

movement and youthfulness of bodily expression, is an excellent constitutional tonic. It brings all of the muscles into play, and stimulates the vital processes.

### *Minuet Walking Exercise*

Stand alertly poised on one foot.

Swing the other leg well forward and upward, bending the knee, and pointing the toe downward and out. Without interrupting the rhythmical movement, bring the leg inward to the length of an easy step, and sway forward on the toes of that foot thus advancing a step. Walk for a minute in such buoyant fashion—not allowing the heels to touch the floor. Then walk naturally, and note how free and light your step is for a few steps, at least. Practice makes perfect and habitual.

### *Rhythmical Body-Bending Exercise*

Stand on the right foot.

Advance the left foot a long step, but do not transfer the weight to it, and raise the arms laterally level with the shoulders, the hands open, palms down. Throughout the rest of the exercise the arms have no independent movement, but are moved wholly by the swayings of the trunk.

Twist the body until the left arm is in direct line with the left foot. From this point, the exercise is one continuous rhythmical movement. As the back knee bends, the body inclines from the hips in the direction of the left foot until the left hand is just above it—the weight still being on the back foot. Then, simultaneously, begin raising the body and transferring the weight to the forward leg; the forward knee at first bends, and then straightens as the body attains its full height. When the body is upright, without interrupting the movement, incline it backward toward the right foot, the weight being wholly on the left foot. Then transfer the weight to the back foot, again bending that knee, and inclining the body forward toward the forward foot. Continue thus, alternately transferring the weight from right to left and left to right foot, and inclining the body sympathetically, ten or more times. Stand on the left foot, and repeat the exercise.

## RESULTS

Too much cannot be said regarding the lightness and freedom of movement produced by this delightful exercise *after it is thoroughly mastered*. It is really a rhythmical dance movement with the feet remaining in place, the action being confined to the arms, body, hips and knees. Dr. G. Stanley Hall says, "There is one subject, rhythm, that is fundamental, and yet is often ignored.

. . . I do not believe it is easy to overestimate the importance of it. There is a profound and close relationship between our muscle-habits in that respect and thinking."

### FOR ESTABLISHING GOOD SITTING POISE

As the strongest muscle in the body, the heart, steals between beats some eight or nine hours of rest out of each twenty-four, so the back muscles which have a masterful task assigned them—the upholding of the heavy trunk—should have periods of respite during the day as well as at night. They should always be on vigilant duty when one stands or sits without a back support; their resting opportunity is when one sits with a back support, but they should not take a disgraceful advantage of this opportunity and so relax as to weaken and unfit themselves for further estimable service. There's a difference between an inch and an ell the world over.

#### *Back-Resting Exercise*

Sit erect, well back in your chair.

Lift the shoulders very high, and then relax them to free the torso muscles from tension. Place one hand upon the chest and one at the

small of the back; slowly sway backward until the body rests against the back of the chair, then sway forward to the original position. Repeat several times, noting the individual movements of the chest and spine underneath the hands.

If this exercise be correctly taken, there will be a slight outward curve at the small of the back as the torso sways backward; the chest will lower a little—become passive in expression—but will not approach a depressed state. The shoulders retain their normal position and are the first to rest against the support. If the torso be held in a tense manner, as the body sways backward the small of the back will curve still farther away from the back support; this is a fatiguing, an unnatural attitude. In the latter part of the movement, as the body sways forward, the chest—not the head—will lead, that is, the rib-cage will lift somewhat, making the chest prominent, but there must be no straining for this effect; the back will curve inward as the chest rises. If the back muscles relax too much as the trunk sways back against the chair, the shoulders will sag forward, the chest become depressed, and the whole upper trunk rest heavily upon the pelvic portion, the whole expression will be one of physical collapse, or surrender; to sit thus is to tempt fate—ill-fate.

The head in this exercise, as in all co-operative movements of it and the trunk, *naturally* moves in

opposition to the trunk; when it does not do so, the expression is one of awkwardness, constraint or weakness. When sitting without a back support, the ribs should be lifted high and the head well poised—the ears being directly in line with the shoulders. When leaning against a back support, the lower part of the spine should be well back in the seat. Children in school unconsciously seek relief from the fatigue of muscular restraint by slipping down in their seats into a semi-reclining position; such position weakens the back muscles and sometimes causes permanent injury to the spine. A rational scheme of education will provide for such frequent two and three minutes' periods of exercise, and for such room and lung ventilation that children will not be tempted to assume positions so adverse to health.

### *Swaying Play Movement*

Sitting well back in your chair, playfully and rhythmically sway forward and backward and sideways from the hips, inclining the torso, in turn, in many directions. Inhale as the body moves away from the chair and exhale as it approaches it.

### *Rhythmical Body-Swaying Exercise*

Sitting with the body resting against the back of the chair, inhale and, lifting the ribs very high,

slowly sway forward until the torso is well over the lap; in the degree that the torso inclines forward, the head inclines backward. Exhale slowly as the torso rises and the head adjusts itself in harmony with the general movement; when the torso reaches an upright position, do not stop the movement, but continue swaying backward until the body is in its original position. The arms should hang loosely at the sides throughout the exercise. Repeat eight or more times without interrupting the flow of motion.

Take a similar movement diagonally forward to the right and to the left; also one directly at each side.

## RESULTS

This exercise aids in establishing equilibrium—the easiest possible balance—between the head and trunk when in motion, and has a peculiarly soothing effect upon the nerves.

### *Chest Mobility Exercises*

*A.* Stand or sit with an inert, sunken chest.

Place the hands on the middle of the chest, and focus the attention at that place. Inhale enthusiastically, and lift the chest very high by contracting the back muscles and by stretching the side-trunk muscles upward. Hold this extremely

animated position for a moment, then exhale, and relax. Repeat the movement several times.

Care must be taken that the body does not incline even slightly backward—rather forward, instead—and that the shoulders are not lifted by any independent action.

*B.* Place the left hand on the left side of the chest, it being depressed, focus the attention there; and proceed as before. Then do the same thing on the right side of the chest. In these side movements, the chest should uplift in a diagonal line, the trunk being pushed somewhat to one side in the pelvic cradle.

Many persons have little or no expression in the chest. One would think the muscles were an armor of steel so set and lifeless is their expression. With children and great actors, whose bodies are perfectly free and responsive, the chest is one of the most mobile and expressive agents.

### *Back-Contracting Exercise*

Sit well back in a straight-backed chair, the lower part of the spine and the shoulders touching the back of the chair.

Inhale, and vigorously contract the muscles that extend along the spinal column. This will cause the back at the waist line to curve markedly inward away from the chair. Exhale, but do not relax. Inhale again, and contract more vigor-

ously, trying to shorten the distance between the shoulders and hips. Hold this extremely energized position for a moment, then exhale, and relax, being careful not to go to the other extreme and *collapse* at the waist line in front.

The tendency in nearly all sitting postures that are maintained for any considerable time is for the shoulders to sag forward and the erector spinæ muscles to become elongated, or, technically, too relaxed. This gradually weakens the muscles, and they lose their power to contract. Then the figure becomes stooped, round-backed—in a word, old. The same thing results from standing much in a stooped position. Manual laborers bend under their burdens, and, in turn, are bent by them. Women doing housework stoop from the back instead of bending from the hips—stoop over the stove, sink, baking table, washtub, and often they do not fully straighten when moving from one task to another, but retain a half-stooped attitude.

## RESULTS

This back-contracting exercise counteracts the effect of stooping, strengthens the muscles of the back, lifts the ribs, and rests the spinal nerves. The habit of taking this exercise almost involuntarily can be easily formed. The relief it affords is so evident that instead of being an exercise one

feels one ought to do, it becomes pleasurable exertion which one wants to do.

### *FOR RISING, SITTING AND MOUNTING STAIRS*

In no ordinary physical act is more force wasted or more awkwardness seen, than in changing from a sitting to a standing position. The movement usually begins with a jerk that brings the body too far forward, and then another jerk follows as one rises. This act is commonly a united effort on the part of the legs and back, sometimes, even the arms are enlisted by placing them on the knees and so pulling the body forward. As a matter of economy of effort, the legs should do the work of lifting the body from a sitting to a standing position. The torso should sway forward from the hips—the thoracic-cage being lifted high—either quickly or slowly as one's mood dictates, until the center of gravity is brought far enough forward to make it possible for the legs, unassisted by the back, to lift the body to a good standing poise. There should be but one impetus in bringing the torso forward, in rising, and in stepping; to make two or three is a waste of force. In the act of sitting, one should yield first at the ankles, then at the knees and hips, successively, carrying the torso backward as the hip joints act.

*Rising and Sitting Exercise*

Stand so that the calf of the right leg touches the front of a chair and the left leg is back an easy step at the side of the chair.

Start with the weight entirely over the forward foot, the back heel being lifted; easily sway the body backward, bending the back knee as you do so until the weight is entirely over the back foot; then lift the forward foot from the floor and straighten the back knee. The forward foot being raised, bend and straighten the back knee several times—keeping the body from the hips up easily poised; then let the forward foot touch the floor, and transfer the weight to it again. Repeat these movements several times, then as the body sways backward, bend both knees and carry the body down until the corner of the chair interferes with its progress; without *settling on the chair*, i.e., letting the body become inert, push against the floor with the back foot and lift the body to an upright position, swaying the center of gravity over the ball of the front foot as the body lifts. Change the relative position of the feet, and repeat. This is merely a preparatory exercise, but it will accustom the legs to the effort required of them, and accustom the back to the non-interference necessary for the graceful and healthful performance of this oft-repeated daily act.

*Mounting Stairs*

In going upstairs the same principle should be observed as in rising from a sitting posture. The rib-cage should be lifted high, the torso very slightly poised forward from the hip joints, and the legs should do the work. Eminent physicians prescribe moderate stair-climbing for some forms of heart trouble; the heart that has been strengthened by doing daily a little more pumping than is required for the ordinary acts of life, is best prepared for any physical or emotional time of unexpected stress. Less energy is expended in ascending stairs with a light, springing step letting only the balls of the feet touch the stairs, than when the step is heavy and a momentary rest is made upon each stair.

*FOR PREVENTING AND OVERCOMING  
NERVOUSNESS*

Nervous persons sometimes declare that relaxing exercises make them tense. This is as absurd as to say that eating makes a man hungry. Not infrequently relaxing exercises make a person realize for the first time how tense he is, for, prevalent as the habit of sustained muscular contraction is, many who are in bondage to it do not

know what enslaves them. They wonder why they are so tired all the time, why they should be fatigued when they have not been doing anything, why they are so stiff and awkward or so nervous and "on edge." They know that medicine does not reach their case, but they know not how or where to attack this intangible something that makes life hard work for them. Tension, or sustained muscular contraction, is its name. Relaxing exercises and a new order of auto-suggestions are the means of breaking free from it, and from its evil consequences.

### *Yawning Exercise*

Sit with the back easily supported.

Vigorously contract the muscles of the back and uplift the ribs, take a big breath through the wide open mouth, and energize the whole body, stretching the arms and the feet and legs at full length; then completely relax. Repeat three or four times or until a genuine yawn is induced.

Stretching, yawning, relaxing—the ideal way to drop nervous tension.

### *Arm-Relaxing Exercises*

*A.* Raise the arms straight above the head. Hold the position while mentally repeating sev-

eral times, "relaxation, rest, repose," then instantaneously relax the arms, that is, withdraw the will-impulse that lifted them, and gravity will do the rest. Be sure that you are not responsible for their descent; do not throw or put them down. Imagine that a severe blow is struck upon the shoulders paralyzing the arms; then your will could not guide their descent, now it must not, if you would gain freedom from the fatiguing habit of tension, or over-nervation.

*B.* Sitting in an easy position with the back supported, close the eyes, rhythmically raise the arms above the head, and open the fingers wide. Concentrate the attention on the play of nervous energy in the arms. Sense its presence in every muscle-fibre as you gently stretch and stretch upward; then slightly relax, and again stretch. Then by an act of will withdraw the energy from the fingers, causing them to drop relaxed; re-energize them, and again relax. Vigorously re-energize to the finger-tips, and successively withdraw the energy from the fingers, hands, forearms and arms.

## RESULTS

Besides being generally restful, these relaxing exercises free the arms from habits of restriction and awkwardness. It is tension in them that makes angles or awkwardness possible. See the freedom and grace in little children's movements and positions before they become conscious of their bodies.

*Leg-Relaxing Exercise*

Stand with the weight on the right foot.

Lift the left leg until the knee is on a line with the hip. Bend the leg below the knee well back; relax, and let it swing from the knee like a pendulum; again flex it, and relax. Do this several times, then release all energy from the thigh, letting the foot fall heavily to the floor. Transfer the weight to this foot, and repeat the exercise.

*Torso-Relaxing Exercise*

Stand with the weight on both feet.

Beginning at the neck, slowly relax the spine. Let the head lazily droop forward, followed by the shoulders, and then let the whole torso very slowly drop from the hips until it hangs a dead-heavy mass; gently sway it from side to side. Then slowly energize, in succession, the lower, middle and upper portions of the back; last of all, the head is raised, the jaw closed, and the eyes reluctantly opened.

**RESULTS**

An untying of nervous knots, a feeling of restfulness, and deepened respiration will follow two minutes' practice of this exercise.

*Play Movements for Relaxation*

A. Place one hand on the ribs underneath its own arm.

Vigorously stretch and lift the body on that side as high as you possibly can. Relax, and repeat two or three times. Give the muscles of the other side the same kind of stretching and relaxing play.

B. Inhale quickly, and lift the shoulders high. Hold them uplifted a moment, then crowd them back and down, uplifting the chest at the same time. Hold this animated position a moment, then exhale, and relax the shoulder muscles, but do not collapse at the waist.

*Breathing and Concentration Exercise*

Standing or sitting, maintain the trunk and head in an erect but not tense position, let the eyelids droop, and completely relax the lower jaw—the teeth being parted one-half an inch or more.

Heavily lift the arms shoulder high, the fore-arms being bent inward near the chest, and the hands hanging limply from the wrists. At this point, begin exhaling almost imperceptibly through the relaxed open mouth—the breath being governed by the diaphragm which is held in its flat, or work, position—and, at the same time,

slowly raise the arms until they are above the head, then gradually rotate them outward and let them very gently begin to sink. Continue the downward movement as long as the one slow exhalation can be sustained. When the breath is exhausted, drop the arms inertly, and release the diaphragm. A deep inflowing of air will spontaneously follow.

Do not allow the mind to wander off or to become interested in any objective appeal, not even in the effects of the exercise itself, but hold it concentratedly to the *performance of the exercise*. Repeat several times.

## RESULTS

If all of the conditions are faithfully fulfilled, namely, the unswerving control of breath at the diaphragm, the rhythmical movement of the arms, the semi-relaxed eyelids, and the completely relaxed lower jaw, during eight or ten extremely slow exhalations, the whole nervous system will be soothed, the muscular tensions lessened, and deep, tranquil breathing will be induced.

Include in this series:

*Single-Nostril Breathing Exercise*, page 173,

*Rhythmic Walking Exercise*, page 234,

*Pinching-Spine Exercise*, page 157,

*Rhythmic Body-Bending Exercise*, page 132, and

*Tranquil-Breathing Exercise*, page 150.

*FOR BREATHING ABUNDANTLY*

Many otherwise well-informed persons are astonishingly ignorant of simple, essential facts regarding their own organism and its vital activities. Hundreds of times have adult women, many of them mothers, when inquiring about health lessons made such remarks as, "No, there's nothing the matter with my digestion. It's just my liver that's out of order," or "My digestion is perfect, but I have chronic constipation," or "My liver is torpid, the doctor says. Do you think exercise would do me any good?" One is not entitled to a certificate of good digestion simply because one eats heartily and suffers no local, or stomach, distress therefrom. Good digestion is as much a matter of proper liver and intestinal activity as it is of painless peristaltic movements of the muscles of the stomach. The fortunate person who has "good digestion that waits on appetite" is free from constipation, and has an orderly liver, which means that he breathes well, which, in turn, means that the poisonous substances of the blood are duly and momentarily eliminated.

No one can even approximately understand the subjects of nutrition and of health maintenance, in general, who does not know the vital importance of the free, rhythmic play of the diaphragm and of its immediate influence upon the liver, the

kidneys and digestion. May I suggest to you, my health-desiring friend, that it would be worth your while, occasionally, to reread the Chapter, "The Diaphragm, Back and Abdominal Muscles." It tells at some length the story of the co-operation of our vital processes; rereading it must make you realize afresh how the activity of these muscles bears upon one's general health and efficiency. Your part is to give them the most favorable opportunities for doing their work. Encouraging an appetite for oxygen, one which clamors incessantly for satisfaction, is rendering invaluable assistance. The involuntary act of breathing sustains one's life, but one's health may depend upon one's voluntarily augmenting that act. (Read in connection with these exercises the topic, *Breathing* in Chapter, "Daily Acts," page 35.)

If respiratory exercises begin with exhalation instead of inhalation good results will be realized in less time than otherwise would be required. Many persons make much useless effort when trying to inhale deeply; they lift the shoulders and chest, and contract the abdominal muscles. Such physical exertion obviously makes a deep breath an impossibility; the abdominal and the intercostal muscles must distend, not contract, when the lower parts of the lungs fill.

If the chest is not allowed to move, the diaphragm and the abdominal muscles will, of necessity, be active. As the lungs expand in inspira-

tion, they follow the diaphragm downward, which causes the sides to swell outward and the abdominal walls to distend somewhat. In exhalation, the movement is reversed; as the air leaves the lungs, the diaphragm resumes its dome-like shape, the abdominal walls relax and move slightly inward.

### *Tranquil, or Normal, Breathing Exercise*

Lying prone upon the back or sitting with the back supported, place one hand on the chest and one on the abdomen just forward of one of the hip-joints.

Keeping the chest perfectly quiet, slowly exhale the breath by softly making the sound of *o as in who*. The abdominal muscles under the hand in front of the hip joint will gradually contract during the exhalation. Continue exhaling until you can no longer do so without allowing the chest to sink, then completely relax the abdominal muscles—which means the relaxation of the diaphragm, the real muscle of respiration—thus *making the conditions for the refilling of the lungs* without any effort on your part.

It is easier to breathe tranquilly when the body is in a passive attitude instead of an active one; therefore, it is well to practice this exercise at first as above suggested; later, practice it in active attitudes, that is, standing or sitting erect.

Many persons find that at first they have no control over the different muscles; that the chest will move, that the rib and abdominal muscles are disinclined to action. But by practice and concentration of thought, control can be acquired. When the chest can easily be held stationary, the vigilant watch over it may cease for the right habit of breathing will then be initiated, and nature always assists in re-establishing natural states and action if we only give her a chance. In normal inspirations, the chest swells slightly, the back expands somewhat while the sides and abdominal muscles distend considerably. Note the play of these breathing muscles in a sleeping child.

### *Arm-Pushing Exercise*

Stand alertly poised, the head well raised, the weight of the body being over the balls of the feet.

Completely exhale by blowing the breath out through the parted lips, then, inhaling through the nostrils, energize the arms to the finger-tips and raise them out at the sides, shoulder high, the palms facing downward. Hold the breath, and slowly but energetically push the arms down as if resisting a strong pressure from beneath. Keep the body poised well forward, and lift the chest and ribs very high as the arms finally straighten in the downward push. Exhale, and repeat five

or six times without pausing. Then immediately place the open hands at the sides of the body somewhat above the waist line. If you exerted sufficient pressure in the downward movement of the arms and hands, you will notice that the action of the diaphragm is greatly increased. Its bellows-like movements will be plainly noticeable under the open hands for a minute or two following the exercise.

### RESULTS

This simple exercise is one of the most effective means of obtaining this particular result, i.e., marked activity of the diaphragm. It is also a fine liver and digestive tonic.

### *Held-Out Breath Exercise*

Stand or sit in an erect, easy position.

Explosively expel the breath by quickly and forcibly contracting the abdominal muscles, being careful not to put tension into any other muscles. Then by an act of will, prevent any air from replacing the expelled breath—as children say, “hold the breath out”—and vigorously contract the abdominal muscles in quick succession eight or ten times. Then relax and allow the breath to rush in abundantly. As these muscles gain strength, the number of contractions should be increased to fifteen, twenty and twenty-five.

Freer action of the abdominal muscles is secured by this exercise than is possible when the lungs are full, because then the downward pressure of the diaphragm opposes the inward and upward movement of these muscles, whereas, in this exercise when the breath is quickly expelled from the lungs, the diaphragm springs unresistingly upward and remains passive until the will-prohibition against incoming air is removed. Then it resumes its natural function and presses downward on the liver; as it moves away from the lungs it makes the suction that is necessary for their mechanical refilling.

## RESULTS

A few extraordinarily deep breaths—as if nature were determined to reimburse herself for the oxygen of which she had been cheated during the few moments when the breath was held out—a strengthening of the abdominal walls, a burning off of adipose tissue, and a stimulation of all the processes of digestion are some of the benefits from this exercise.

Note that this is the only exercise taken when the lungs are not well filled.

All breathing exercises, all stretching and energization exercises, all vigorous physical activity, and all stimulating emotions increase the respiration. But the benefit ordinarily received from them may be doubled by having coaxed the dia-

phragm to more energetic discharge of its duties, and by knowing how otherwise to make the conditions for full, abundant breathing.

Include in this series:

- Packing-Breath Exercise*, page 168,
- Lung-Bath Exercise*, page 167,
- Chest - Widening - and - Deepening Exercise*, page 162,
- Chest Mobility Exercise*, page 137, and
- Single-Nostril Breathing Exercise*, page 173.

## **FOR STRENGTHENING THE BACK MUSCLES**

(Read Chapter, "The Diaphragm, Back and Abdominal Muscles," page 89.)

### *Back Rib-Lifting Exercise*

Sit or stand with the body in an erect position, it being well poised forward from the hips.

Put the right hand, palm inward, over the right shoulder and reach down the back; put the left hand, palm outward, under the left arm and reach diagonally up the back until the hands meet. Hook the fingers, inhale, and stretch vigorously upward with the right shoulder and upper-right arm. Hold a moment, then maintaining the position of the hands, exhale, and allow the energized mus-

cles to relax. Then inhale, and again stretch vigorously upward. Do this from five to ten times without unhooking the fingers. Repeat the exercise on the left side.

### *Recumbent Chest-Raising Exercise*

Lie flat upon the back without any pillow. Resting the weight of the body upon the head and hips, contract the back muscles, thus raising the shoulder zone two or three inches from the bed or the floor. Hold it uplifted for a few moments, then relax and rest a moment. Repeat several times.

### *Recumbent Hip-Raising Exercise*

Lie flat upon the back without any pillow. Resting the weight of the body upon the shoulders and heels, contract the back muscles, thus raising the hip zone of the body several inches from the bed or the floor. Hold this energized position a few moments, then relax and rest a moment. Repeat several times.

The harder the surface upon which one lies for these two spinal exercises, the easier to take them and the better the results.

## RESULTS

These two recumbent exercises demand good, hard work of the erector spinæ muscles—work

that brings its own reward, strength and development. These exercises also invigorate the spinal nerves, relieve pressure on the brain, quiet the nervous system, and augment the vital processes.

Persons whose work necessitates their bending over tables, desks or machines will find relief to nerves and muscles in these exercises. Their output of work would be increased and their fatigue decreased, if once every forenoon and afternoon they could and would drop work, and then drop themselves on couch or bed for three minutes. One minute being devoted to vigorous stretching of all the muscles, one to absolute muscular quietude, and one to these spinal exercises.

### *Neck-Pressure Exercise*

Sit or stand with the spine erect.

Relax the neck and drop the head forward until the chin rests on the chest. Place the hands, one palm over the other at the back of the neck; exert a strong pressure with them as you forcefully raise the head until it is crowded well backward. The ribs and chest will lift sympathetically as the head is forced upward and backward. Relax, and repeat several times in succession.

### RESULTS

This exercise stimulates the circulation at the base of the brain; relieves nervous tension in the

neck, and especially contracts and strengthens those muscles which directly control the poise of the head.

### *Spinal Play Movement*

Sit well back in your chair—a straight-backed chair is preferable.

Keeping your shoulders against the chair, lift the small of the back, or waist line, so called, as far away from the chair as possible. Never mind if this unusual contraction of the back muscles does hurt a little at first—hurts help, sometimes. Relax, and repeat two or three times.

Take this Play Movement every time you cannot think of anything else to do. It is a splendid anti-round shoulder exercise for those whose work leads them to stoop much of the time.

### *Pinching-Spine Exercise*

Stand with the body well poised forward from the hips, the ribs being lifted high.

Inhale, and raise the shoulders as near to the ears as possible. Then, with intense energy as if resisting a strong pressure, simultaneously, crowd the shoulders slowly back and down, and push the chest extremely out and up, the head being held well up. Maintain this energized position for several moments, then exhale, and slightly relax

the shoulders. After a moment's rest, inhale quickly, and very forcibly push the shoulders back, again pinching the spine, as it were, in the process. Repeat this latter movement four or five times, then release the general tension and allow the body to come to a buoyant, normal attitude.

Repeat the exercise until a positive glow, or warmth, is felt between the shoulders.

### RESULTS

All of the trunk muscles are brought into play, especially are the supporting back muscles, the erector spinæ, contracted and strengthened; and a richer supply of blood is drawn to the spinal region where the center of the great Sympathetic Nervous System is located. Stimulating this central battery has a salutary effect upon sub-normal emotional states; depression, fear, self-depreciation often lose their native hue and influence by making one's physical condition hostile to them. Such mental states are subtle causes of relaxed back muscles, drooping shoulders and depressed chests.

Include in this series:

*Shoulder-Shaving Exercise*, page 159,

*Chest - Widening - and - Deepening Exercises*, page 162, and

*Broken-Waist Exercise*, page 191.

**FOR BROADENING THE CHEST AND  
FLATTENING THE SHOULDERS**

*Shoulder-Shaving Exercise*

Standing, energize the muscles of the trunk—especially lifting the ribs high—keep the head well up, and incline the trunk slightly forward from the hips.

Simultaneously, rise on the balls of the feet, raise the arms at the sides, shoulder high, the palms upward, and inhale. Then firmly closing the hands and stretching the arms to the greatest possible extent, vigorously rotate the arms backward from the shoulders in *very* small circles fifteen or twenty times. The amount of air in the lungs should be augmented during the exercise by means of little sniffing breaths. Exhale, and relax a moment. Repeat the exercise until the whole body is in a healthful glow.

Be careful not to let the arms drop below the shoulder-level while rotating them, not to incline the body backward from the hips, and not to crane the head forward. The shoulder-blades should nearly touch, or shave, each other during the rotation of the arms. This is an adaptation of the West Point "Shoulder-Shaving" drill.

## RESULTS

The chest muscles are stretched, the shoulder muscles contracted and strengthened, the lungs expanded, the vital organs uplifted, and the circulation quickened.

This exercise should be taken very moderately, if at all, by any one whose heart action is weak or whose lungs are affected. But it is a fine exercise for daily practice for those who are merely hollow-chested or round-shouldered or whose breathing capacity is meager.

Many persons complain that breathing exercises cause dizziness; this only shows the greater need of the exercises. The strength of a chain is rated by its weakest link, not by its strongest; so with the strength of the body. When the breath by its effect upon the circulation causes dizziness, the "weak link" that should be fortified is revealed. But the fortifying process should be gradual; one may do more harm than good by overdoing in any remedial work.

### *Chest Play Movement*

Stand or sit with a depressed chest.

Place the hands on the middle of the chest, the fingers overlapping. Inhale, expand the chest to its fullest capacity and uplift the trunk enthusiastically. As the chest expands laterally, the fin-

gers will separate. The farther they are pulled apart, the better is the report given of your chest expansion.

Note the increase that results from a few days' faithful practice.

### *Finger-Pressure Exercise*

Standing or sitting, lift the ribs very high.

Raise the elbows level with the shoulders, and, spreading the fingers apart, bring the ends of the corresponding fingers of each hand together in front of the chest, being sure to keep the palms well apart. Simultaneously, inhale quickly, and with great energy exert a sudden pressure of each finger against its opposing member. This tenses, or braces, all of the arm and hand muscles into rigidity. The hands should not be allowed to yield even slightly at the joints of the hand and fingers, instead, the palms are spread a little farther apart with the pressure than they were before. Hold a moment, exhale, and repeat many times in quick succession.

### RESULTS

The muscles of the chest are surprisingly brought into play by this exercise, especially those near the shoulders. The contraction of these muscles can be readily seen as well as felt at the moment the sudden hand-pressure is exerted. Of

course, these chest muscles are as subject to development by contraction as are the biceps of the arm, albeit they seldom receive more than slight attention.

### *Chest-Widening-and-Deepening Exercises*

*A.* Standing alertly, inhale, and raise the arms in front, shoulder high, parallel to each other. Retaining the breath, swing the arms up close beside the head, bending the head backward and the body somewhat forward. Exhale as the arms descend to their original position. Repeat eight or ten times.

*B.* Standing alertly, inhale, and raise the arms at the sides, shoulder high. Retaining the breath, swing the arms up close beside the head, bending the head backward and the body somewhat forward at the same time. Exhale as the arms descend to their original position. Repeat eight or ten times.

Exercise "*A*" and "*B*" deepen the chest and increase the lung capacity.

*C.* Standing alertly, inhale, and raise the arms in front, shoulder high, parallel to each other, the palms facing out. Retaining the breath, force the arms backward as if resisting a strong pressure, raising the head and chest very high. Relax and exhale as the arms descend to their original position. Repeat eight or ten times.

**RESULTS**

This exercise broadens the chest and increases the lung capacity. Whatever broadens and raises the chest, of necessity, flattens the back.

*Hand-Resistance Exercise*

Stand with the trunk poised well forward, and the ribs lifted high.

Place the palms of the hands together in front of the chest and close to it, the tips of the fingers being a trifle below the chin. Raise the elbows high, inhale, and vigorously push to the left with the right hand, at the same time offering with the left hand resistance almost equal to the pushing force of the right one. The chest muscles will become actively enlisted in the struggle. The right hand steadily pushes the left hand and arm to the left until the palms of the hands are in line with the left shoulder.

Relax, exhale, and repeat eight or ten times. In similar manner, let the victorious left hand push the resisting right one to the right until the palms are in line with the right shoulder.

**RESULTS**

That this exercise energizes all the muscles of the trunk and stimulates the circulation and respiration, any one who has taken it enthusiastically

will testify. The especial purpose, however, for which it is here given is to develop the chest muscles just in front of the shoulder joints—a place where very many girls and women have a sunken, inexpressive look.

It is advisable always to practice this exercise and the *Finger-Pressure Exercise* before a mirror with the chest muscles uncovered. First, because “seeing is believing,” and seeing the activity of these under-developed muscles will encourage one to a more faithful practice of this seemingly simple exercise; second, because the more the mind concentrates on movements, the greater the results from them. Sight is one of the most powerful agents for holding the attention.

### *Rib-Expansion Exercises*

*A.* Sitting erect, place the open hands—fingers front, thumbs back—at the waist line just above the hips.

Lightly pressing the hands against the body, bring the elbows forward and, crowding the ribs together, exhale by an audible breath through the parted lips. Then, simultaneously, slowly inhale, rhythmically crowd the arms backward, uplift and energize the trunk as it bends forward from the hips and the head bends proportionately backward. The movement of the shoulders will pull the fingers from the body, but the thumbs serve as

a fulcrum and must not be allowed to move. Hold this extremely energized position a moment, then gradually relax, and exhale as at the beginning of the exercise. Repeat three or more times.

*B.* Place the hands midway between the waist line and the arm-sockets, and repeat the exercise.

*C.* Take hold of each arm with its own hand by placing the open hand directly in the armpit, the thumbs back, and repeat the exercise.

## RESULTS

The erector spinæ muscles tensely contract, which shortens and flattens the waist in the back and lengthens it in the front; the backward pressure of the arms tends further to flatten the shoulders and to broaden and deepen the chest; the digestive processes are gently stimulated and, last and most important, the whole of the lung tissue is brought into vivifying activity. Never should a day pass that it is not so fortified.

Developing the chest means too often the enlargement of the external muscles, while little or no attention is paid to the more important internal organs, the lungs. The reason why some broad-shouldered athletes are even more subject to pneumonia and other lung affections than are men who appear to be their inferiors in physical powers is because their lung capacity has not kept pace in development with their muscular power.

When there is such inequality of development, the system more easily becomes a victim of its own poisons, particularly, when there are infectious germs at work to aid its overthrow. The unusually large muscles generate an unusual amount of waste material in their activities; and the lungs having disproportionately small capacity are unable to get as much of the poison out of the system, relatively, as would the lungs of a less athletic man.

Of first importance here as elsewhere is the habitual poise of the body. Any posture that contracts and shortens the upper-thorax muscles, narrows the chest and impedes the free action of the heart and lungs. These muscles should be stretched ever and again to counteract any contraction incident upon vocational postures where the arms and shoulders are habitually drawn forward.

Include in this topic:

*Vibratory Exercises*, page 207,

*Back-Contracting Exercise*, page 138, and

*Pinching-Spine Exercise*, page 157.

### FOR RESISTING TUBERCULAR TENDENCIES

Any one whose life is shadowed by a belief that a narrow chest, weak lungs, tuberculosis, bron-

chitis or any of their kin "runs in his family" can demonstrate that he is exempt from these family *tendencies*. The way to rid oneself of such numbing apprehensions and the possibility of their fulfillment is to keep one's system well nourished by food and well-renovated by exercise, and to develop a broad chest and lungs of large capacity and fine resistant power. "The secret of health is in the power of the cells of our bodies to repel germs . . . whenever our bodies are weak, then is the time to look out for infection, or the development of tubercular or other germs."\*

### *Lung-Bath Exercise*

Stand with the weight well over the balls of the feet, the torso inclined a little forward from the hips, and the head well up.

Inhaling a full chest breath, raise the arms at the sides to the level of the shoulders, the palms upward. Retaining the breath, bend the fore-arms inward *raising the elbows very high*, rise on the balls of the feet, and lightly but firmly tap the chest all over its surface with the finger-tips. After a moment's percussion, exhale. Repeat several times.

### *Chest Mobility Exercises*

**A.** Stand or sit with an inert, sunken chest.

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\*BAINBRIDGE, *Life's Day*.

Place the hands on the middle of the chest, and center the attention at that place. Inhale enthusiastically, and lift the chest very high by contracting the back muscles and by stretching the abdominal and the side-trunk muscles upward. Hold this extremely animated position for a moment, then exhale, and relax. Repeat several times.

Care must be taken that the body does not incline even slightly backward—rather forward, instead—and that the shoulders are not lifted by any independent action.

*B.* Place the left hand on the left side of the chest, it being depressed, center the attention there, and proceed as before. Then do the same on the right side of the chest. In these side movements, the chest should uplift in an outward diagonal line, the trunk being pushed somewhat to one side in the pelvic cradle.

Immobility of the chest and intercostal muscles is one of the physical conditions accompanying tuberculosis. The best way to guard oneself against the disease is by preventing the conditions favorable to it.

### *Packing-Breath Exercise*

**NOTE.** In the following inhalation exercise, do not allow any breath to escape until the end, unless the retention of the breath becomes distress-

ful. Because of poor circulation, some persons are unable to breathe deeply or long without extreme dizziness. Of course, they have the greater need to take breathing exercises, but they should begin with a less vigorous one than this.

Stand erect, the body being poised a little forward from the hips.

Forcibly exhale by quickly blowing the breath out through the parted lips. Inhale deeply through the nostrils trying to fill the lower parts of the lungs first by distending the ribs in the diaphragm region; next, fill the middle parts of the lungs—as they fill the chest will expand noticeably; last, the tip-top parts, or the apexes, must be coaxed into extreme activity. The imagination can help to this end. After the lungs seem full, mentally say, "Oh! smell of those violets!" and imagine that you bury your face with sensuous enjoyment in a mass of fragrant English violets and eagerly inhale their perfume; then imagine that you are inhaling the subtle odor of apple blossoms, and again that of roses. A little more air will be packed into the apexes of the lungs with each sniffing response to these mental suggestions.

When the lungs are packed quite to the limit of their present capacity—which same by the daily practice of this exercise will appreciably increase from week to week for a long time—be-

gin counting "one hundred and one," "one hundred and two," and on to one hundred and eight or ten. Then quickly exhale, and rest a moment. It is better not to take this exercise more than two or three times in succession, but to take it as frequently during the day as one may desire or need.

While counting, care must be taken that only the minimum amount of breath necessary for the pronunciation of each number is exhaled, and that this trifling loss is immediately made good by a quick, energetic inhalation after each count. The body throughout the counting should be maintained in an extremely uplifted, energized attitude, the upper chest expanding more and more as the counting proceeds.

## RESULTS

Development of the upper chest, increase in lung capacity and hardihood, better circulation and digestion.

The upper parts of the lungs, in normal, unemotional breathing are the parts least used. Exercises which call these parts into vigorous activity do, in a measure, for conventional man what running, leaping and dancing do for the savage.

### *Ear-Drum Exercise*

Sit in an easy, erect position.

Place one hand on the abdomen and the other at the side of the body where the action of the diaphragm can be observed. Fill the lower parts of the lungs first; as they fill there will be a distension of the muscles under each hand. When these parts are expanded as much as possible, continue inhaling very gently and steadily until the upper parts of the lungs are fully inflated.

One must be very careful not to contract in the slightest degree the muscles under the hands during the inflation of the upper part of the lungs. When the lungs are inflated to their capacity's limit *hold the breath*—the nostrils may be closed by pressure of thumb and finger—vigorously contract the abdominal muscles trying to force the breath out through the closed nostrils, at the same time, trying to swallow. Hold the breath and keep the abdominal muscles rigid while you think ten or fifteen counts.

The apexes of the lungs lie very close to the collar-bone. A puffing out of the flesh just above the collar-bone can be seen at the instant of the contraction of the abdominal muscles; this is because the air is forced into the apexes of the lungs. It is here that tuberculosis usually begins its devastating work.

To get a clear mental picture of this operation of forcing the air into the upper cells of the lungs, think of a paper bag blown practically full of air and tied at the top so that no air can escape. By

pressing the lower part of the bag firmly with both hands, the air will be crowded upward, and will cause the little folds and puckers in the bag at the top to smooth out and distend, thus making the bag considerably larger in diameter at the top. The process and effect of the foregoing exercise is very similar.

**PROTECTION AGAINST DISEASE-GERMS:** Every time that the lungs are so packed, especially that the apexes are brought into vigorous activity, their power to repel unfriendly disease-germs is increased.

We can, if we will, protect ourselves from very many of the worst ills that beset ignorant and indolent persons. Hold to this thought, dwell upon it, revert to it again and again that it may become a thought-habit—and then live up to it.

With these special exercises for fortifying the lungs against disease, should be included any stretching and invigorating exercises which increase one's general stamina, and particularly those which promote digestion. There is nothing more important for a person of tubercular tendencies than that he or she should be well-nourished. Fresh air *taken into the lungs* and plenty of good nourishing food is the best prescription.

**CAUTION.** It should be borne in mind that these vigorous breathing exercises are a means to prevent the development of tubercular tendencies,

but are not given as a remedy for that disease. When the lungs are already affected and their tissue weakened, no exercises should be taken without first consulting a physician. Sometimes, only quiet, deep breaths are safe because of the patient's liability to hemorrhage.

### *FOR PREVENTING AND ALLEVIATING CATARRH*

Any constitutional exercise which improves the circulation and makes the body resistant helps to protect one from catarrh. This is particularly true of all breathing exercises because their effects are beneficial locally as well as constitutionally.

The *Ear-Drum Exercise* given under topic, *For Preventing Deafness*, is immediately helpful for catarrhal affections as is the following one.

#### *Single-Nostril Breathing Exercise*

Sit erectly poised, well forward in the chair.

Place the thumb of the right hand on the right side of the nose closing that nostril with a slight pressure. Inhale slowly through the left nostril, and, at the same time, rhythmically raise the left arm high above the head. In sympathy with the upward movement of the arm, the whole torso should also rise as high as it possibly can without

lifting the body entirely away from the chair. When the inhalation and bodily uplift reach their maximum, close the left nostril by placing the forefinger upon it, and remove the thumb from the right nostril. Slowly exhale through the right nostril as the arm rhythmically descends. To get encouraging results from this full, concentrated breathing, one should take not less than ten breaths with each of the nostrils closed, in turn. Care must be taken to inhale and exhale slowly, and to avoid jerky or heavy movements of the arms.

#### RESULTS

The primary object of this exercise is to fortify the delicate nasal passages against susceptibility to colds, and, by preventing the formation of mucous, to keep these passages in so healthy a condition that they are immune to the attacks of catarrhal microbes. This exercise also produces an effect on the nervous system at once tonic and harmonizing.

The stimulation that the nasal passages receive in ordinary inhalation is, at least, quadrupled by this exercise. For the pressure that ordinarily is distributed over both nostrils is here confined, in turn, to each one while the amount of air inhaled in the long, forced breaths is more than double that of an average breath. Better circulation in the intricate nasal passages results from this in-

creased pressure of air. This means simply greater resistance to the ever-present disease germs that are like foes in ambush—ready to attack us when we are off guard or when our power of resistance is weakened.

The best way to manage a cold is to prevent it.

### FOR STRENGTHENING THE ABDOMINAL MUSCLES

(Read topic, *Abdominal Muscles*, in Chapter, "The Diaphragm, Back and Abdominal Muscles," page 100.)

No exercises will be given under this topic because those given *For Preventing and Overcoming Corpulency* (see following topic) are the ones that also strengthen the abdominal muscles. The reason for presenting this topic as distinguished from the Corpulency topic is to make emphatic the imperative need of duly exercising these muscles every day, no matter what one's present state of stoutness or slimness may be. Even though one is as "thin as a rail," the need is imperative. In fact, such exercise is often the surest way for the thin, under-nourished person to improve his or her general physical condition. Thin persons often express the fear that exercises for preventing corpulency will make them still thinner. A moment's rational thought will allay such fears.

It is easy to see that the exercise which contracts or stretches the abdominal muscles, thus burning off encumbering adipose tissue, will also raise the tonicity of thin, impoverished muscles. It is as impossible for muscles, as for persons, to lose that which they do not possess, and thin muscles have no excess accumulation of fat-cells among their fibres.

We must distinguish between muscle-cells and fat-cells; the first are strengthened and developed by exercise, the others are disintegrated and consumed.

Are not the following reasons sufficient to make clear the imperative need of strengthening the abdominal muscles diligently—not for a few weeks, but all the days of one's life? (1) They have the important office of supporting, unassisted, the delicate, complex and heavy viscera; (2) they are easily ruptured when weak—the only protection is to exercise and strengthen them; (3) they invite corpulency when they are inert and flaccid, but are hostile to it when they are firm and strong; and (4) exercises which strengthen these muscles stimulate the vital processes—this is health insurance.

Besides the specific exercises under the following topic, there are Play Movements that greatly advantage the abdominal muscles. Every time one lifts the shoulders high, or contracts the back muscles and so lifts the rib-cage and its muscles,

or swings the arms as in ball playing and golf, or twists or bends or rolls the body from the hips in play or work, these muscles are benefited. (See *Health Calendar for a Month*, First, Seventeenth and Nineteenth days.)

### *FOR REDUCING HIP-GIRTH*

One may not just plunge in and take exercises indiscriminately when some specific result is sought. Exercises of the feet are not the best stimulus for a weak stomach, and leg exercises will not contract and strengthen the erector spinæ muscles. Localized exercise is what counts. This is as true in taking off flesh as it is in the development of muscles. An athlete who wishes to develop his biceps and triceps devotes his attention to exercises that vigorously contract the arm muscles, and a person who wishes to disburden muscles of fat must exercise those muscles where the fat is chiefly deposited.

Hip reduction is forwarded by the exercises for overcoming corpulency, and by the following localized ones.

#### *Toe-Touching Exercise*

Sit well back in a chair without arms or rockers, but do not lean or rest against the back of the chair.

The arms hanging relaxed, lift the left leg, the knee being rigidly straight, to the level of the hip. Swing the right arm back, up and over with a free, rapid movement until the fingers touch the toe of the uplifted foot—the body will bend somewhat forward from the hips. Then with a free, energetic sweep—like hard work, easily performed—swing the arm up and well back, defining a generous half circle with the finger-tips. Repeat in rapid succession fifteen or twenty times on that side. Lift the right leg, and repeat.

## RESULTS

The under-arm and hip muscles are vigorously stretched, as are the muscles and ligaments of the under side of the leg, and the chest and back muscles are alternately contracted and relaxed. This is a fine exercise for keeping one's body *feeling young* in the hip and waist region—the place where so many women grow mature in expression.

### *Windmill Exercises*

A. Standing with the weight on both feet, raise the arms laterally to the level of the shoulders, the hands extended, palms up. Keeping the knees tense and the arms as stiff as those of a windmill—not allowing them to move independently from the shoulders, but only with the body

—bend the body to the right side, and raise it to an upright position five or six times in quick succession. After bending similarly to the left side, rest a moment. Next, in the same position as before, bend to the right, then quickly from right to left, from left to right, and so on for eight or ten times. Inhale as the body bends to the right side and retain the breath until it again bends to that side, then exhale; inhale as it bends to the left side and retain the breath until it again bends to that side.

*B.* Same as “*A*,” except that before bending, the body should twist from the hips well to the right side; the bending should be in line with the extended arms. Repeat several times, and relax. Then twist the body to the left side, and repeat.

### *Stretching Play Movement*

Stand in the doorway and reach vigorously upward first with one hand and then with the other.

Mark the highest point your finger-tips can reach in your biggest stretch on your first day's practice, then note the increased mobility in your muscles after a few days' practice of this simple stretching exercise.

Include in this series:

*Waist-Twisting Exercise*, page 180,  
*Side-Relaxing Exercise*, page 182,

*Back Rib-Lifting Exercise*, page 154, and  
*Poising-Exercises*, especially "B," page 184.

## FOR MAKING WAIST-MUSCLES SUPPLE AND STRONG

### *Waist-Twisting Exercise*

Sit well forward in a chair without arms, the body erect, the ribs lifted high, the arms hanging relaxed from the shoulders.

Inhale, and vigorously twist the body from the waist to the left, letting the arms loosely swing with it; then turn the head until it faces over the right shoulder. Care must be taken that the feet and knees are kept squarely to the front, and that the body does not bend even slightly as it twists.

Hold this tense position for a moment, concentrating the attention on the aliveness of the waist muscles, after which exhale, and slightly relax the muscles for a moment's rest; then again inhale, energize, and twist more vigorously than before; do this four or five times, then completely relax.

Repeat the exercise, twisting the torso to the right side and the head to the left.

### RESULTS

This *Waist-Twisting Exercise* prevents the degeneration of the lateral waist muscles as it means

a tense contraction of those on the left side, and a stretching of those on the right as the body twists to the left, and vice versa as it twists to the right. The abdominal muscles are also alternately tensed and relaxed.

### *Heel, Instep and Toe Exercise*

Stand with the weight on the left foot, and advance the right foot the length of an ordinary step.

Lift the arms at the sides, shoulders high, the palms downward. Twist the body from the hips to the left until the right arm is in direct line with the right foot, then, keeping the knees rigid, quickly and lightly bend forward from the hips until the fingers of the right hand touch the toe of the right shoe. With the same *light gymnastic* movement lift the body to an alert, upright position, and repeat the bending five times. Then untwist the trunk allowing it to come to its normal, front position. Keeping the arms still in line with the shoulders, quickly and lightly bend directly at the side, touching the floor at the instep of the advanced foot. Lift the body, and repeat this bending five times. Last, twist the body from the hips to the right, and quickly bend and touch the heel of the right shoe. Lift the body, and repeat this bending five times. Relax and rest a moment. Repeat all the movements with

the left foot advanced. The unemployed arm acts as a balance in the bending movements; it should be kept horizontal with its shoulder.

### *Side-Relaxing Exercises*

*A.* Sit in an erect position. Lift the right arm high above the head and stretch vigorously upward. Then successively relax the fingers, hand, forearm, arm, head, shoulders and body toward the left side. Let the heavy weight hang for a moment supported only by the muscles of the right side which are extremely stretched by its pendant weight, while those on the left side are proportionately contracted. Then command the right-side muscles, to pull the body slowly up to its normal poise, letting the head raise last. Re-energize the arm, stretch upward, and repeat the exercise two or three times.

Lift the left arm, and take the exercise three or four times on that side of the body.

*B.* Stand with the weight on the right foot. Lift the right arm, stretch, and proceed exactly as in "*A*," being careful to keep the leg toward which the body bends entirely free, and relaxed. You can prove that you have not shifted even the slightest degree of the body's weight to it by lifting it lightly from the floor several times while the body hangs relaxed and inclined toward it.

**RESULTS**

These exercises draw a rich supply of blood to the waist region thus stimulating the vital organs, and they stretch and contract the waist muscles, freeing them from adipose tissue and giving them mobility.

Include in this series:

*Windmill Exercises*, page 178,

*Front Rib-Lifting Exercise*, page 194,

*Torso-Swinging Exercise*, page 188, and

*Rib-Expansion Exercises*, page 213.

**FOR PREVENTING AND OVERCOMING  
CORPULENCY**

(Read Chapter "Two Health-Foes," page 55.)

***Breathing and Abdominal Contraction Exercises***

Sitting or standing, lift the ribs high.

Inhale, and very energetically contract the abdominal muscles. Hold the breath a moment, then exhale, *but do not* relax the abdominal muscles in the least. Exhale and inhale eight or ten times before relaxing the abdominal muscles. This exercise can be taken while riding on the cars or when walking.

*Poising Exercises***A.** Stand with the weight on the left foot.

Swing the right leg and right arm forward in a diagonal line, letting the toe touch the floor in a long advanced step. Without interrupting the movement, transfer the weight to the advanced foot as the arm rhythmically swings high above the head, the hand raised, palm out. Then vigorously energize the entire body, and with a springing movement push upward with the uplifted right hand and downward with the left. The pushing movement will cause the toe of the back foot, and sometimes the heel of the forward foot, to lift from the floor. After holding this extremely exhilarated position for a moment, slightly relax, then push again and again. Relax, and swing the arm and leg to place. Advance the left foot, and repeat.

**B.** Stand with the weight on the left foot.

Swing the right foot and the right arm directly out at the side, letting the toe touch in a wide step. Transfer the weight to that foot as the arm swings high above the head, the hand up, the palm facing outward. Keeping the face and trunk squarely to the front, vigorously energize and push outward with the uplifted right hand and downward with the left hand. Slightly relax, and push again and again. Then, with the lightness and rhythm of

dancing, let the right arm sink and the left one swing upward as the weight is transferred to the left foot. Repeat as on the right side.

## RESULTS

These poising exercises invigorate the entire body, and bring a pull upon the oblique abdominus muscles, thereby making them inhospitable to the housing of fat-cells. They lengthen the waist in front if the muscles there have become cramped. The degree of the burning-off process of adipose from the abdomen and hips will be in proportion to the amount of enthusiasm put into the uplift of the body and the hand-pushing. These poising exercises are also a protection against many pelvic troubles. Dr. John Harvey Kellogg says, "Properly graduated exercise, with such an adjustment of the clothing as will afford opportunity for free and unrestricted movements of every group of muscles in the body, is a most important therapeutic means in the management of a large class of pelvic disorders." Exercises that stretch the abdominal muscles upward, counteract in a measure the evil effects of heavy skirts and of a careless poise.

If the figure is normal, a few minutes' daily practice will suffice as the "ounce of prevention," but if there are abnormal conditions to be overcome, it is necessary to take the "pound of cure," and to *take it with a will*.

*Back-Relaxing Exercises*

A. Stand with the weight on both feet, and raise the arms high above the head, the hands being open.

Not allowing the knees to yield in the slightest degree, bend quickly forward from the hips, and swing the arms out and down with a free sweeping movement. Quickly raise the body, swinging the arms again above the head. Make this body-bending and arm-swinging movement four or five times to stretch and free the trunk muscles, generally. On the completion of the downward sweep, relax the arms and back; after which, lift the body from the hips a few inches and drop it, lift and drop it again and again, until all tension is released from the lower-back muscles. Strain will be felt back of the knees as the relaxed body drags heavily upon its support at the hips; such strain merely means that the leg muscles and ligaments are being stretched, or kept young and mobile.

This is an exercise that many persons take "just for fun" to show how flexible they are by touching the floor with their fingers without bending the knees—and it is play that makes for health. Many, however, miss the greatest benefit to be derived from the exercise because they do not completely relax the lower-back muscles.

## RESULTS

To release the lower-back muscles of all tension is the primary object of the exercise. Secondary benefits are flexibility at the hips, general stimulation, and the burning off of adipose; this latter results from the upward stretching. As the lower-back muscles relax, the fingers will easily touch the floor, and often the whole hand can be laid flat upon the floor. One must not, however, strain with the arms and hands to accomplish this for that puts tension in shoulders and back, thus defeating the main purpose of the exercise.

*B.* Same as "*A*," except that after uplifting the arms, the body from the hips should be twisted to the side before the body-bending and arm-swinging movement. Keep the feet firmly facing front throughout. Twist first to one side and bend, and then to the other. Always end by the forward-bending in order to relieve any possible strain arising from the side-bending. While "*A*" is excellent for dislodging abdominal adipose, "*B*" especially affects the accumulation around the waist and over the hips.

NOTE: "*C*" is much more vigorous than "*A*" and "*B*"; it should not be attempted by any one who has any heart or serious pelvic weakness. It is especially effective in inducing a good perspiration quickly and in reducing weight.

C. Same as exercise "A," except that it is done with great vigor and rapidity, and the hands are clinched throughout—the knuckles or wrists being brought to the floor—and the body bends considerably backward as it and the arms swing upward; such bending backward brings a much greater pull upon the abdominal muscles.

### *Torso Play Movement*

Sit erect, and place the left hand at the waist line a little in front of the hip.

Swing the trunk animatedly upward and forward in a diagonal line to the left so far that the body is almost lifted off the chair. Without pausing, spring back to the first position, and then forward again. Repeat at least ten or fifteen times.

### *Torso-Swinging Exercise*

NOTE: This exercise is one of the most vigorous ones recommended in this book. While it is a splendid stimulating and strengthening exercise for normally well persons, it should be taken cautiously—if at all—by any one having any heart or serious pelvic trouble. Beginners in the practice of health exercises should wait until they are no longer beginners before attempting it.

Stand well poised forward from the hips with the weight firmly on both feet; steadily maintain the weight there throughout the exercise.

Lift the arms straight above the head and interlock the fingers, then turn the hands over from the wrists until the palms face the ceiling. Then stretch and push vigorously upward with the closely interlocked hands, being careful not to tip backward from the hips; next, bend the torso far over to the left side and push upward with the hands—which will give a fat-dislodging stretch to the waist and hip muscles on the right side. Then, keeping the arms straight and close to the sides of the head, swing the torso down and around in a half circle to the right side; hold this position and push upward with the hands as on the left side; then swing the torso up and over to the left side, and again push upward. After which, swing it to an upright position, and again vigorously push upward with the palms. Relax the arms, and rest for a moment. Then lift the arms, interlock the fingers, turn the hands on the wrists, and repeat the exercise, bending the torso first to the right side instead of the left.

Much of the benefit of this *Torso-Swinging Exercise* will be missed if the arms are allowed to swing forward of the head at any time or if the circular movement made by them in the swing from side to side is shallow instead of being as

Deep as the mobility of the back and hip muscles will allow.

Include in this series:

*Knee-to-Chest Exercise*, page 202,

*All-Around Exercise*, page 211,

*Windmill Exercises*, page 178,

*Waist-Twisting Exercise*, page 180, and

*Side-Relaxing Exercise*, page 182.

### FOR STIMULATING THE ACTION OF THE LIVER

The liver will get its best assistance toward health and aliveness from the play of the diaphragm in deep breathing. Not because this is the most stimulating exercise that can be given the liver, but because it is—or should be—a perpetual exercise, whether one be asleep or awake. (See topic, *Natural Massage of the Liver* in Chapter, "The Diaphragm, Back and Abdominal Muscles," page 98.)

Deep breathing and general exercises of the trunk are sufficient to keep a normal liver in good working order, but when one's liver is predisposed to torpidity, or when it has more work put upon it than it can manage with ease, the three following exercises should become a part of one's daily hygiene.

*Broken-Waist Exercise*

Sit with the trunk muscles completely relaxed—the back bowed outward, the chest depressed, the shoulders drooping, the waist-line region collapsed. Incline diagonally backward to the right and rest against the chair.

Place the hands at the waist line, one above the other, somewhat to the right of the front of the body—thus centering the attention on that region. As you inhale, swing the trunk animatedly but not tensely, upward and forward in a diagonal line to the right as far as you can without losing your balance, meanwhile maintaining a firm pressure with the hands.

Hold for a moment, exhale, and let the body sink back to its original collapsed, woe-begone position. Without pausing, inhale quickly, and playfully spring forward as before. Repeat at least ten or fifteen times on each side.

**RESULTS**

This produces a fine stretch of the muscles on one side and an internal massage, or pressure, on the other side. The liver especially is squeezed.

*Liver-Pommeling Exercise*

Sit in an erect, tense position, the arms hanging free from the shoulders.

Quickly contract the abdominal and waist muscles, making them as unyielding as possible; do not allow them to relax in the slightest degree throughout the exercise. Inhale, and lift the shoulders high; retaining the breath, clinch the hands, and pull the shoulders down with all the energy your will can summon. Maintain the rigid position of the whole body for a moment, then relax. Repeat the exercise ten to twenty times, according to the degree of sulkiness of the member to be punished.

#### RESULTS

By the firm support of the abdominal muscles from underneath, and the pressure from above given in the downward pulling of the shoulders, the liver gets a good pommeling. The entire pelvic circulation is also quickened.

#### *Windmill Exercises*

A. Standing with the weight on both feet, raise the arms laterally to the level of the shoulders, the hands extended, palms up. Keeping the knees tense and the arms as stiff as those of a windmill—not allowing them to move independently from the shoulders, but only with the body—bend the body to the right side, and raise it to an upright position five or six times in quick succession. After bending similarly to the

left side, rest a moment. Next, in the same position as before, bend to the right, then quickly from right to left, from left to right, and so on for eight or ten times. Inhale as the body bends to the right side, and do not exhale until the body again bends to that side; then inhale as it bends to the left side and retain the breath until it again bends to that side.

*B.* Same as "*A*," except that before bending, the body should twist from the hips well to the right side; the bending should be in line with the extended arms. Repeat several times, and relax. Then twist the body to the left side, and repeat.

## RESULTS

These bending and twisting exercises are great liver and digestive stimulants. They also develop flexibility, give a slender, youthful contour to the waist, strengthen the back and abdominal muscles, and prevent an undue accumulation of fat-cells over the hips.

The liver also comes in for its share of benefit from all bending, twisting and rolling exercises of the trunk which send an extra amount of blood into the digestive organs, generally.

Include in this series:

*Arm-Pushing Exercise*, page 151,  
*Torso-Swinging Exercise*, page 188, and  
*Back-Relaxing Exercise*, page 186.

### FOR PROMOTING DIGESTION

The complicated chemical process called digestion is promoted by certain physical conditions that are directly under one's control. To enumerate some of them: The bony thoracic-cage and its muscular padding should be kept well up, not allowed to press upon the delicate digestive organs—to this end, the erector spinæ muscles should be frequently contracted; the spinal nerves should be stimulated; the abdominal and waist muscles should be brought into vigorous action; and the diaphragm should be given stimulating play upon the digestive organs ensconced beneath it

#### *Front Rib-Lifting Exercise*

Stand or sit in an erect position.

Place the open left hand, the thumb backward, on the left side about midway between the waist line and the arm-socket. Inhale a big, quick breath, and energetically stretch upward on the left side, lifting the ribs on that side to the highest degree possible. The abdominal muscles will contract and draw inward, and an especial sense of aliveness will be apparent in some of the back muscles. Hold the uplifted position a moment, then exhale, and relax. Repeat several times.

After lifting the ribs on each side, place the hand on the upper-chest ribs, inhale, and lift the entire rib frame-work very, very high, causing the chest to swell out most assertively. Hold a moment, exhale, and relax slightly, but do not allow the chest to collapse.

### *Back Rib-Lifting Exercise*

Sit or stand with the body in an erect position, it being well poised forward from the hips.

Put the right hand, palm inward, over the right shoulder and reach down the back; put the left hand, palm outward, under the left arm and reach diagonally up the back until the hands meet. Hook the fingers, inhale, and stretch vigorously upward with the right shoulder and upper-right arm. Hold a moment, then maintaining the position of the hands, exhale, and allow the energized muscles to relax. Inhale, and again stretch vigorously upward. Do this from five to ten times without unhooking the fingers. Rest a moment, and repeat the exercise on the left side.

### RESULTS

A vitalization of nearly all the muscles of the trunk, a fuller respiration—hence, more pressure and suction by the massaging diaphragm—and a fine stimulation of the digestive processes. Besides, this exercise strengthens the back muscles,

and tends to remove pressure from those nerves that branch off from the spinal column between the different ribs. Such pressure follows when the ribs sag downward as they frequently do because of bad posture and of wrong use of the body.

All sorts of nervous, functional and even organic troubles result from this pressure on the spinal nerves. The parts of any machine must be kept in harmonious mechanical relations if the machine is to do good work or to wear well.

Literally to "lift up our hearts"—and ribs—is good for the body as it is for the soul.

### *Spinal Massage Exercise*

Stand with the body poised alertly forward from the hips, the ribs well lifted, and the head tipped somewhat backward.

Place the finger-tips of each hand on either side of the spinal column at the upper part of the back of the neck, the elbows pointing directly forward. Energize all of the muscles of the trunk vigorously by an act of will, lifting the chest and ribs high. Slowly and forcefully crowd the elbows backward, exerting a firm pressure of the fingers against the spine. Hold for a moment, then relax, and rest for a moment. Re-energize, and repeat. Next, let the finger-tips creep downward one measure of their width. Repeat the for-

mer energization, pressure, and relaxation. Continue the creeping downward of the finger-tips as far as it is possible to reach. After which, throw the hands under the arms, and reach high up the back, placing the balls of the thumbs on either side of the spine. Energize, exert pressure of the thumbs, relax and rest, and re-energize as before. Slip the thumbs one notch lower, and repeat. Continue in this manner until the entire spinal keyboard has been played upon.

## RESULTS

This exercise is a healthful stimulant to the spinal nervous system, branches of which ramify all of the vital organs; therefore, the activity of the liver, pancreas, spleen, stomach, heart and bowels is augmented by it.

### *Sustained-Counting Exercise*

Stand or sit erect, the ribs being lifted high.

Place the open hands on the sides in the diaphragm region, and, *without taking in a breath*, press the ribs outward against the hands. Hold this position easily but firmly, and count in a low, earnest tone as many as you can. The moment the ribs begin to surrender their firm position, stop counting, and completely relax. A big, deep breath will *naturally* follow—you must not make

an effort to *take one*. Again press outward with the ribs, and proceed as before. After a little practice you should be able to count from twenty to thirty earnestly and slowly without strained effort.

## RESULTS

The digestive organs are gently stimulated by this simple exercise, and if the chest and throat muscles are allowed to play, i.e., to be relaxed during the counting, an improvement in the voice will also result.

People often wonder that campaigners and other public speakers can endure the great outlay of energy incident upon their profession. There are two principal reasons; one is because speaking with intensity—to be heard and to convince—is an excellent vital exercise; the other reason of their endurance is their tonic mental state, namely, determination and enthusiasm.

Digestion is promoted by all deep and forceful breathing exercises. Nothing is more adverse to good digestion than habitual short, gassy breathing or the slow and insufficient breathing that accompanies unresisted depression.

Include in this series:

*Rib-Expansion Exercises*, page 213,

*Pinching-Spine Exercise*, page 157, and

*Broken-Waist Exercise*, page 191.

## FOR PREVENTING AND OVERCOMING CONSTIPATION

There is no demand of nature more imperative than that the poisonous waste materials of her nutritive processes in all living creatures shall be promptly and regularly eliminated. The avenues of elimination in man's body are the lungs, skin, kidneys and bowels. The inactivity of the bowels alone is frequently the origin of fevers, colds, headaches, bad complexion, anæmic blood, and blood poisoning. Nowhere is exercise more immediately effective than in forwarding the functions of the excretory organs. Chronic constipation of years' standing which has stubbornly refused to yield to medical treatment often yields readily to localized exercise.

### *Heel, Instep and Toe Exercise*

Stand with the weight on the left foot, and advance the right foot the length of an ordinary step.

Lift the arms at the sides, shoulder high, the palms downward. Twist the body from the hips to the left until the right arm is in direct line with the right foot, then, keeping the knees rigid, quickly and lightly bend forward from the hips until the fingers of the right hand touch the toe of the right shoe. With the same *light gymnastic*

movement lift the body to an alert, upright position, and repeat the bending five times. Then untwist the trunk allowing it to come to its normal, front position. Keeping the arms still in line with the shoulders, quickly and lightly bend directly at the side, touching the floor at the instep of the right foot. Lift the body, and repeat this bending five times. Last, twist the body from the hips to the right, and quickly bend and touch the heel of the right shoe. Lift the body, and repeat this bending five times. Repeat all the movements with the left foot advanced. The unemployed arm acts as a balance in the bending movements, it should be kept horizontal with its shoulder.

### *Held-Out Breath Exercise*

Stand or sit in an erect, easy position.

Explosively expel the breath through the nostrils by contracting the abdominal muscles, being careful not to put tension into any other muscles. Then by an act of will, prevent any air from replacing the expelled breath—as children say, “hold the breath out”—and vigorously contract the abdominal muscles in quick succession eight or ten times. Then relax, and allow the breath to rush in abundantly. As these muscles gain strength, the number of contractions should be increased to fifteen, twenty and twenty-five.

*Rapid Knee-Bending Exercise*

Stand with a little wider base than usual, the weight over both feet.

Place the hands lightly on the hips, and rise on the balls of the feet. Keeping the body erect, bend the knees quickly almost to the floor; let the knees spread somewhat as they bend. Rise quickly, and repeat the bending movement eight or ten times without resting.

*Knee-Kicking Exercise*

Stand very erect with the weight entirely on the right foot.

Lift the left thigh until the knee is on a line with the hip. Bend the leg below the knee well back, then kick out vigorously with it, bringing the pointing toe nearly or quite on a line with the hip. Continue rapidly kicking until the leg muscles are really fatigued, then transfer the weight to that foot, and repeat the exercise. Be careful to keep the upper part of the body as quiet as a statue while kicking with the leg. The more energy that is put into the kicking, the more the viscera will be stimulated.

*Torso-Rolling Exercise*

Sit forward in a chair with your arms entirely relaxed.

Easily roll the body from the hips in all directions—first forward, then to the left side, then from the left side well forward and around to the right side, then slightly backward, and again to the left side. Repeat several times and reverse the order. Do all this playfully.

Take the same rolling movements when standing, being careful to roll the body but slightly backward.

### *Knee-to-Chest Exercise*

Stand with the body well poised forward from the hips, ribs uplifted, and the weight resting wholly on the left foot.

Lift the right leg as high as can be done without strain, letting the leg below the knee hang relaxed and free. Maintain this position a moment—remembering that a fine balance of the body is primarily a matter of concentration of the mind—then release the energy at the hip and let the leg fall relaxed. Repeat several times, aiming each time to lift the leg higher and nearer to the chest. Finally, as the leg is lifted, clasp the hands around the knee and force it up to the chest—the body not being allowed to bend even slightly forward to meet it. Hold this position as long as the balance can be maintained, then release the knee and let the leg fall relaxed as before.

Repeat ten times in quick succession with that leg, then immediately transfer the weight of the body to it, lift the left leg, and proceed as before.

After one has gained the concentration, poise and freedom essential to the easy execution of this exercise *without bending the body forward from the hips ever so little*, the beneficial effects can be greatly increased by lifting the knees to the chest in rapid alternations, say, twenty or thirty times.

As this is the exercise *par excellence* for stimulating the bowels to normal activity, it is well to begin and end this series with it.

## RESULTS

This series of exercises focuses an unusual amount of nervous energy in the digestive organs—particularly in the intestines—and in the abdominal muscles. Better circulation and increased functional activity are thus produced.

All of these exercises, except the last one, are heavy gymnastics, not play. To obtain the best results they should be practiced with great vigor and rapidity for at least ten minutes at a time. Moreover, as all bodily functions naturally incline to periodicity of action, it is advisable to practice these exercises for remedial purposes at exactly a given time—or better yet, two times each day, say, soon after breakfast and just before retiring. If one has difficulty in sleeping,

these stimulating exercises should be followed, at night, with the exercises for dispelling insomnia.

### *FOR IMPROVING THE CIRCULATION*

#### *Knee-Bending Exercise*

Stand with one foot advanced as in an arrested step, the weight being equally over both feet, and rise on the balls of the feet.

Keeping the heels raised, bend and straighten the knees rapidly, in playful mood, until a slight fatigue is felt in the calves of the legs. Rest a moment, then advance the other foot, and repeat.

Do not let the body bend forward or tip to either side during the knee-bending. The legs alone must do the work.

#### *Backward-Kicking Exercise*

Stand with the feet in the natural position, weight on one foot.

Place the hands lightly on the hips, and poise the body a little forward from the hips, the chest being raised very high. In quick succession, kick vigorously backward and upward from the knee, alternately, with one foot and then the other for twenty or more times.

*Abdominal Contraction Exercise*

Stand alertly poised, the weight over the balls of both feet.

Keeping the shoulders perfectly quiet, inhale a deep breath, and vigorously contract and relax the abdominal muscles eight or ten times. Exhale, and repeat several times.

*Liver-Pommeling Exercise*

Sit in an erect, tense position, the arms hanging free from the shoulders.

Quickly contract the abdominal and waist muscles, making them as unyielding as possible; do not allow them to relax in the slightest degree throughout the exercise. Inhale, and lift the shoulders high; retaining the breath, clinch the hands, and pull the shoulders down with all the energy your will can summon. Maintain the rigid position of the whole body for a moment, then relax. Repeat the exercise eight or ten times.

This is a heavy gymnastic as the fatigue following a dozen repetitions will testify.

*Torso-Swinging Exercise*

Stand well poised forward from the hips with the weight firmly on both feet; steadily maintain the weight there throughout the exercise.

Lift the arms straight above the head and interlock the fingers, then turn the hands over from the wrists until the palms face the ceiling. Then stretch and push vigorously upward with the interlocked hands being careful not to tip backward from the hips; next, bend the torso far over to the left side and push upward with the hands—this gives a fat-dislodging stretch to the waist and hip muscles on the right side. Then, keeping the arms straight and close to the sides of the head, swing the torso down and around in a half circle to the right side, hold this position and push upward with the hands as on the left side; then swing the torso up and over to the left side, and again push upward. After which, swing it to an upright position, and again vigorously push upward with the palms. Relax the arms, and rest for a moment before repeating; reverse the order when you repeat and bend first to the right side.

### *Feet-Warming Exercise*

Stand with the weight over the heels.

Rapidly lift and lower the balls of the feet as many times as possible—you may be able to do this for thirty or forty seconds. Then sway the weight over the balls of the feet, and rapidly lift and lower the heels until you cannot lift them any more.

### *Lunging Exercise*

Stand energetically erect with the weight on the left foot.

Lunge forward—a very long step—on the right leg, raising the heel of the left foot, bending the right knee, and transferring the entire weight of the body to the right foot. Hold this extremely energized position steadily for a moment, then lightly lift the left foot from the floor several times to test the perfect poise over the forward foot. After which, quickly transfer the weight to the back foot, lifting the forward heel and straightening that knee as the back one bends; lightly bring the forward foot to place. Repeat several times. Advance the left foot, and repeat the exercise.

### RESULTS

Besides increasing the circulation in the legs and feet, this exercise is excellent for developing steadiness of poise, and for stretching the ligaments and muscles under the knees.

### *Vibratory Exercise*

*A.* Stand at your maximum height, every muscle being spiritedly alert and active.

Extend the arms straight out at the sides, level with the shoulders, the palms up. Inhale deeply,

close the hands tightly, and make the arms rigid; then, as if pulling a weight that required all of your strength to move it, slowly bring the forearms inward toward the upper arms until the clinched hands are brought to the sockets of the arms. Exhale, and drop the elbows to the sides a moment without changing the position of the hands. Inhale, and raise the elbows level with the shoulders; then, as if pushing a heavy weight backward with the forearms unbend them until the arms are extended at the sides in a straight line from the shoulders, being careful to keep the chest well uplifted. Exhale, and repeat *once*.

*B.* The same as "*A*," except that the arms are extended straight out in front, level with the shoulders, instead of extended at the sides.

*C.* The same as "*A*," except that the arms are extended straight up parallel with each other instead of extended at the sides.

This series of movements is called *Vibratory Exercises* because the conflict between the different sets of muscles involved in trying to maintain the arms in a rigid position, and in overcoming that rigidity, is so extreme as to cause a feeling of vibration in the muscles.

## RESULTS

Some athletic trainers chiefly use exercises of this order for body-building. Muscular improve-

ment—gain in firmness of tissue, and in muscular strength and development—quickly results from the practice of them. These here given are particularly effective in broadening the chest, in developing the back, shoulder and arm muscles. They also stimulate the spinal nerves, the brain, and the digestive processes; and two or three minutes' energetic practice of them will demonstrate their immediate effect upon the respiration and circulation.

It is advisable to take only homeopathic doses of these strong stimulants, unless one's system is accustomed to the severe discipline of training for they put considerable strain upon the nervous system and upon the heart. Do not let this caution make any one timid and, therefore, afraid to practice these *Vibratory Exercises*; in moderation, they are exactly what very many persons have need to take every day. The nervous invalid and the person whose heart action is treacherous are the only ones who should omit them.

No day should be allowed to pass that the body is not at least once stimulated to a glow and visible perspiration. Only so can the skin be kept active and young in texture.

All exercises, except those for relaxation, increase the circulation to a greater or less degree. This series simply gives a few that are excellent for quickly producing a glow of warmth in the body and some degree of mental exhilaration.

Note that these exercises are of different orders: The first two especially calling the legs and knees into play; the third, the respiratory and abdominal muscles; the fourth, all of the muscles of the trunk; the fifth, the whole body in dance movements; the sixth and seventh, the legs, feet and ankles; while the eighth, which affects the whole body, particularly stimulates the action of the lungs, and engages the arm, chest and back muscles in extreme contraction. These frequent changes in the sets of muscles brought into vigorous action make it possible to practice this whole series with the minimum of fatigue and the maximum of benefit.

Outdoor exercise—mountain-climbing, horse-back riding, tennis, running at a jog-trot for a few blocks—is, of course, unsurpassed in its effect upon the circulation.

### *FOR KEEPING YOUNG AND OVERCOMING SETNESS*

The spontaneous Health Exercises known as play—running, romping, jumping, rolling, climbing, balancing, wrestling—have much to do with children's youngness of feeling. Is not the main difference between that pathetic creature, an "old manny boy" and the average child due to the fact that the old manny boy seems devoid of the natural child-hunger for play?

We play because we are young, and we are young because we play.

If adults would keep young and be able to laugh at the passing years, conscious physical exercise must take the place of the abandoned play of childhood. There can be no comfortable settling down to complacent ease. Only by today's "daily tax" of effort can yesterday's high record be maintained.

An embarrassment of riches makes the choice of a few exercises for preventing and overcoming setness of mind\* and body difficult. But it is easy to decide with what the list should begin and end. An habitual buoyant poise is here the beginning of wisdom for when the ribs sag some of the great nerves and blood vessels are compressed; this makes one feel old, and the elongated back and drooping shoulders make one look old. Besides buoyant poise, youngness requires that the muscles be kept mobile by stretching, and firm by contracting and stretching; the joints, flexible by bending; and the vital functions kept up to their maximum by breathing and stimulative exercises.

### *All-Around Exercise*

Stand erect with the weight on both feet, the arms hanging relaxed.

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\*For specific ways of keeping the mind young, see "The Road to 'Seventy Years Young.'"—BISHOP.

From the shoulders, rotate the arms inward, moving them forward until the backs of the relaxed hands nearly touch, then raise the upper arms until the forearms and the hands hang pendant in front of the chest. At this point, simultaneously, take a deep inspiration, rise slowly on the balls of the feet, and raise the arms high over the head, letting the fingers of the two hands lightly meet. Stretch vigorously upward, then slightly relax, and exhale. Inhale deeply again, and bring the arms downward in a wide outward circle, twisting the arms as they descend until the palms of the hands face back. When the arms are directly in line with the shoulders, push backward with the hands, keeping the chest and head well raised. Then quietly exhale, and let the heels come to the floor, and the arms sink to the sides. Without letting the arm-movements cease, repeat the exercise ten to twenty times.

## RESULTS

This exercise invigorates the abdominal muscles, expands the lungs and chest, flattens the shoulder-blades, strengthens the back, leg and arm muscles, and stimulates the three great vital processes—respiration, circulation and digestion. If only one exercise were to be practiced daily, this *All-Around* one would be advisable in many instances. Note that it includes all five elements

of the perfect gymnastic, namely, energization, stretching, relaxation, breathing and rhythm. Because of this restful variety of muscle-play it can be taken many times without fatigue resulting.

### *Rib-Expansion Exercises*

*A.* Sitting erect, place the open hands—fingers front, thumbs back—at the waist line just above the hips.

Lightly pressing the hands against the body, bring the elbows forward and, crowding the ribs together, exhale by an audible breath through the parted lips. Then, simultaneously slowly inhale, rhythmically crowd the arms backward, uplift and energize the trunk as it bends forward from the hips, and the head bends proportionately backward. The movement of the shoulders and the arms will pull the fingers from the body, but the thumbs serve as a fulcrum and must not be allowed to move. Hold this extremely energized position a moment, then gradually relax, and exhale as at the beginning of the exercise. Repeat three or more times.

*B.* Place the hands midway between the waist line and the arm-sockets, and repeat the exercise.

*C.* Take hold of each arm with its own hand by placing the open hand directly in the armpit, the thumbs back, and repeat the exercise.

## RESULTS

These exercises are good "team work" for all of the muscles of the body save those of the head and legs. They develop the lungs, stimulate all the vital processes, broaden the chest, flatten the shoulders, and bring all of the trunk muscles into play either by stretching or contracting them.

*Poising Exercises*

*A.* Stand with the weight on the left foot.

Swing the right leg and right arm forward in a diagonal line, letting the toe touch the floor in a long advanced step. Without interrupting the movement, transfer the weight to the advanced foot as the arm rhythmically swings high above the head, the hand raised, palm out. Then vigorously energize the entire body, and with a springing movement push upward with the uplifted right hand and downward with the left. The pushing movement will cause the toe of the back foot, and sometimes the heel of the forward foot, to lift from the floor. After holding this extremely exhilarated position for a moment, slightly relax, then push again and again. Relax, and swing the arm and leg to place. Advance the left foot, and repeat.

*B.* Stand with the weight on the left foot.

Swing the right foot and the right arm directly

out at the side, letting the toe touch in a wide step. Transfer the weight to that foot as the arm swings high above the head, the hand up, the palm facing outward. Keeping the face and trunk squarely to the front, vigorously energize and push outward with the uplifted right hand and downward with the left hand. Slightly relax, and push again and again. Then with the lightness and rhythm of dancing, let the right arm sink and the left one swing upward as the weight is transferred to the left foot. Repeat as on the right side.

## RESULTS

These poising exercises invigorate the entire body, and bring a pull upon the oblique abdominus muscles thereby keeping them toned up which is essential to symmetry of form; they also lengthen the waist in front if the muscles there have become cramped.

### *Arm-Pushing Exercise*

Stand alertly poised, the head well raised, the weight of the body being over the balls of the feet.

Completely exhale by blowing the breath out through the parted lips, then, inhaling through the nostrils, energize the arms to the finger-tips and raise them out at the sides, shoulder high, the

palms facing downward. Hold the breath, and slowly but energetically push the arms down as if resisting a strong pressure from beneath. Keep the body poised well forward, and lift the chest and ribs very high as the arms finally straighten in the downward push. Exhale, and repeat five or six times without pausing. Then immediately place the open hands at the sides of the body somewhat above the waist line. If you exerted sufficient pressure in the downward movement of the arms and hands, you will notice that the action of the diaphragm is greatly increased. Its bellows-like movements will be plainly noticeable under the open hands for a minute or two following the exercise.

## RESULTS

This simple exercise is one of the most effective means of obtaining this particular result, i.e., marked activity of the diaphragm. It is also a fine liver and digestive tonic.

Any person who does not habitually use the diaphragm freely in breathing and in talking—and vastly more adults do not than do—should attentively practice this exercise for a number of odd moments every day until the natural involuntary action of the diaphragm is re-established.

The habit of deep, diaphragmatic breathing is but the outer correspondence of well-poised, sane thought-habits.

*Lung-Bath Exercise*

Stand with the weight well over the balls of the feet, the torso inclined a little forward from the hips, and the head well up.

Raise the arms at the sides, level with the shoulders, the palms upward, while inhaling a full chest breath. Retaining the breath, bend the forearms inward *raising the elbows very high*, rise on the balls of the feet, and lightly but firmly tap the chest all over its surface with the finger-tips. After a moment's percussion, exhale. Repeat several times.

*Leg-Swinging Play Movement*

Stand with the weight on the right foot, being careful not to bend forward even slightly during the exercise.

Hold the left hand, palm downward, straight out in front level with the shoulders. Keeping the knee straight lightly swing the left foot upward and touch the palm of the outstretched hand several times. Transfer the weight to the left foot, and repeat.

Include in this series:

*Pinching-Spine Exercise*, page 157,

*Chest Mobility Exercise*, page 137,

*Quick-Step-and-Swing Exercise*, page 131, and

*All Relaxing Exercises*.

**FOR STRENGTHENING LEG MUSCLES  
AND FOR FLEXIBLE JOINTS OF  
FEET AND LEGS**

*Equilibrium Exercise*

Rise on the balls of the feet, neither foot being in advance of its mate.

Slowly and steadily sink by bending the knees until the upraised heels interfere with the downward progress of the body. Then, with the same slow, controlled movement, rise to your greatest height—not allowing the heels to touch the floor at any time. Repeat several times.

Throughout the exercise the body from the hips upward must not be allowed to swerve from a vertical line. It should also be kept free from tension, for it has no working part in the exercise but is merely carried up and down by the legs' action. Fear of losing one's balance often causes the torso muscles to become tense and braced, ready to assist. The thought of fear must be kept out of the mind by holding the thought of confidence. Just remember that the leg muscles are the largest of all of one's muscle servants, and command them to obey the dictates of the will. When fear, either conscious or unconscious, is banished from the mind, its response, muscular tension, will not be manifested in the body.

Many persons at first find it very difficult to make this extreme knee-bending movement slowly and steadily. This may be due to weak leg muscles, but the usual cause of failure is lack of concentration or of confidence. Leg muscles as well as the mental faculties improve with vigorous use.

It is well to take this exercise before a mirror for the slightest jerkiness of movement or deviation of the torso from a straight line is easily reflected in its impartial face.

### *Knee-Swinging Exercise*

Stand with the weight on the right foot.

Lift the left leg until the knee is in a line with the hip, then swing the relaxed leg below the knee back and forth until the muscles of the thigh are fatigued. Relax and transfer weight to that foot. Repeat on the other side.

### *Pivoting Exercise*

*A.* Having a little wider base than usual, stand with the weight resting equally on both feet.

Rise on the balls of the feet, and pivot slowly to the right, transferring the weight entirely to the right foot as you pivot. The right foot will be directly in front of the left foot when a quarter of a circle has been described. Prove that the body rests only upon the advanced foot by lift-

ing the other foot from the ground without swaying the body forward; hold this position steadily a moment. Then, resting the left foot upon the floor, slowly pivot to the extreme left, transferring the weight to the left foot as you pivot; test as before by lifting the back foot. After holding this animated position steadily for a moment, pivot forward to the original position, and let the heels lower. Repeat until you can pivot steadily and with rhythmical ease.

*B.* Having a still wider base, pivot to the right as before. Then kneel without changing the position of the feet; rise with the weight entirely over the forward foot. Pivot to the left side, and repeat. Concentration of the attention and practice will overcome any tendency to teeter while pivoting.

## RESULTS

Pivoting exercises cultivate an easy action in turning and in transferring the weight of the body, as in changing the direction of the walk or in simply turning around when not walking—an act that is repeated many times daily, usually with waste of force and with awkward appearance. Kneeling strengthens the muscles of the legs and the ankles, and disciplines them to act independently of the rest of the body.

In picking up anything from the floor these

muscles should do the work, the torso being entirely free from action save as it may bend from the hip joints to reach the object sought. When one bends to the floor mainly from the waist, the muscles of the back do the greater part of the work, and the abdominal viscera are compressed.

Include in this series:

*Play Movement for Twentieth day*, page 81,  
*Play Movement for Twenty-ninth day*, page 86,  
*Backward Kicking Exercise*, page 204,  
*Lunging Exercise*, page 207,  
*Ankle-Swaying Exercise*, page 125,  
*Hip-Bending Exercise*, page 121, and  
*Rising and Sitting Exercise*, page 141.

### FOR EASE AND ECONOMY OF ENERGY IN WALKING

Whoever would walk well must (1) stand well, else it is impossible to balance the body in motion without enormous waste of energy; (2) must have freedom of the hip-joints, else there is restriction in the movements of the legs; and (3) must be able to minimize the amount of energy expended in stepping. This last is the place where most persons fail. They know that they ought to step lightly, but do not know how to do so except by tip-toe walking. The secret, however, is

an open one; any one with a little patience can form the habit of stepping lightly, economically, gracefully. The main thing is to swing the leg forward in each step with the least possible effort.

Let me illustrate the different degrees of energy that may be used in walking by asking you to experiment on a simple arm movement made in three different ways. Slackly close the right hand, and, keeping the elbow close to the side, lift the forearm until the closed hand is about level with the shoulder. Bring the forearm down in quick succession a number of times in three different ways; first, vigorously as if striking a blow; second, heavily as if the weight of the arm were a conscious burden; and third, very lightly as if dancing with the hand. The fatigue induced by two minutes' practice of the first two ways proves that they require the expenditure of a comparatively large amount of energy, while no noticeable fatigue follows a much longer practice of the third movement. What is true of these arm movements is equally true of the different ways of swinging the leg forward and bringing the foot down in a step; a few minutes' attention will enable one instantaneously to change the vigorous or the heavy, inert arm-strokes to the light, easy ones. A similar ready control of energy must be gained in swinging the legs forward in stepping. But, first of all, there must be freedom at the hip joints.

### *Hip-Swinging Exercise*

Stand alertly poised with the weight on the left foot.

Swing the right leg from the hip freely back and forth for ten seconds; then swing it forward and around the supporting leg in a semi-circle; and from that point swing it around and back of the supporting leg in nearly a full circle. Continue swinging thus for half a minute. Transfer the weight to the other foot, and repeat.

### RESULTS

Freedom at the hip joints and steadiness of poise. Its mental effect is enlivening; try it when you feel dull and heavy. Just one minute given to these leg-swinging movements in the morning before dressing starts one out for the day with a feeling of buoyancy.

### *Preparatory Step Exercises*

*A.* Advance the right foot and stand upon it, the ball of the left foot remaining on the floor.

Using the least possible amount of energy—not swaying the body or hitching the shoulders or settling at the hips—swing the back leg forward as if you were going to step, *the heel touching the floor*, but the ball not quite doing so. Then swing the same leg backward, letting only the ball of

the foot touch the floor. Do this many times in succession. Advance the left foot, and repeat.

The leg should swing forward so lightly—albeit, quickly—that the heel makes scarcely any sound as it touches the floor. To contrast the wrong way with the right way of doing this simple exercise, swing the leg vigorously forward, letting the heel pound the floor. That is what persons do who stand well but walk heavily. They make a heavy gymnastic of an habitual movement which should be the easiest of light gymnastics.

*B.* Same position as in “*A.*”

Swing the back leg forward, the heel only touching the floor—the foot should be relaxed, and the ball of it not more than half an inch from the floor; then with a rhythmical movement transfer the weight of the body to the forward foot coming down on the *ball of that foot* as the back foot raises from the floor. Slowly continue this exercise from conscious step to conscious step.

Note that while the heels naturally touch the floor first, we really walk upon the balls of the feet. When the heel of the leg which swings forward touches the floor, the weight of the body is still on the other foot, and is only transferred to the forward foot as the ball of that foot comes to the floor.

Master exercises “*A*” and “*B*,” then walk, expending the least possible amount of energy.

Hold the body easily poised and walk with a free step, but keep the ear alert for thumping heels. If they do thump, try gaining control of the amount of energy used by consciously walking very heavily, then lightly. If you cannot do this latter after a few attempts, laugh at yourself, but do not be discouraged. You must go back to first principles and begin again, that's all. Make the arm movements again, and note more attentively how your will controls the amount of energy expended, then say to yourself, "I can gain a similar control over the energy expended in the forward swinging of the legs in stepping." You can, and you will save time and strength in taking the time to do so.

### *Walking Backward Exercise*

Stand erect, weight on the right foot.

Easily swing the left leg backward, letting only the toe touch the ground. Slowly transfer the weight to this leg, and gradually yield the entire foot to the ground. As the back foot is pressed to the ground, raise the heel of the forward foot and swing that leg back, thus making a continuous backward walk.

A gentle rhythmic motion characterizes this exercise, there being no break between the successive steps. The top of the head will describe an undulatory line. If one walks gently backward

for a few minutes and then immediately walks forward, a buoyant rhythmical movement will be carried over from the backward walk into the first few steps of the forward one. With practice, this may become habitual. When taken slowly this exercise produces a soothing effect, and will often dispel headache—pain in the temples or the forehead.

“The regular rhythm of walking acts like a narcotic on an excited mind, which reacts to it unconsciously. Rhythmical movements tend to conserve psychic as well as physical force.”\*

### FOR OVERCOMING CHILLINESS AND PREVENTING COLDS

A person who feels chilly should at once scent danger, not from afar, but close at hand—within his own organism. Either some resident germs have taken up arms against him or some infectious germs from without are attacking him. Self-protection requires immediate action—positive action. There's no use in parleying with such adversaries. Here is a place where might is the only right, and we must pit our power of resistance against their power of attack.

Our bulwarks are vigorous exercise and fresh air—plenty of each. Open the windows, top and

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\*GROOS, *The Play of Man*.

bottom, energetically "stiffen the sinews" as for an oncoming battle and exercise until the body is in a glow, or better still, in a perspiration if it can be induced, and then to bed for a few hours or a day, if circumstances permit. If this first means of resistance—rest which fortifies by nourishing and refunding the cells with energy—is not immediately possible, then keep the body positive by uplifted attitude, alert movements and dynamic breathing.

Not infrequently, a cold can be breathed away. Most persons habitually use only a small portion of their lungs. It is not so much a change of climate as a change in one's manner of breathing that is needed to overcome a tendency to colds. "The only reason a draft ever hurts is because we are full of self-poisons or germs. Keep clean both externally and internally; externally by cold bathing, internally by exercise. If we keep ourselves vigorous, clean and well ventilated, we can practically defy the "cold" devil and all his works."\*

### *Hand-Relaxing Exercise*

Stand alertly erect.

Inhale deeply, and forcibly agitate the relaxed hands until they feel heavy and lifeless. Shake them forward and backward, laterally, and in circles. Extend the arms in front, at the sides and

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\*HUTCHINSON, *Preventable Diseases*.

over the head, and shake the hands in all directions. Exhale whenever necessary but quickly inhale again.

## RESULTS

If taken vigorously enough and always on a held breath, these hand-shaking movements will quickly put a feeling of chilliness to rout.

Hopping rapidly first on one foot and then on the other, and breathing with forced energy will have a similar effect.

### *Shoulder-Shaving Exercise*

Standing, energize the muscles of the trunk—especially lifting the ribs high—keep the head well up, and incline the trunk slightly forward from the hips.

Simultaneously, rise on the balls of the feet, raise the arms at the sides, shoulder high, the palms upward, and inhale. Then firmly closing the hands and stretching the arms to the greatest possible extent, vigorously rotate the arms backward from the shoulders in *very* small circles fifteen or twenty times. The amount of air in the lungs should be augmented during the exercise by means of little sniffing breaths. Exhale, and relax a moment.

Repeat the exercise until the body is in a healthful glow.

*Single-Nostril Breathing Exercise*

Sit erectly poised, well forward in the chair.

Place the thumb of the right hand on the right side of the nose closing that nostril with a slight pressure. Inhale slowly but very fully through the left nostril, and, at the same time, rhythmically raise the left arm high above the head. In sympathy with the upward movement of the arm, the whole torso should also rise as high as it possibly can without lifting the body entirely away from the chair. When the inhalation and bodily uplift reach their maximum, close the left nostril by placing the forefinger upon it, and remove the thumb from the right nostril. Slowly exhale through the right nostril as the arm rhythmically descends. Take at least ten breaths through the left nostril, then close that nostril by the thumb of left hand, and inhale through the right nostril as many more times.

**RESULTS**

An immediate stimulation of the nasal passages is produced by this concentrated breathing; more poison is driven out of the system than by ordinary breathing, and all of the muscles of the torso are awakened and put on guard against succumbing to the effects of unfriendly microbes.

*Pinching-Spine Exercise*

Stand with the body well poised forward from the hips, the ribs being lifted high.

Inhale, and raise the shoulders as near to the ears as possible. Then, with intense energy, as if resisting a strong pressure, simultaneously, crowd the shoulders slowly back and down, and push the chest extremely out and up, the head being held well up. Maintain this energized position for several moments, then exhale quickly, and slightly relax the shoulders. After a moment's rest, inhale, and very forcibly push the shoulders back, again pinching the spine; as it were, in the process. Repeat this latter movement four or five times, then release the general tension and allow the body to come to a buoyant, normal attitude.

Repeat the exercise until a positive glow, or warmth, is felt between the shoulders. Some persons feel this sensation very soon, others only after eight or more repetitions of the exercise, and in some cases where the spinal condition is lethargic, it is only apparent after repeated trials of many days. No one should be discouraged, however, because every pinch is beneficial whether the noticeable glow results or not.

Were it not for Emerson's advice about "the force of understatement," one would be tempted to use superlatives freely in speaking of the bene-

fits of this simple exercise—an exercise so quickly taken that any one of whatever calling can easily include it in his or her list of odd moment exercises.

## RESULTS

A richer supply of blood is brought to the spinal region where the center of the Sympathetic Nervous System is located; the functioning of the vital organs which are acted upon by these same sympathetic nerves is inevitably affected by whatever affects their source, hence, the activity of liver, pancreas, stomach, heart, bowels is indirectly augmented; besides, the back is flattened, the chest expanded, and the upper parts of the lungs are vigorously vitalized.

Because of the stimulation given to the spinal nerves in connection with rapid, full breaths, it is one of the very best physiological remedies for warding off a cold. It is almost a sure prevention if taken vigorously upon the appearance of the first symptom of a drop in physical resistance, namely, a shiver, a sneeze, a pinched, blue facial expression, or sudden depression of spirits.

### *Chest-Widening-and-Deepening Exercise*

*A.* Stand alert with the body slightly bent forward from the hips.

Inhale, and raise the arms in front, shoulder

high, parallel to each other. Retaining the breath, swing the arms up close beside the head, bending the head backward and the body somewhat forward. Exhale as the arms descend to their original position. Repeat eight or ten times.

*B.* Stand alert with the body slightly bent forward from the hips.

Inhale, and raise the arms at sides, shoulder high. Retaining the breath, swing the arms up close beside the head, bending the head backward and the body somewhat forward at the same time. Exhale as the arms descend to their original positions. Repeat eight or ten times.

*C.* Sit very erect, and well forward in your chair.

Inhale, and raise the arms in front, shoulder high, parallel to each other, the palms facing out. Retaining the breath, force the arms backward as if resisting a strong pressure, raising the head and chest very high, and slightly swaying forward from the hips. Relax as the arms descend to their original position. Repeat eight or ten times.

In all of these exercises, inhale forcibly and make the arm movements with energy and rapidity when the object is especially to overcome chilliness.

Any vigorous exercise that quickly speeds the blood through its innumerable channels, and augments the respiration will serve to discourage an

approaching cold. Bending the knees rapidly, hopping on first one foot and then on the other for three minutes or a good brisk run out of doors are excellent.

### FOR IMPROVING THE HEART ACTION

Here is a place where we are skating on thin ice and must be very cautious, but oftentimes our life depends upon *our continuing to skate*.

It is a grave mistake to think that because the heart's action is weak one should avoid any extra physical exertion. The only protection and chance for improvement frequently lie in giving this marvelous four-chambered muscle graduated and reasonable increase of work to do. What is to be guarded against is sudden stressful demands upon it. The best way of meeting such emergencies is to prepare for them. The heart must be accustomed to little playful spurts of effort, that shall make it ready to respond without injury to the unaccustomed demand. The same treatment holds good with hearts of normal strength; keep them so by a little defensive extra work in times of peace.

It should be needless to say, but to be on the safe side, we will say, never take any vigorous exercise of any kind, whatsoever, if the heart be organically weak or seriously affected, without first consulting a physician.

The exercises which one should take, at first, when the heart action is weak are feet and leg exercises, relaxing and tranquil breathing exercises, contraction of the abdominal and back muscles, taken sitting, and only light, rhythmical movements of the arms in planes not higher than the level of the head. A list of some of these follows. Those to be avoided are energetic movements of the trunk muscles especially of the shoulders and chest, all that require the arms to be raised high, and such breathing exercises as greatly stimulate the circulation.

Only one specific exercise is here outlined. It is the one prescribed by Dr. Oetel, a physician of Munich, of whose cures by walking and breathing in rhythmic beat wonderful reports are written. Certainly, the following is an exercise that brings excellent results not only for asthmatic and weak-of-heart persons, but for those of ordinary heart reliability as well.

### *Rhythmic Walking and Breathing Exercise*

Walking slowly, inhale as the right foot touches the ground; retain that breath until the right foot again swings forward, then exhale; do not inhale again until the right foot again swings forward and touches the ground. In other words, inhale and exhale, alternately, as the right foot swings forward. Make the time of your step exactly co-

incide with the time of your breathing. This will be more easily accomplished if you take a longer step than is your habit.

If you are naturally a rapid, nervous walker, then vary the breathing rhythm as follows: Inhale as the right foot swings forward, and do not exhale until you have taken another step on that foot and it swings forward a second time; then exhale, and do not inhale until the right foot swings forward the second time.

For steep climbing, inhale vigorously as the left foot touches the ground, and exhale as the right one does, or, one breath—inhalation and exhalation—for each step.

You will be surprised at the endurance this exercise gives after even a few days' trial. The explanation is simple. The attention given to the act of breathing, and the slow, measured rhythm causes an unusual amount of oxygen to be pumped into the lungs. And oxygen is the great energy-liberating power. If your heart is weak, or if you are so short of breath that you cannot climb or walk any distance, just test this rational means of increasing your endurance. It will require a little patience, that's all; to encourage that state of mind is not adverse to health.

Include in this series:

*Play Movements*

*Seventh Day*, page 74,

*Twenty-fourth Day*, page 83,

*Twenty-ninth Day*, page 86, and

*Thirtieth Day*, page 86.

*Back-Contracting Exercise*, page 138,

*Tranquil Breathing Exercise*, page 150, and

*Hip-Swinging Exercise*, page 223.

### FOR PREVENTING AND ALLEVIATING HEADACHE

Headaches are one of the most common physical danger signals given for our protection. It is for us to heed their warning and to find out what particular wreckage, obstruction or unusual condition they flag. It may be an oncoming cold or fever, it frequently is hunger, overeating, a disordered stomach or sluggish liver or bowels; worry, nervous officiousness, grief, and anger which interfere with the nourishment of the body are insidious causes; eye-strain which is specialized fatigue; in fact, fatigue of any kind—physical, mental or emotional—is a predisposing cause to headache. Have you never felt battered, sort of black and blue in your energies, after a stormy emotional interview, whether the issue were love, loyalty, religion or graft?

Nearly all causes of headache might be blanketed under one word, self-poison, i.e., poison generated in the tissues by their own activities, and carried in excessive amount to the brain or to the

cranial nerves. "The pain, or headache, instead of being inside the skull is often outside of it in the sensitive nerves supplying the scalp."\* The cure, obviously, is, get rid of the accumulated poison. Rest usually is an invaluable means to that end, feet and leg exercises sometimes are, and breathing always is.

The different circulatory conditions that accompany headache, will help to determine its treatment. Commonly there is an undue amount of blood in the head and the extremities are cold; then, again, the blood seems to recede from the entire surface of the body, the head included, leaving the sufferer's face pallid. A general chilliness or feeling of low vitality frequently accompanies this latter condition. At such times, exercise frequently works wonder-cures on aching heads. Five or ten minutes of general exercise of the legs, arms and trunk will always assist nature in re-establishing normal conditions. When there is an undue amount of blood in the head, leg exercises are helpful in equalizing the circulation and in ridding the brain, nerves and muscles of poison, but lifting and tensing exercises of the arms, chest and shoulders, and all body-bending or twisting exercises should be avoided.

Breathing is the most direct way of ridding our system of the poison which has found its way

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\*HUTCHINSON, *Preventable Diseases*.

from the tissues into the circulation. Fortunately, our volition can immediately augment this involuntary act. Always, of course, it is the extra breathing of fresh air that aids nature; the darkened room, with its closed windows, is like a defiance to nature's restorative processes. If you have not yet attained to the tent-on-the-roof habit, or to a sleeping room or couch on the porch, you can, at least, open the windows wide and let the sun-purified air abound. When you lie down, relax—relax every muscle, even those of the face, relax the jaw, the eyelids—and breathe. Take deep, diaphragmatic breaths. Feel the lower ribs gently distend at the sides as the diaphragm pumps the air into the lungs, then feel them relax as the air is exhaled. Breathe yourself to sleep, and sleep yourself free from headache.

After the ache, or the pain of the poison, has been overcome, the origin of it should be sought out and dealt with. How many times we hear the false statement, "It's nothing but a headache." In truth, it is always something else.

### *Leg-Tensing Exercise*

Lying or sitting, stretch the muscles of the legs by pushing vigorously first with the heels, then with the toes. Move the feet at the ankles, draw the toes in and under, and again push with the heels, and then with the toes.

Concentrating the attention upon the circulation of the feet oftentimes will help in dispelling mental tension. Persons whose work does not permit of their lying down even for a couple of hours, no matter how the head may ache, can often find relief by this simple exercise which tends to equalize the circulation. A little practice will make one expert in taking it even while sitting at desk or typewriter.

### *Foot-Lifting Exercise*

Stand with the weight over both heels.

Lift and lower the balls of the feet in quick succession ten or fifteen times. Then sway the weight over on the balls of the feet. Lightly lift and lower the heels until it is painful to do so.

### *Tension-Lessening Exercise*

Lying or sitting, concentrate as much energy as you can in the finger-tips, and firmly press the upper part of the neck with them about midway between the ears and spine where a large cranial nerve is situated. Continue the pressure of the fingers upward to the crown of the head.

A firm and quieting pressure, self-administered or by another, will often relieve a head throbbing to the bursting point, whereas superficial massage

of the fussy order is only a further aggravation to the hypersensitive nerves.

### *Spinal Massage Exercise*

Stand with the body poised alertly forward from the hips, the ribs well lifted and the head tipped somewhat backward.

Place the finger-tips of each hand on either side of the spinal column at the upper part of the back of the neck, the elbows pointing directly forward. Energize all of the muscles of the trunk vigorously by an act of will, lifting the chest and ribs high. Slowly and forcefully crowd the elbows backward, exerting a firm pressure of the fingers against the spine. Hold for a moment, then relax and rest for a moment. Re-energize, and repeat. Next, let the finger-tips creep downward one measure of their width. Repeat the former energization, pressure, and relaxation. Continue the creeping downward of the finger-tips as far as it is possible to reach. After which, throw the hands under the arms and reach high up the back, placing the balls of the thumbs on either side of the spine. Energize, exert pressure of the thumbs, relax and rest, and re-energize as before. Slip the thumbs one notch lower, and repeat. Continue in this manner until the entire spinal keyboard has been played upon.

Walking backward slowly and rhythmically

which kneads the feet and quiets the nerves, will sometimes dispel an approaching headache. (See *Walking Backward Exercise*, page 225.)

## FOR OVERCOMING PAIN AT BASE OF THE BRAIN

### *Neck-Bending-and-Turning Exercise*

Sit erect with the legs and arms relaxed, and the head well poised.

Slowly turn the head until it is directly over the right shoulder, then bend it backward in a diagonal line until the face is turned directly toward the ceiling. Keeping the rest of the body stationary and the face persistently toward the ceiling, very slowly but with energy rotate the head around to the left shoulder. Bend the face down close to the left shoulder, raise the head and tip it far back; do this several times, then rotate the head around to the right shoulder, keeping the face toward the ceiling. Bend the face to the shoulder and backward as before; raise the head, and slowly turn it forward to its normal position.

### RESULTS

This exercise by stimulating local circulation relieves pain at the base of the brain; it stimu-

lates the glands of the neck region, and keeps the neck muscles from becoming weak and flaccid. If these are daily exercised and kept firm there will be no opportunity for the storing up of fat-cells in this region which means a double chin.

### *Neck-Pressure Exercise*

Stand or sit with the spine erect.

Relax the neck and drop the head forward until the chin rests on the chest. Place the hands, one palm over the other at the back of the neck; exert a strong pressure with them as you forcefully raise the head until it bends considerably backward. The ribs and chest will lift sympathetically as the head is forced upward and backward. Relax, and repeat several times in succession.

### RESULTS

The benefits of this exercise are usually at once apparent when one is suffering—as so many do—from a deadening pain at the base of the brain. The muscles of the neck will be less tense, the local circulation will be stimulated as evidenced by the rosy skin, and the pain will be lessened if not entirely dissipated. The pain is but the warning cry of danger of this very sensitive nerve-center. It signifies congestion, usually fatigue-congestion. The forceful resistance of the neck-

muscles against the strong pressure from without causes a redistribution of energy and of blood in that region, and so tends to free the inhibitions.

A simple remedy for an insidious and dangerous state of "nerves"! It should be taken at the approach of the pain, and should always be followed by a period of complete relaxation.

Include in this series:

*Walking Backward Exercise*, page 225,  
*Pinching-Spine Exercise*, page 157,  
*Back-Contracting Exercise*, page 138, and  
*Spinal-Massage Exercise*, page 240.

## FOR RELIEVING EYE-STRAIN

### *Eye-Pressure Exercise*

In the midst of your most trying hour of the day, sit quietly for a moment and close the eyes. Place the thumb and middle finger, respectively, on the outer sides of the eyeballs. Gently but firmly press against the eyeballs for a moment; then relax the pressure, and lightly pass the thumb and finger inward over the eyes before opening them.

### RESULTS

This affords relief to the much overtaxed optic nerves, and it forces a little relaxation of some of

the muscles of the eyes, which are habitually on the strain.

### *Eyes-and-Head-Relaxing Exercise*

Sit in a restful position with the head easily poised.

Look fixedly at some one point in front of you, and exhale slowly by very softly saying *o as in who*; without letting your gaze waver, repeat three times. After the third exhalation, let the eyelids droop heavily, the lower jaw relax and fall, and the head gently lower until the chin rests upon the chest. Then very easily and gently roll the head toward the right shoulder, then forward from right to left, and again to the right; finally, roll it entirely around, being very careful to avoid strain or any jerking movement. As the head comes forward let it hang pendant for a moment, then with a scarcely perceptible movement raise it to its upright normal poise, the eyelids and lower jaw being still relaxed. Last, heavily lift the eyelids, and close the mouth.

### RESULTS

If the eyelids and lower jaw were released from tension—not simply *put* in the desired positions—the effect on the feelings will be conclusive evidence of the correspondence between outer manifestations and inner states. One will look and

feel stupid, absolutely without nervous response of any kind. This means two or three minutes of real rest—minutes of body and brain recuperation, and of protection against eye-strain.

After this exercise has been practiced for two or three minutes by a large class of men and women, the general feeling of drowsiness which pervades the class is convincing proof that restful nerve states can be wooed.

### *FOR AVOIDING RHEUMATIC CONDITIONS*

The best protection against rheumatism is whatever tends to keep the blood in the best condition for rheumatism is primarily a blood disease.

First of all among preventive and alleviating agencies is abundant oxygen. This is a direct blood vitalizer. Therefore, let no one who has rheumatic tendencies be niggardly in his breathing. After breathing, come wholesome food thoroughly masticated, or "Fletcherized,"\* generous amount of pure water between meals, and all the exercise possible, even if it costs effort and causes pain.

Exercise is helpful in two ways: First, because it increases the circulation and respiration

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\* FLETCHER, *The A. B. Z. of Our Nutrition.*

which augments oxygen consumption, and, second, because it keeps the muscles and joints in some degree resistant to the contracting and stiffening effects of rheumatism.

### *Backward-Kicking Exercise*

Stand with the feet in the natural position, weight on one foot.

Place the hands lightly on the hips, and poise the body well forward, the chest being raised high. In quick succession, kick vigorously backward and upward from the knee, alternately, with one foot and then the other, twenty or more times.

### *Finger-Play Movement.*

Stretch your arms straight out in front, shoulder high; quickly open and close the fingers with great energy until from fatigue they refuse to play further.

### RESULTS

This exercise is effective in keeping the joints free from calcareous deposits, and in keeping the hands young, flexible and expressive. It is especially protective to typewriters, telegraphers, and others whose work demands the same contractions of the fingers over and over again—contractions inward, never outward.

*Leg-Tensing Exercise*

Sit well back in your chair, and relax the trunk muscles and the arms.

Lift both legs straight out in front, level with the hips, and energize vigorously. Push with the heels—push with the toes. Move the toes about—rotate the feet from the ankles. Relax, and let the legs drop. Repeat several times.

## RESULTS

This exercise increases the circulation in the feet and legs, and stretches the ligaments and muscles of the legs. Any one with a tendency to rheumatism, gout or cramping of leg muscles should devote many an odd moment to it. Hours of pain may sometimes be prevented by so doing.

*Knee-Bending Exercises*

*A.* Stand with one foot advanced as in an arrested step, the weight being equally over both feet, and rise on the balls of the feet.

Keeping the heels raised, bend and straighten the knees rapidly, in playful mood, until a slight fatigue is felt in the calves of the legs. Relax, and bring the foot to place. Advance the other foot, and repeat.

*B.* Stand on the balls of both feet, neither foot being in advance of the other.

Keeping the heels off the floor, slowly and steadily sink by bending the knees as far as possible without tipping forward from the hips. Rise slowly, and repeat several times.

### *Finger-Pressure Exercise*

Standing or sitting, lift the ribs very high.

Raise the elbows level with the shoulders, and, spreading the fingers apart, bring the ends of the corresponding fingers of each hand together in front of the chest, being sure to keep the palms well apart. Simultaneously, inhale quickly, and with great energy exert a sudden pressure of each finger against its opposing member. This tenses, or braces, all of the arm and hand muscles into rigidity. The hands should not be allowed to yield even slightly at the joints of the hand and fingers, instead, the palms are spread a little farther apart with the pressure than they were before. Hold a moment, exhale, and repeat many times in quick succession.

### RESULTS

This is an anti-gout and rheumatic exercise. The severe strain brought upon all the joints of the hands greatly increases the local circulation, and helps to keep the joints flexible and resistant to calcareous deposits.

Include in this series:

*Arm-Pushing Exercise*, page 151,  
*Broken-Waist Exercise*, page 191, and  
*Liver-Pommeling Exercise*, page 191.

### FOR CORRECTING UNEVENNESS OF SHOULDERS AND HIPS

Usually, when one shoulder is lower than the other, the hip on the side of the sagging shoulder is more prominent than the other, the rib space between the shoulder and hip is contracted, and the blade of the opposite shoulder is unduly prominent.

Sometimes the cause of these defects is some spinal difficulty; if so, a physician should prescribe the course of treatment for each individual case. In the great majority of cases of uneven shoulders, bad poise in standing and sitting, carrying weights as school-books or tools habitually with one arm, or vocations which cause the over-development of the muscles on one side of the body, are the cause. The remedy is not so easy to name; sometimes the best that can be done is to arrest the progress of the deformity. The following exercises, faithfully practiced, are always beneficial, and sometimes bring about normal conditions, or nearly so.

*Drooping-Shoulder Exercises*

*A.* If the right shoulder is the lower one—as it commonly is—stand with the weight entirely upon the right foot.

Lift the ribs on that side as high as you can; then raise the right arm directly up close beside the head, and the left arm out at the side level with the shoulder, closing both hands tightly. Inhale, press backward with the left arm, stretch energetically upward on the right side, and at the same time vigorously rotate the uplifted arm backward and outward in extremely small circles. Exhale, and slightly relax for a moment, then repeat several times, using all the energy that you can command.

*B.* Stand squarely on both feet.

Keeping the body steadily poised, fling the arm on the side of the drooping shoulder with great energy over the head. Repeat twelve or fifteen times and at frequent intervals.

*C.* Raise the drooping shoulder slightly above its normal level. Tense the arm and trunk muscles on that side, and, holding the chest and head well up, walk animatedly, or better yet, run for three minutes; be sure to keep the arm and trunk muscles vigorously contracted during the walking or running. Do this several times daily.

*D.* Stand with the body slightly tipped for-

ward from the hips. Closing the hands and flexing the arms so that the hands are close to the shoulders, bring the arms up at the sides, shoulder high. Then quickly, with energy, thrust the arm on the side of the lower shoulder up close beside the head, and the other arm with equal energy down beside the body.

*E.* Watch your habitual positions. When standing make it your habit to maintain the weight on the leg having the lower hip; when sitting incline away from the drooping shoulder instead of toward it, as the tendency will be to do. Good habitual poise will do much to correct the mischief wrought by bad poise.

### *FOR FLEXIBILITY OF THE HANDS*

The effects of hard work that cramps and stiffens the hands and fingers, and the tendency to enlargement of the finger-joints from rheumatic and gouty conditions of the blood can be lessened, at least, by localized exercises. These must be of a nature to stretch the ligaments and muscles on the inner side of the hand—just the opposite of the stretch and contraction which are necessary in all ordinary uses of the hands, and to create an active circulation in the joints, thus making unfavorable conditions for the stiffening of their ligaments and for calcareous deposits.

*Finger-Flinging Exercise*

Close the fingers easily on the palm.

Concentrate your attention upon the hand, and fling the fingers out and wide apart with all the energy you can drive into them. Quickly close, and again fling the fingers. Repeat until the fatigue of the forearm causes you to stop.

*Finger-Stretching Exercise*

Place the ends of the thumbs together and the ends of the forefingers together; give a sudden, strong pressure pitting the strength of one hand against that of the other. Relax, and, keeping the thumbs together, place the ends of the middle fingers together, and proceed as before. Do the same, in turn, with the third, and the little fingers.

## RESULTS

This exercise especially plays upon the hand knuckles, and stretches the muscle insertions of the fingers, giving to the fingers flexibility and a big reach. Pianists whose hands are firmly knit will find this exercise very helpful.

*Hand-Relaxing Exercise*

Stand or sit with the body in good poise, the arms hanging at the sides.

Inhale, and forcibly agitate the hands until they feel heavy and lifeless; shake them forward and backward, laterally, and in inward and outward circles. Extend the arms in front, at the sides, and over the head, and shake the hands in all directions in each position. Exhale whenever necessary, but always quickly inhale again.

## RESULTS

This exercise increases the circulation of the hands, and removes all nervous tension from them. The hands being the direct agents of the mind unmistakably report mental strain and agitation by their tension and restlessness. They are sometimes the most difficult members to make reposeful, but it is possible for every one to form the habit of instantaneously withdrawing the superfluous energy from them.

Include in this series:

*Finger-Pressure Exercise*, page 161.

## FOR DEVELOPING SYMMETRICAL ARMS

These exercises aim for results quite different from those sought by athletes or by those who are in training for unusual strength of the arms for some special purpose. In such cases, vigorous contracting exercises are the ones that quickly

bring the biceps and triceps into prominence—in strength and size. Here our object is normal strength, firmness of texture, and symmetrical, rounded development of all of the arm muscles.

### *Arm-Twisting Exercise*

Stand erect, the ribs lifted high.

Stretch the arms out at the sides, shoulder high, the palms up. Inhale, and with great energy quickly twist the arms forward, under and backward. Hold this position of tension a moment, then relax, the arms untwisting, and the palms again facing upward. Repeat eight or ten times.

### *Hand-Bending Exercise*

Close the hand firmly, the thumb over the fingers. (Never allow yourself to form the weak, self-shielding habit of holding the hands closed with the thumb in. The thumb falling inward always denotes weakness of some kind.) Very energetically bend the hand upon the wrist in all directions.

### RESULTS

Such bendings of the hand contract and develop the muscles of the forearms, just as the bending of the forearm at the elbow contracts and de-

velops the big muscles of the upper arm. Vigorous use of the fingers also develops the muscles of the forearm. Professional pianists and masseurs have well-rounded forearms.

Include in this series :

*Finger-Flinging Exercise*, page 252,

*All-Around Exercise*, page 211,

*Hand-Resistance Exercise*, page 163, and

*Vibratory Exercises*, page 207.

### FOR KEEPING NECK MUSCLES FIRM AND PREVENTING DOUBLE CHIN

The various sets of neck muscles are so arranged as to admit of the head being moved in many different ways and directions, but the occupations and the emotions of most persons' daily lives usually call upon these neck muscles for only slight movement in a very few directions. The result is the unvarying one that follows non-use of any part of the body, namely, deterioration. This is why the necks of so many women are old-looking before their faces are. The deterioration of these inadequately exercised muscles is shown either in weak flaccid muscles or in muscles encumbered with fat-cells as in a double-chin.

Oftentimes there will be this local deposit of fat-cells in and around the chin and neck muscles when the rest of the body is not unduly stout. This

is because this is a region where areolar tissue—the natural storage place of fat-cells—abounds, and because the under-chin muscles are so attached as to have great freedom, greater, in fact, than any other muscles in the body have—which makes it impossible to contract them to any marked degree either directly by the will or by exercises. And contraction is the direct way to make muscles firm and strong. Stretching is the best that can be done for these under-chin muscles; they must be stretched frequently in every direction by turning and twisting and rolling and bending the head.

### *Neck-Tension Exercise*

Sitting erect, bend considerably forward from the hips.

Lift the ribs very high, tense all the muscles of the neck, and bend the head diagonally down towards the chest as if overcoming a strong resistance, then lift it to a normal poise in the same tense way; bend it in this way to each side; then bend it diagonally back in a similar manner to each side.

Dr. J. Madison Taylor, in *The Popular Science Monthly*, says: "I have often been surprised and gratified to find that regular movements of the neck and upper truncal muscles, employed for the purpose of accomplishing something else, re-

sulted in a conspicuous improvement in hearing, in vision, in cerebration, and, as a consequence, in a betterment in cerebral circulation, also in sleep."

### *Hip-Bending Exercise*

Place the hands lightly upon the hips.

Keeping the knees straight, bend easily forward from the hips until the line of the back is at a right angle with the line of the legs; as the trunk descends, the head inclines proportionately backward. Maintain this position, and slowly turn the head until the chin is over the right shoulder, then turn it in the opposite direction until it is over the left shoulder, then turn it squarely front again, and raise the torso. As the torso approaches an upright position, stretch the muscles of the back of the neck in an effort to push the crown of the head upward.

### RESULTS

The muscles of the neck are rigidly contracted, which makes for the strength necessary for maintaining the head in good poise, and the muscles under the chin are well stretched by this exercise.

Include in this series:

*Neck-Pressure Exercise*, page 156, and

*Neck-Bending-and-Turning Exercise*, page 241.

### FOR FORTIFYING THROAT AND PREVENTING DEAFNESS

One of the most frequent causes of deafness is the thickening of the membrane of the ear. This makes it less responsive to sound vibrations that beat upon it from without. Such thickening of the membrane is usually gradual as in old-age deafness, but it may be sudden as in acute attacks of deafness resulting from a cold or from congestion. In the latter instances, one of the most effective treatments employed by throat and ear specialists is to force air into the inner ear through the eustachian tube—the canal which connects the inner ear with the nasal passages. To accomplish this, the tube of a bulb syringe is placed in one of the nostrils of the patient who is directed to swallow—which act closes the air-passage to the lungs—at the moment that the air is pressed out of the bulb and forced into the air chambers of the head.

A somewhat similar *limbering up* of this membrane of the ear can be effected by the following breathing exercises.

#### *Ear-Drum Exercise*

Sit in an easy, erect position.

Place one hand on the abdomen and the other

at the side of the body where the action of the diaphragm can be observed. Fill the lower parts of the lungs first; as they fill there will be an outward movement of the muscles under each hand. When these parts are expanded as much as possible, continue inhaling very gently and steadily until the upper parts of the lungs are fully inflated.

One must be very careful not to contract in the slightest degree the muscles under the hands during the inflation of the upper part of the lungs. When the lungs are inflated to their capacity's limit *hold the breath*—the nostrils may be closed by pressure of thumb and finger—vigorously contract the abdominal muscles trying to force the breath out through the closed nostrils, at the same time, trying to swallow. Hold the breath, and keep the abdominal muscles rigid while you think ten or fifteen counts.

## RESULTS

The immediate physical effects will be a noticeable pressure in the ears caused by the air being forced into the eustachian tube, a feeling of openness in the air-chambers of the head, and an invigoration of the muscles of the throat.

*A Minor Benefit:* Those unbecoming hollows just above the collar bone which often make an otherwise pretty neck, ugly, can best be overcome by the faithful practice of this exercise—pro-

vided, of course, that the body is well poised and the chest alive, not depressed or sunken. The apexes of the lungs lie very close to the collar bone. When they are not well developed, or, if well developed, are not kept active by some high chest breathing, the muscular tissues associated with them naturally suffer; they become flaccid and thinner even than they normally are. In the foregoing exercise, a puffing out of the flesh just above the collar bone can be seen at the instant of the contraction of the abdominal muscles; this is because the air is forced into the apexes of the lungs.

### *Suppressed Yawn Exercise*

This is simply a full chest breath followed by a big yawn which is suppressed, or denied free play, by keeping the mouth closed; a yawn in which all the muscles of the torso are stretched upward, the throat muscles extremely energized and the hyoid muscles—those inner muscles where the throat and head seem to join—are forced vigorously downward.

### RESULTS

If the breath is full enough and the impulse to yawn energetic enough, some amount of air will be forced into the eustachian tube and against the ear-drum as in the preceding exercise. *The most*

*positive benefit, however*, is to the tissues of the throat. To appreciate how much the hyoid muscles are brought into play, observe their action and degree of rigidity by placing the fingers at the back part of the chin during the yawn. There should be a marked lowering and hardening of the muscles at this point. This activity means that the hyoid muscles and their associated muscles receive a richer supply of nerve stimulation and of blood than would otherwise ever be sent to them. Such wholesome invigoration persistently practiced will strengthen all of the throat muscles and keep them habitually in resistant condition. This is the best safeguard against hoarseness, inflammation, sore throat, and throat affections in general that can be prescribed.

Let no one doubt the efficiency of this natural protection against minor throat affections—hoarseness, inflammation, sore throat—because it is so simple. Just test it, that's the profitable way. Make it your habit to force a yawn several times a day, and suppress it by compressing the lips, then lift the ribs high, and twist the head in all directions, thus stimulating the many glands of the throat and neck. This is not only a safeguard against throat affections, but *sometimes* is a dispeller of them in their incipient stages.

*FOR OVERCOMING INSOMNIA*

If you would break up the habit of insomnia begin before breakfast. Go out of doors, and, lifting your ribs high and taking heavy, forced breaths, walk briskly for five or ten minutes. Never mind if you are—or if the you of yesterday were—one of those persons who cannot do anything before breakfast, who must have a cup of coffee “first off” else headache or dizziness results. What you need is a change in your waking up stimulant; the drinking man’s “eye-opener” is his stimulant, coffee is yours—a direct heart stimulant. “Pull yourself together” without the coffee; let the first stimulant your energies receive be a natural one—one that leaves no depression after the first effects have worn off. Five minutes of stimulation by breathing and leg exercises will give you a new relish for your coffee, for your breakfast as a whole, and for the day’s opportunities. If your head insists upon aching for a day or so while your system is adjusting itself to your better ways of beginning the day, why, let it ache; it is doubtless an old offender, but by overcoming insomnia you are on the road to its reformation, also.

During the day, spend all the time you can

command out of doors. Drive, motor, lie in the hammock or sit on the porch—fur-wrapped, if necessary—or, best of all, walk. Supplant the house-habit by the out-of-door habit. In the evening—no matter what the state of the weather—walk until you are muscle weary. For the last fifteen minutes of your walk, give undivided attention to making the rhythm of your breathing harmonize with the rhythm of your step.

### *Rhythmic Walking and Breathing Exercise*

Walking slowly, inhale as the right foot touches the ground; retain that breath until the right foot again swings forward, then exhale; do not inhale again until the right foot again swings forward and touches the ground. In other words, inhale and exhale, alternately, as the right foot swings forward. Make the time of your step exactly coincide with the time of your breathing. This will be more easily accomplished if you take a longer step than is your habit.

“Tired nature’s sweet restorer” is decoyed in three ways by this exercise: by the effect it has on the circulation, by the effect of its rhythm upon the nervous system, and by the concentration demanded in holding one’s attention to breathing and stepping in unison.

Further seductive conditions for inducing sleep can be made by special exercises. First, however,

make your mental attitude favorable to letting go of day affairs. Tell that overactive, fussy brain of yours that you detest "tedious old fools," and that it shall not act like one; that you will not allow it garrulously to rehearse the details of dead days nor to pry into the affairs of the unborn days. Tell it that you have no interest in any one's problems, your own included, at ten post meridian; that you have an appointment about that time with sleep. Then yawn in the face of all visible and invisible claimants for your attention. Yawn again and again as you leisurely make ready for bed. "Hurry to bed" is bad advice; we shouldn't hurry, we should dawdle—literally, make haste slowly.

### *Feet Play Movements*

After all your preparations for retiring are made, if your feet are cold, *very rapidly* do each of these leg movements twenty or more times: (a) Raise and lower the heels of the feet, (b) raise and lower the balls of the feet, (c) bend and straighten the knees, and (d) kick backward from the knees. Repeat these play movements until your warm feet cry, "Enough."

### *Breathing and Concentration Exercise*

Standing or sitting, maintain the trunk and head in an erect but not tense position; let the

eyelids droop, and completely relax the lower jaw—the teeth being parted one-half an inch or more.

Heavily lift the arms shoulder high, the fore-arms being bent inward near the chest, and the hands hanging limply from the wrists. At this point, begin exhaling almost imperceptibly through the relaxed open mouth—the breath being governed by the diaphragm which is held in its flat, or work, position—and, at the same time, slowly raise the arms until they are above the head, then gradually rotate them outward and let them very gently begin to sink. Continue the downward movement as long as the one slow exhalation can be sustained. When the breath is exhausted, drop the arms inertly, and release the diaphragm. A deep inflowing of air will spontaneously follow.

Do not allow the mind to wander off or to become interested in any objective appeal, not even in the effects of the exercise itself, but hold it concentratedly to the *performance of the exercise*. Repeat several times.

## RESULTS

If all of the conditions are faithfully fulfilled, namely, the unswerving control of breath at the diaphragm, the rhythmical movement of the arms, the semi-relaxed eyelids and the completely relaxed lower jaw, during eight or ten extremely

slow exhalations, the whole nervous system will be soothed, the muscular tensions lessened, and a restful drowsiness induced.

### *Brain Stupefying Exercise*

Sit erect, letting the feet easily rest upon the floor, and the arms hang relaxed at the sides.

Look steadily in front of you at the place where the side-wall joins the ceiling, while taking five slow, heavy breaths. Then let the eyelids droop heavily, the head sink gently until the chin rests upon the chest; after which, as if the weight of the head dragged the shoulders forward, relax the upper back, then almost imperceptibly yield at the hip joints and very slowly sway the torso forward until you are lying down in your own lap—the head hanging below the knees, and the relaxed arms dragging down from the shoulders. In lifting the torso, reverse the order of movement; the hip joints act first, and gradually the spinal column regains its double curve which lifts the chest, last of all the head with an extremely slow, steady motion lifts to its normal position, and the eyelids languidly open as do a baby's when the little one seems unwilling to surrender to heavy drowsiness. Complete the exercise by a lazy, long inhalation.

Taking this exercise once should occupy three minutes; it must be one continuous rhythmical

movement—not a series of little jerks. Not more than three or four repetitions should be necessary to produce a degree of drowsiness which will enable one unreservedly to relax and sleep.

## RESULTS

This exercise concentrates the attention, soothes the nerves, and has a soporific effect upon the brain. The pendulous position of the head causes more blood than is normal to remain in the blood-vessels of the brain; they become distended and by their pressure upon the brain produce a semi-stupor. The immediate effect is similar to that produced by most drugs given to quiet the brain, but there are none of the evil after-effects of those drugs, because the exercise produces only a slight distension of the blood vessels which relaxes soon after the head is on the pillow. During those few moments of mental dullness, however, the goddess of sleep may claim her own.

If one does not drop off to sleep after taking the *Brain Stupefying Exercise*, the attention should be directed immediately to one's respiration; take twenty or thirty long tranquil breaths.

### *Tranquil, or Normal, Breathing Exercise*

Lying prone upon the back or sitting with the back supported, place one hand on the chest and

one on the abdomen just forward of one of the hip joints.

Keeping the chest perfectly quiet, slowly exhale the breath by softly making the sound of *o as in who*. The abdominal muscles under the hand in front of the hip-joint will gradually contract during the exhalation. Continue exhaling until you can no longer do so without allowing the chest to sink, then completely relax the abdominal muscles—which means the relaxation of the diaphragm, the real muscle of respiration—thus *making the conditions for the refilling of the lungs* without any effort on your part.

Many persons find that at first they have no control over the different muscles; that the chest will move, that the rib and abdominal muscles are disinclined to action. But by practice and concentration of thought, control can be acquired.

Should you have the habit of sleeping two or three hours and then of being wakeful for succeeding hours, change your vibrations by the following exercise.

### *Recumbent Arm-Lifting Exercise*

Lying in an easy position, slowly raise one arm very high, the hand being relaxed.

*More slowly still* lower the arm, letting the fingers touch the covering first, then the hand, the forearm, successively; last, the nerve-force is en-

tirely released and the whole arm rests. Accompany the exercise with heavy, slow breaths, mentally saying, "rest, relaxation, recuperation." Repeat several times, making the movement more slowly each time.

This exercise is an excellent one for nervous persons to practice at any time; the reciprocal action of the mind and body is evidenced by the quieting effect that five minutes' practice of it will produce when one is nearly distraught with half a dozen perplexing things that crowd for immediate attention. The slower and more sustained the movement, the greater is the nerve-control.

### *Recumbent Stretching Exercise*

Lying flat upon the back with the arms straight at the sides, push vigorously downward with the legs and arms, and, at the same time, contract the muscles of the back. Inhale, and hold this tense position while mentally saying, "perfect circulation, health, harmony." Exhale slowly, and relax. Repeat ten to twenty times.

### RESULTS

This exercise will often induce sleep, as it equalizes the circulation, and tends to overcome nervous restlessness. Concentrating the attention upon health conditions to the exclusion of all

other thoughts is an order of auto-suggestion to which the nervous system readily responds.

### *Recumbent Chest-Raising Exercise*

Lie flat upon the back without any pillow. Resting the weight of the body upon the head and hips, contract the back muscles, thus raising the shoulder zone two to four inches from the bed or floor. Hold it uplifted for a few moments, then relax, and rest a moment. Repeat several times.

### *Recumbent Hip-Raising Exercise*

Lie flat upon the back without any pillow. Resting the weight of the body upon the shoulders and heels, contract the back muscles, thus raising the hip zone of the body several inches from the bed or the floor. Hold this energized position a few seconds, then relax, and rest a moment. Repeat several times.

The harder the surface upon which one lies for these two spinal exercises, the easier to take them and the better the results.

### RESULTS

Some of these are: (1) Strengthening the erector spinæ muscles; (2) invigoration of the spinal nerves, which, in turn, correspondingly affect all of the digestive processes; (3) relief of brain

strain or pressure; (4) betterment of the circulation, and (5) as a result of all the foregoing plus the muscular fatigue which these exercises induce, the overcoming of wakefulness.

If, after all your persuading, sleep still evades you "agree with thine adversary" graciously, if not quickly. Say, "It's all right whether I sleep or not. I will lie here perfectly relaxed, and have a good time in re-seeing in imagination some mountain view or storm at sea or wondrous sunset—anything that is big and impersonal." Sleep hovers close to moments of such indolent sensuousness; moreover, they yield a large measure of recuperation even if one does not lose consciousness.

Above all, do not look upon yourself as a victim of insomnia because you have an occasional wakeful two or three hours, or even a night of sleeplessness. Insomnia is not an incidental happening, it is a recurrent state which sometimes will not yield to anything except the establishment of the outdoor habit.

### *FOR OVERCOMING MAL-MENTAL STATES*

"If the native energy of his soul flag, let a man impose upon himself conditions that will demand its expenditure—let him seek circumstances in

which his volition is unavoidable! It is an old and true observation that the traveler and the bridegroom are generally immune to disease and death.”\*

Mental states can be recast by bodily activity. Exercises which are expressive of freedom, self-confidence and enthusiasm repeated over and over again, make easy-traveled roads between the brain-centres associated with the higher emotional states and their bodily responses. When such ready co-ordination exists, the least stimulus in the right direction makes it easy to change one's menacing mood or one's bodily expression; makes it easy to say when the fatal line of least resistance entices one, "Satan, get thee behind me!" Not only to say but to carry the thought of self-protection over into the health-protecting act. It is surrendering to disadvantageous moods that undermines health and character.

When you feel "the blues" or other unfriendly mental states approaching, shut the door in their faces, and direct your energy into wholesome bodily activity.

### *Quick Step and Swing Exercise*

Standing on the left foot, lightly spring diagonally forward on the right foot, and swing the

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\*FEUCHTERSLEBEN, *Health and Suggestion*.

right arm forward and upward high above the head; inhale as you do so. Making the movement continuous and rhythmical as in dancing, quickly sway back to the left foot, bringing the right foot to place beside it and the right arm down; exhale as you do so. Without interrupting the movement, repeat until your nerves are exhilarated. Stand on the right foot, and repeat.

### *Minuet Walking Exercise*

Stand alertly poised on one foot.

Swing the other leg well forward and upward, bending the knee, and pointing the toe downward and out. Without interrupting the rhythmical movement, bring the leg inward to the length of an easy step, and sway forward on the toes of that foot, thus advancing a step. Swing the other leg forward and continue the rhythmical movement. Walk for a minute in such buoyant fashion—not allowing the heels to touch the floor. Then walk naturally, and note how free and light your step is for a few steps, at least.

### *Quick-Command Exercise*

Stand well poised, the weight being over the ball of one foot. Keep the other members of the body perfectly quiet while you move the free leg lightly and very quickly in many directions. Move it forward, first touching the toe to the floor, then

the heel, and then the whole foot; move it out at the side, forward, back; cross it over the other leg, and bring it to place; lift the thigh, the leg below the knee being relaxed, until the knee is on a line with the hip, then bring the foot down, the toe touching the floor; then lift it again and bring it down, the heel lightly touching first.

It is much better if this play exercise be practiced with some one else, or better still, with several others. Let one person give the commands for the various changes which the others follow, vying with each other to excel in quickness, and accuracy.

Also practice different movements of the arms as right arm up, left arm out in front; left arm out at side, right arm out in front, and other combinations. All must be executed without an instant's hesitation.

### *Knee-to-Chest Exercise*

Stand with the body well poised forward from the hips, ribs uplifted, and the weight resting wholly on the left foot.

Lift the right leg as high as can be done without strain, letting the leg below the knee hang relaxed and free. Maintain this position a moment—remembering that a fine balance of the body is primarily a matter of concentration of the mind—then release the energy at the hip and let

the leg fall, relaxed. Repeat several times, aiming each time to lift the leg higher and nearer to the chest. Finally, as the leg is lifted clasp the hands around the knee and force it up to the chest—the body not being allowed to bend even slightly forward to meet it. Hold this position as long as the balance can be maintained, then release the knee and let the leg fall relaxed as before.

Repeat ten times in quick succession with that leg, then immediately transfer the weight of the body to it, lift the left leg, and proceed as before.

After one has gained the concentration, poise and freedom essential to the easy execution of this exercise *without bending the body forward from the hips ever so little*, the beneficial effects can be greatly increased by lifting the knees to the chest in rapid alternations, say, twenty or thirty times.

## RESULTS

This is a fine stimulant to all of the vital functions. It especially augments the amount of nerve energy and blood in the abdominal region and the legs. The rapidity and unusualness of the movements tend to banish the self-centered and melancholy thoughts.

Include in this series:

*Lung-Bath Exercise*, page 167,

*Lunging Exercise*, page 207,

*Backward-Kicking Exercise*, page 204, and

*Rhythmical Body-Bending*, page 132.

*FOR GENERAL DAILY PRACTICE*

Said a lady, obese and gouty, when walking was recommended as a remedy, "Oh, I can't do that. What would become of the horses! They have to be exercised."

Carriages, automobiles, street cars, elevators are the expedient way, the time saving way, but they make the need of daily directed exercise much more a necessity than it was in the days when man depended upon his own physical machine as his chief means of locomotion. Every person who today is well should give five or ten minutes out of the day's one thousand four hundred and forty minutes to insuring his health for tomorrow.

As the best results are obtained from exercise that engages the attention, one should never do the same exercises over and over until they become practically automatic, no matter how excellent such exercises may be in themselves. The person who boasts that he has practiced three or four exercises regularly for twenty years has had a dull time of it, and, moreover, he has received less benefit than would have been received by practicing forty different exercises, three or four at a time, each set for a period of a month or so during the twenty years. There are over four hundred muscles in the human body; adults

must take many different exercises in order to give these muscles half the chance for health which they receive from the twisting, pulling, kneading, contracting and stretching of childhood's play.

**NOTE:** The following four sets of exercises are suggested as daily practice for those who are in good health and would hold their own or improve upon themselves with the passing years. Each set contains some one or more of the different kinds of exercises—breathing, contracting, relaxing, stretching and rhythmical—and each results in a fine invigoration of all parts of the body.

It is suggested that the first set be practiced for a month or so, then the second, third and fourth, each for a like period. After which, the first set again or some new set which you may arrange from these sets or from other exercises not included in them. Such variation of one's practice protects one from the loss of attentive interest in it. Dr. William G. Anderson, Director of Yale Gymnasium, says: "If two men exercise the arm and thorax, taking the same exercises, one standing before a large looking-glass, the other not, the former will show a higher center of gravity than the latter, indicating a richer blood supply to the parts exercised. This

is merely another illustration of conscious versus mechanical methods of exercise."

*Daily Practice Exercises. Set I*

1. Stand erect, and lift the ribs high. Inhale, and stretch the arms straight out at the sides, level with the shoulders. Bending slightly forward from the hips, energize vigorously to the finger-tips; hold for a moment, then exhale, and slightly relax. Inhale again, energize and stretch still farther. Repeat three or four times. Rest a moment, then stretch the arms up close beside the head, and proceed as before.
2. Hip-Bending Exercise, page 121.
3. Lung-Bath Exercise, page 167.
4. Held-out Breath Exercise, page 152.
5. Windmill Exercise, page 178.
6. Eye-and-Head-Relaxing Exercise, page 244.
7. Broken-Waist Exercise, page 191.
8. Rib-Expansion Exercise, page 164.
9. Backward-Kicking Exercise, page 204.
10. Quick Step and Swing Exercise, page 131.

*Daily Practice Exercises. Set II*

1. Standing lightly poised, swing the arms in and up, high above the head. Then stretch

- every muscle as they swing out and down in a big circle. Repeat three or four times.
2. Heel, Instep and Toe Exercise, page 181.
  3. Rapid Knee-Bending Exercise, page 201.
  4. All-Around Exercise, page 211.
  5. Torso-Rolling Exercise, page 201.
  6. Breathing and Concentration Exercise, page 146.
  7. Front-Rib Lifting Exercise, page 194.
  8. Back-Rib Lifting Exercise, page 154.
  9. Liver-Pommeling Exercise, page 191.
  10. Single-Nostril Breathing Exercise, page 173.

*Daily Practice Exercises. Set III*

1. Stand erect, inhale and quickly stretch the arms up close beside the head, hold for a moment and then relax. Alternate with the right and left arm several times, stretching very high.
2. Arm-Pushing Exercise, page 151.
3. Poising Exercises, page 184.
4. Knee-to-Chest Exercise, page 202.
5. Side-Relaxing Exercise, page 182.
6. Toe-Touching Exercise, page 177.
7. Finger-Pressure Exercise, page 161.
8. Packing-Breath Exercises, page 168.
9. Abdominal Contraction Exercise, page 205.
10. Feet-Warming Exercises, page 206.

*Daily Practice Exercises. Set IV*

1. Stretch in any and every direction with every member of the body, at the same time open the mouth and take a big, deep breath. Repeat two or three times.
2. Knee-Bending Exercise, page 247.
3. Waist-Twisting Exercise, page 180.
4. Back-Relaxing Exercise, page 186.
5. Vibratory Exercises, page 207.
6. Chest Mobility Exercise, page 137.
7. Back-Contraction Exercise, page 138.
8. Knee-Kicking Exercise, page 201.
9. Finger-Pressure Exercise, page 161.
10. Rhythmical Body-Bending Exercise, page 132.

## XI

### OUTLINE FOR CLASS LESSONS

LONG experience in teaching health classes composed of members having great diversity of needs has proven that a course of lessons yields the best results when the work begins with the foundation for the right use of the body—i.e., standing poise—and proceeds from day to day in a certain logical sequence.

The following lesson outlines give series of exercises which either relate to the specific topic of the day's lesson or that are quite unrelated to that topic; in the latter instance, they forward the day's particular work by giving relief from it. With exercise practice, as with any work, frequent respites from one line of activity are essential to the best ultimate results. Professor James quotes one German writer as saying, "We learn to swim in the winter and to skate in the summer."

More exercises are given in each series than can be thoroughly developed in one short lesson hour. Each teacher can select from these such as best meet the needs of his or her different

classes; or, if the class meets for twenty or more lessons, each of these day's outlines will easily afford work for two days' lessons.

Reviewing the exercises of previous lessons again and again is not only helpful, but is absolutely necessary for making new "pathways" toward health in our nerve-cells.

Every lesson, after the first one, should commence with a few easy exercises or play movements from preceding lessons. The attention will be less taxed and also the final results will be better, if the work of each day is relieved by review exercises interspersed between the new ones. The review exercises selected in each instance should be of such a nature as to afford relief from the new work immediately preceding; for instance, if the new exercise has been one which vigorously engages the back and trunk muscles, let the review exercise be one that engages the leg muscles or a relaxation exercise.

## LESSON I

Read topic, *Standing*, page 46.

### *Exercises*

1. Play Movement—Twenty-seventh Day, page 85.
2. Hip-Bending Exercises, A and B, page 121.

3. Play Movement—Fifteenth Day, page 78.
4. Play Movement—Twenty-second Day, page 82.
5. Ankle-Swaying Exercises, A and B, page 125.
6. Normal Poise Movement, page 122.
7. Play Movement—Seventh Day, page 74.
8. Play Movement—First Day, page 71.
9. Spinal Play Movement—page 157.
10. Swaying Play Movement—page 136.  
Study topic, *For Establishing Good Standing Poise*, page 120.

## LESSON II

Read Chapter, "Kinds and Significance of Exercise."

### *Exercises*

1. Review Lesson I.
2. Rib-Expansion Exercises, page 164.
3. Play Movement—Twenty-ninth Day, page 86.
4. Broken-Waist Exercise, page 191.
5. Pinching-Spine Exercise, page 157.
6. Play Movement—Fourth Day, page 72.
7. Quick-Command Exercises, page 129.
8. Transferring Weight Exercise, page 126.
9. Equilibrium Exercise, page 218.
10. Play Movement—Eighth Day, page 74.

Study Chapter, "The Diaphragm, Back and Abdominal Muscles," page 89.

### LESSON III

Read topic, *Relaxation*, page 41.

#### *Exercises*

1. Review.
2. Hand-Relaxing Exercises, page 227.
3. Arm-Relaxing Exercises, A and B, page 143.
4. Leg-Relaxing Exercise, page 145.
5. Play Movement—Ninth Day, page 75.
6. Play Movement—Twenty-fourth Day, page 83.
7. Eyes-and-Head-Relaxing Exercise, page 244.
8. Torso-Relaxing Exercise, page 145.
9. Breathing and Concentration Exercise, page 146.
10. Backward-Kicking Exercise, page 204.

Study topics, *For Preventing and Overcoming Nervousness*, page 142, and *For Keeping Young and Overcoming Setness*, page 210.

### LESSON IV

Read topic, *Sitting*, page 50.

#### *Exercises*

1. Review.

2. Shoulder-Shaving Exercise, page 159.
3. Chest Mobility Exercise, page 137.
4. Back-Contracting Exercise, page 138.
5. Play Movement—Twenty-fifth Day, page 84.
6. Back Resting Exercise, page 134.
7. Neck-Pressure Exercise, page 156.
8. Quick Step and Swing Exercise, page 131.
9. Play Movement—Twenty-eighth Day, page 85.
10. Hip-Bending Exercise, page 121.

Study topic, *For Establishing Good Sitting Poise*, page 134.

## LESSON V

Read topic, *Breathing*, page 35.

### *Exercises*

1. Review.
2. Play Movement—Sixth Day, page 73.
3. Single-Nostril Breathing Exercise, page 173.
4. Suppressed Yawn Exercise, page 260.
5. Tranquil Breathing Exercise, page 150.
6. Play Movement—Sixteenth Day, page 79.
7. Arm-Pushing Exercise, page 151.
8. Lung-Bath Exercise, page 167.
9. Play Movement—Eighteenth Day, page 80.
10. Play Movement for Buoyancy, page 128.

Study topic, *For Breathing Abundantly*, page 148.

## LESSON VI

Read topic, *Corpulency*, page 55.

### *Exercises*

1. Review.
2. All-Around Exercise, page 211.
3. Side-Relaxing Exercise, page 182.
4. Torso Play Movement, page 188.
5. Abdominal Contraction Exercise, page 205.
6. Play Movement—Third Day, page 72.
7. Poising Exercises, A and B, page 184.
8. Back-Relaxing Exercise, A, page 186.
9. Play Movement—Second Day, page 71.
10. Play Movement—Fourteenth Day, page 78.

Study topic, *For Strengthening the Abdominal Muscles*, page 175.

## LESSON VII

Read Chapter, "Keeping One's Body at Par," page 289.

### *Exercises*

1. Review.
2. Windmill Exercises, A and B, page 178.
3. Play Movement—Tenth Day, page 75.

4. Play Movement—Thirteenth Day, page 77.
5. Heel, Instep and Toe Exercise, page 181.
6. Play Movement—Eleventh Day, page 76.
7. Knee-to-Chest Exercise, page 202.
8. Waist-Twisting Exercise, page 180.
9. Play Movement—Nineteenth Day, page 80.
10. Minuet Walking Exercise, page 132.

Study topic, *For Overcoming Mal-Mental States*, page 271.

## LESSON VIII

Read topic, *Walking*, page 52.

### *Exercises*

1. Review.
2. Play Movement—Seventeenth Day, page 79.
3. Front Rib-Lifting Exercise, page 194.
4. Knee-Swinging Exercise, page 219.
5. Hip-Swinging Exercise, page 223.
6. Preparatory Step Exercise, page 223.
7. Play Movement—Thirtieth Day, page 86.
8. Pivoting Exercise, page 219.
9. Walking Backward Exercise, page 225.
10. Walking Practice.

Study topic, *For Ease and Economy of Energy in Walking*, page 221.

## LESSON IX

Read topic, *Insomnia*, page 59.

*Exercises*

1. Review.
2. Feet Play Movements, page 264.
3. Rhythmic Walking and Breathing Exercise, page 234.
4. Breathing and Concentration Exercise (repeated), page 146.
5. Brain Stupefying Exercise, page 266.
6. Tranquil Breathing Exercise (repeated), page 267.
7. Recumbent Arm-Lifting Exercise, page 268.
8. Recumbent Stretching Exercise, page 269.
9. Recumbent Chest-Raising Exercise, page 270.
10. Recumbent Hip-Raising Exercise, page 270.

Study topic, *For Overcoming Insomnia*, page 262.

## LESSON X

Read topic, *Rising, Sitting and Mounting Stairs*, page 140.

*Exercises*

1. Review.
2. Play Movement—Twenty-third Day, page 83.

3. Rising and Sitting Exercise, page 141.
  4. Chest Play movement, page 160.
  5. Finger-Pressure Exercise, page 161.
  6. Finger-Flinging Exercise, page 252.
  7. Chest-Widening-and-Deepening Exercises, page 162.
  8. Back Rib-Lifting Exercise, page 154.
  9. Play Movement—Twenty-second Day, page 82.
  10. Play Movement—Thirty-first Day, page 87.
- Read Chapter, "The Will to Be Well," page 113.

## XII

### KEEPING THE BODY AT PAR

IF the nervous, muscular, and vital powers of one thousand adult persons of about the same age were to be subjected to every known test, there would be found, probably, one thousand different at par standards. No two persons' vital equipment would be the same in all particulars. In some instances, the averages would be practically the same, and in others, there would be wide differences between them.

Each person must be a standard unto himself or herself in the matter of physical output and endurance. The man whose one hundred, or at par, vital point is only sixty per cent. of what his robust neighbor's at par point is, would soon go into physical bankruptcy if he were to pit his smaller endowment against his neighbor's larger one, either in work or in sport. But, whatever may be one's at par standard, one must recognize and respect those orderly processes upon which life depends; he must co-operate with nature, not interfere with her laws and methods of procedure, if bodily holiness is to be maintained.

With disease-microbes in what we eat and drink, in the air we breathe, in the clothes we wear, in the handshake or kiss of a friend, in the houses and offices where we needs must pass much of our time, life would, indeed, be a battle with tremendous odds against us if it were not for three important facts.

### *Heredity*

Fact one: That our flesh is not "heir to ills," but heir to health. To quote high medical authority, "We now behold heredity not as our worst enemy, but as our best friend in the prevention of disease and in the upbuilding of the race. . . . 'But,' says some one at once, 'I thought there were a large number of hereditary diseases.' Fifty years ago there were a score of such, twenty years ago the score had sunk to five or six. Now there is scarcely one left. There is no known disease which is directly inherited as such."\*

### *The Law of Self-Repair*

Fact two: That self-repair is the great primary law of our bodies. It is our chief factor of safety—a natural life insurance which is operative as

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\*HUTCHINSON, *Preventable Diseases*.

long as we pay our assessments promptly and in full amount.

A machine is always somewhat the worse for each day's activity. But our bodies are the better for activity, and each day's legitimate wear is daily made good—self-repaired. Even when the activity is irrational and of an extremely destructive order, nature still loyally tries to heal, to rebuild and to refund our depleted stock of vital energy.

### *The Balance of Power*

Fact three: That one's own volition—and its resultant acts—is very often the balance of power in the unceasing contest between nature's upbuilding processes and the destructive forces of disease. None of man's ingenious self-aids, not medicine, surgery, electricity, osteopathy, health exercises, dieting, or whatnot, can in and of itself remedy any physical disaster, whether such disaster comes in the guise of accident, malady, nervous collapse or over-fatigue. "The healing power of nature" alone can mend us; but we can render assistance by stimulating this healing power, and by making the best conditions for its beneficent ministrations.

The numberless lives saved by medical aid and by other forms of rational treatment testify to a part of what man has done for himself by co-

operating with "the healing power of nature" in times of imminent need; we can do much more for ourselves, however, and do it much easier, by co-operating with nature in times of *seeming* physical security.

### *The Only Physical Security*

*Daily* ways to health are the only ways that give any actual physical security. One person exposed to a malignant disease succumbs and dies, another similarly exposed comes off unscathed. Is the latter's escape luck or a special dispensation of Providence? Neither; the difference in effects from the same cause is demonstrably a difference in the two individuals' respective powers of resistance.

While it is foolhardy to expose oneself wilfully to disease, exposure is often unavoidable. Many city dwellers are daily exposed to several forms of disease-germs. But so long as we keep our bodies at par we are practically immune to the attacks of micro-organisms, and their toxic influences, either from without or from within—and very many of them are resident foes, peaceable and harmless until our depreciated vitality offers them a tempting opportunity for assault.

*BODILY RESISTANCE*

Our at par point of bodily vitality marks our highest level of bodily resistance. It is only in rare moments—moments of heroic deed or of spiritual ecstasy that our powers of resistance rise even temporarily above this level. To strive habitually to maintain this level is the beginning of health-wisdom.

The right use of the body in all daily acts, and the daily invigoration of every part of the body by exercise, as has been set forth in the preceding chapters, are prime factors to this end. Other important factors are food, clothing, mental and emotional states.

*Food*

“ Bodily resistance is lowered by the lack of sufficient nutritious food, and it is lowered by too much food of any quality. If we could measure the energy expended by the digestive organs in getting rid of the overloads of food imposed upon them, many of us would immediately go on frugal diet out of sheer sympathy with our own vital machinery.

That the body's endurance depends more upon the way one eats\* than upon what one eats, Hor-

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\*FLETCHER, *The A. B. Z. of Our Own Nutrition.*

ace Fletcher has demonstrated beyond dispute. When he, a man of fifty-seven years of age, broke all the records of athletes at Yale gymnasium for certain endurance tests, not only broke the existing records but made a new record which more than doubled the former ones, and still had energy in reserve, he forced all fair-minded persons to respect his claims regarding nutrition.

### *Clothing*

Not the style of one's clothing but its fit and quality are factors that affect one's bodily resistance. Clothing that is so tight as to restrict the circulation in any degree, whether the tightness be in corset, belt, collar, garter, gloves or shoes, lessens one's resisting power. Clothing should be light in weight, but sufficiently warm to keep the body at its normal temperature; for a drop in our temperature is the opportunity of unfriendly germs. Much energy is squandered in wearing heavy clothing. At best, our ordinary clothing weighs several pounds; to add to this a coat weighing twenty-five or thirty pounds, or a heavily trimmed cloth dress weighing twelve or fifteen pounds, is to expend energy foolishly that might be husbanded for some hour of need. Again, it is foolish expenditure of energy to use it in resisting cold that could better be resisted

by warm clothing. On the other hand, to be so fur-wrapped and bundled and housed throughout the winter that one's blood is never quickened by challenges of keen air, is to become enervated and physically non-resistant.

It takes intelligence to co-operate with nature.

### *Some Mental States Give Bodily Resistance*

“The heart lower sinks with every sigh”—and so does one's resisting power.

How prone we are to commiserate ourselves! At night, when the time has come that we may abdicate our volitional control of the body and let nature heal us of the day's ravages, how often our mental attitude is one of complaint because of the exactions that have been put upon us—sometimes useless and self-imposed, exactions. We think or say, “I've had a hard day!” or “I'm worn to a frazzle.” How seldom we say, “‘God bless the man who first invented sleep.’ Now, nature's self-repair work will have free play. Tomorrow, I'll be the stronger and abler to cope with the world by virtue of to-day's effort.” The one mental attitude lowers, and the other raises, the body's resistance a notch. And who knows but that our conscious thoughts preceding sleep may not affect the repair work done during our unconscious moments.

A wholesome mental attitude with which to

greet the day is one of grateful recognition of the self-repair wrought while we slept.

An indirect good comes from letting one's mind often revert to nature's self-repair work. In time, it makes us *realize* that which we so glibly say, i.e., that sustained health and bodily resistance primarily depend upon giving nature ample opportunity to balance her daily outlay and repair account. Such realization must protect us from prodigal waste—from the willful accumulation of over-fatigue poisons.

Dark and gloomy mental attitudes like dark unsunned rooms are disease-promoters. Let us throw open the windows of our souls and let in the sunlight of cheer and joy and hope and love. Let us hug our past joys, call up antecedent happy conditions, dwell upon them, laugh over them, relive them; and let us touch our past sorrows as lightly as may be. To pass bravely *through* great sorrows brings growth and sweetness of character, and comprehension of spirit that nothing else can call forth; but to cling to our sorrows is spiritual selfishness that registers itself in lowered bodily tonicity. It is possible to lie in a hammock in the balmiest pine-scented air and so to depress one's vital functioning by a pall of harrowing mental pictures as quite to counteract the beneficial effects of rest and of the healing air. Such mental pictures are interferences with nature's orderly processes. The physiological ex-

planation is simple; thoughts of gloom depress the breathing so that only the smallest amount of oxygen gets into the lungs. A starving beggar is not nourished by being in the presence of a feast. He must eat to be saved. Our hammock invalid must breathe to be restored.

### *Greatness, Pettiness and Immorality*

To carry chronic handicaps or misfortunes lightly, that is greatness. A fine spirited, brave woman, who is making year after year a rational fight against tuberculosis—and gaining ground inch by inch—told me how she early abandoned beautiful and becoming negligée gowns because they “induced discussion of symptoms.” Every time we allow ourselves to form any invalid habit, no matter how seductive it may be, down goes our percentage mark of resistance.

To magnify and to parade little temporary difficulties is pettiness. To coddle oneself into avoidable illness is immoral. As Edward Howard Griggs says, “It is as much our duty to obey the laws of physical health as to be honest in business; and avoidable illness, vain as people are of it, is as disgraceful as any other form of vice.”\* How many persons are “finicky” about their food, about the temperature of the room, about the

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\*GRIGGS, *Moral Education*.

glare of lights and a dozen and one incidental things; everything has to be "just so" because they are "so sensitive" to their surroundings. All such coddling, whether done by oneself or by foolishly indulgent relatives or friends, directly weakens one's mental and physical stamina. What a wholesome rebuke to self-coddlers was Robert Louis Stevenson's attitude toward himself! His message to a friend was, "My spirit is keyed up, to out-of-door pitch even though I'm compelled to tweedle my fingers and learn patience."

### *We Must Co-Operate With Nature*

Belle Case La Follette writes: "We women are too much inclined to wrestle inwardly with a bad feeling. Often in spite of our good intentions, we only make it worse. The same effort directed to putting the body in healthy action, will make the spirit normal. If, instead of saying, "I must not get the blues, I have no reason to complain, I must be cheerful," and so on, we say, "I need the out of doors. I must go," *and then go*—the victory is won. Once out of doors the heavy sense of oppression disappears of itself. Little things that seemed large assume their true relation. We are happy again. We have given nature a chance."

Unfortunately, many persons do not give nature half a chance even when they go out of doors.

It takes a day made to order to allure some persons out of doors; and many others, even those who are much out of doors do not know how to meet the weather to their profit. On a cold or damp day, they *voluntarily* shiver, hug their arms to their sides, draw their shoulders forward, and generally contract their muscles. This is direct interference with two of nature's self-repairing processes, circulation and respiration. It is being out of doors in fact, but not in spirit, nor to one's profit, materially. To get the best from any environment, we must respond to it whole-heartedly. An eminent physician tells of a man who came to him completely run down physically, but who had no organic trouble. After a thorough examination, the physician said, "You need to get out of doors, to be in the fresh air, to walk." Then he inquired, "What is your profession?" The man replied, "I am a postman."

We must do our part. Some are so constituted temperamentally that they do this spontaneously without thought and without directions; many others must needs do it voluntarily. Air and exercise—dead exercise—alone will not suffice. Had our postman given his erector spinæ muscles a few odd moments' contraction daily—say, as he waited for a response to his ring or whistle—those muscles would have shown their appreciation of his attention by holding his rib-cage well up; this alone would have meant a marked in-

crease in his general tonicity, and would have made his walking a less fatiguing act; then had he further taken advantage of his fresh air opportunities by wilfully taking full breaths dozens of times daily, he would not only have been free from organic disease but would, doubtless, have been blessed with plus-health.

### *One Way of Co-Operating*

Whenever one goes out into the open, no matter whether the air be cold or warm, wet or dry, balmy or stinging, the first touch of it upon one's face should be a reminder to lift and expand the ribs, and to inhale deeply and forcibly several times. All outdoor air is good air, good for us; better than the best house air. The more sultry or humid the air, the greater the need to get large quantities of it into one's lungs; its very humidity, which depresses the amount of poisons normally thrown off by the skin, makes the need of extra service by the lungs.

Some one has called breathing a "self-ventilating process." It is an apt term; we ventilate rooms to get the foul air out and the fresh air in, and we breathe for the same reasons. Nor can we with safety neglect to make this ventilating process thorough at all times. When one is in a close room or in a stifling, ill-smelling car, one's instinctive tendency is to breathe as lightly as pos-

sible. We do this thinking to protect our health, but in reality we endanger it; for, vitiated as any outside air may be, it is harmless compared with the deadly carbonic acid constantly generated within our own bodies which can only be thoroughly expelled by full, deep breathing.

### *Bodily Resistance of School Children*

Dr. Winthrop T. Talbot, who for years has made a study of physical conditions and their reactionary effects upon the minds and morals of school children, says: "Keeping the breathing capacity and tissue-oxygenation up to the average in school children—a matter that is almost universally ignored at present—lies at the root of disease-prevention, and is a potent means of producing a normal mental and moral tone." He cites numerous cases that have come under his personal observation where the "nervous child," the "bad boy," the "dunce" was so chiefly because the child was oxygen-starved.

In imagination, picture to yourselves a crowded schoolroom in any of the "poorer districts" of a large city. See the thirty to sixty restless children, pale-faced and anæmic—oxygen-starved little human plants! All breathing the vitiated, germ-laden, foul-smelling air of the poorly ventilated schoolroom. One schoolroom? Nay, let your imagination open the doors of hundreds,

thousands of such schoolrooms, and picture, if you can, the transformation in the lives of those children if for three minutes every hour the windows were thrown wide open, and the children cheerily commanded, "Drop tasks! Rise, Stretch! Lung Test, now!" and every cranny and cell of the lung-tissue in their growing, easily moulded little bodies were packed with fortifying oxygen by means of some vivifying health exercise as the "one-hundred-and-one" counting exercise all in the spirit of play.

Of course, better lessons and easier discipline would be immediate results. These, however, would be immaterial compared with the improved physical equipment for life that would result; equipment for better and for longer living, because of increased power of resistance to disease, moral and physical.

The victims of the great white scourge would be materially reduced in a single generation, and astonishingly so in the second one, by such a health innovation in our schools.

The best efforts of skilled physicians to combat this scourge are insignificant compared with the protection that only oneself can give to oneself by cultivating an insatiable hunger for fresh air, indoors and outdoors.

*Heeding Danger Signals*

Danger signals are nature's call for our cooperation. One of her most frequently used sets is the catching-cold signals—a shiver, sneezing, drawn features and purple lips. A man says, "I caught cold today." As a matter of fact, he did not do the catching, but was caught—caught by infectious germs. Catching cold is not a positive, dynamic act, but is the result of exposure to foul air—more often hot than cold—when one is in a negative, undervital condition. One of the most favorable "exposures" for taking cold is an overheated, unventilated sleeping car.

"Just a cold" is the beginning of so many dangerous physical conditions that it behooves us to resist it with all the power of our will. A shiver, or that peculiar nervous contraction of the skin known as "goose pimples," should not be accepted with negative acquiescence, as "I'm taking cold! There must be a draft somewhere!" followed by window-closing and body-bundling. The shiver should shake us from our napping, or *let down* physical condition; we should recognize it as nature's warning that we are being attacked by those infectious germs whose method of destruction is to throw our system into the disorganized condition known as "a cold." We should give quick positive response to this catching-cold signal, and marshal all our forces to expel the inva-

ders or mutineers, if possible—and it usually is possible if we realize the situation in time. Exercise that stimulates the circulation, fresh air, and rest, these are our strong defenses.

A rise in temperature, an increased pulse—which often accompanies sub-normal temperature—protests of stomach and intestines, and over-fatigue are a few of the many other well-known danger signals. Often, the safest way of responding to these signals is to go to bed immediately upon their appearance, even if it happens to be ten o'clock in the morning, and a big day's work faces you. Turn your back upon your work and assist nature in her greater work—the work of self-repair in your organism. Remember, you and your health are of more importance than your work or your things are.

### *A Time-Saving Habit*

We used to go to bed only because we were sick. Now we are beginning to learn the wisdom and economy of going to bed to prevent sickness. The former usually meant a matter of weeks and months; the latter, usually means a few hours or a day or two, at most. Never mind, if some old-fashioned disease-believing person declares that you go to bed when there is nothing at all the matter, and gives as proof of your shiftlessness the fact that you get up in the afternoon or the

next day, and do your work as usual. Frankly tell this carping man or woman that the reason you go to bed is that nothing serious shall be the matter. Soon, others will follow your successful experiment.

If many an over-energetic man or woman, those who are temperamentally inclined to drive their tired energies with the whip-lash of the will, would cultivate this health-habit of an occasional day in bed it would advantage them in many ways; it would prevent the final catastrophe which so often overtakes the *man who has worked hard all his life*.

### *Bodily Resistance Increased by Play*

To keep one's bodily powers at par one must honor health, and willingly assist nature's orderly processes; often, one must exercise one's will; but let no one get the mistaken idea that bodily resistance means that the individual must always be in a resistant, or positive, mood or that one "must work hard" in order to protect oneself. Not infrequently, it is the quitting of work that is necessary to raise one's bodily resistance.

Nothing more quickly breaks down one's natural defences than over-fatigue. Any sensible person would go blocks out of his way to escape the poison of sewer gas; the poison generated in one's body by over-fatigue is more deadly.

*Hard Taskmasters*

A large class of Americans—especially those of sturdy conscience and upright principle—are hard taskmasters to themselves. They are relentless and suicidal in their industry. The ability to play is a lost art with them. Work, effort, doing what is square and fair, and doing it all the time, seems to them the only good in life. Conscience may become a tyrant. An exaggerated sense of duty leads many a woman to anxious, ceaseless activity; she feels that she must constantly be *doing something*, and thinks that idleness is sinful—idleness, that Landor calls “sweet and sacred.”

Some one has said, “We should work for our living and play for our health.” The earlier that we—especially we of industrious temperament—realize our inherent need of play, and respond to it, the better for our health prospects. Men and women of affairs should as frankly say, “Now, I’m going to play for a while,” as men now say, “I’m going to smoke.” Instead, how many persons feel called upon to apologize in a shamefaced way for taking “a day off.”

Unless one delights in play, the benefits are, of course, minimized. Many devoted workers are unhappy and ill at ease when they attempt the easier, or play, way of life for an occasional hour or day; but their restlessness should not be con-

sidered. They must continue playing, anyway. The habit of overwork can be "disrupted." Delight in just living is contagious; and, some day, You-of-Serious-Bent, will catch it, and will be saved from that which leads to physical and mental ruin, namely, lust for work.

### *How to Regain the Play Spirit*

We work ourselves mentally and physically stale. To play for part of every day means not only better bodily tone but it also means increased personal efficiency, means that one's output of work, and one's social and civic contributions will be greater and of better quality. But you may ask, "How can one who is inured to staidness, and who is many years removed from the spontaneous play-spirit of childhood, set about recovering this lost art, this utilitarian accomplishment?" The answer is, By beginning at once, beginning today. Do not read these lines and smile incredulously or sigh regretfully; instead, wrench yourself away from that depleting task. Drop it for an hour or a day. Go out into the open, and come back to your work with a new impetus. Do anything to which your spirit inclines; or, if its play-inclinations seem quite atrophied, use your imagination in revivifying them. Recall what you wanted to do ten or fifteen years ago, but which you sternly denied yourself the pleasure of doing.

Today, you are wiser, your mood is more lenient. Sit idly on the porch, go to the art gallery, to the woods or to the ball game; take luncheon with a friend, spend a few dollars in unaccustomed ways; plan some recreation trips for yourself and your friends. Why, to get and to give happiness, to be a radiant personality are some of the best ways of augmenting one's bodily resistance.

### *Out-of-Door Temptation*

Above all, whatever your temperament, age, habit or work, resist not temptation when it tempts you out of doors. Yield to it joyfully with abandonment of spirit. It is so much worthier to live the true life than only to believe in it. Have you never slept out of doors? Then give your nerves the shock of a delightful new experience. Nothing is so rare as a night under the stars. A June day is even put to blush by a June night with no roof between you and the wondrous sky. When one becomes accustomed to the magical out-of-door sounds, to the mystic speech of the stars, to the caress of the wanton breeze, a peace and healing is laid like a benediction upon one's nerves which fortifies one with power and serenity to meet the day sanely, however infested it may be with cares.

*Your Health of National Importance*

Every individual is free, or has the petty, personal "right," to disregard the laws of health and happiness so long as the civil law of the land is not violated. But he or she who does so, is immoral, and a bad citizen. Keeping the body at par is more than augmented individual happiness, efficiency and accomplishment. The perfection of each human unit is the concern of the community, the state, the nation, and of "a world of men," born and to be born.







