

# GOOD HEALTH



February, 1905.



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# Where Should an Invalid Spend the Winter?



THE answer is easily found.

The invalid should spend the winter where he may find greatest profit for his health.

Shall it be a warm or a cold climate?

There are considerations to be thought of.

Warm weather in winter time is an attractive novelty.

Flowers, palms, bananas, and other tropical growths in January are delightfully luxurious and seductive.

But the system needs the stimulus of cold, dry air. There is no other tonic half so valuable.

Heat depresses, enervates, weakens, lowers vital resistance, breeds germs, and invites disease.

The delights of a tropical winter annually allure away from the frost and snow of the north thousands who are quite unconscious that Jack Frost, though a very austere and blustering sort of fellow, is, after all, a good friend, and especially to chronic invalids.

The keen, cool, crisp, oxygen-laden air of December to January is the purest, sweetest, most healthful of the year. There are no germs in it, no dust in it, no poisonous gases of decay from bogs or barnyards in it; only pure, life-imparting oxygen, condensed, vitalizing, stimulating, appetizing. Appetite, as Pawlow, the St. Petersburg savant, has shown, means gastric juice—digestive power.

**So cold air purifies the blood, energizes the heart, puts new vim into the muscles, helps the stomach, wakes up the liver, lifts the whole being to a higher plane of life.**

The "winter constitution," which all animals put on when cold weather comes, is hardier, tougher, more enduring, more resisting to disease than the feebler "summer constitution" which springtime brings to northern dwellers, and which tropical animals and men have all the year round.

This "winter constitution" is just what the chronic invalid needs.

The consumptive gets it by living out of doors in a tent, sleeping with windows open, and getting close to nature. The "winter constitution" which he cultivates, eats up the germs which are consuming his lungs, and thus cures him. It is the cold air that does the work.

The most successful consumption resort in the world is Davos, a winter resort in the Swiss Alps, near the Engadine, where the

snow is six feet deep and the temperature close to zero all winter. Every winter, hundreds of tubercular patients from all parts of the world resort to Davos to take the "cold-air cure."

**Cold air cures.** There is no doubt about it when it is accompanied by wise and skilful management and careful regulation of diet. Highly nourishing, easily digestible food, massage, electricity, baths and other sanitarium methods are essential for the fullest success.

That which will cure that dreaded disease, consumption, will cure almost every other chronic malady.

**The body heals itself.** What the sick man needs is a more vigorous body and cleaner blood, for "it is the blood that heals."

There is, perhaps, no place in the United States where an invalid can be so comfortable in the wintry weather of the year—late autumn, winter, and early spring—as at the Battle Creek Sanitarium.

There is no winter inside of the great absolutely fireproof main building of the Battle Creek Sanitarium: an artificial climate (70° F. during the day, and 60° F. at night); perfect ventilation for each room; pure warm air in rich abundance—9,000 cubic feet per hour for every guest. This is the way that out-of-door purity is maintained. Warm floors; kitchen and dining-room at top; no smells; solid walls, partitions, and floors,—no place for bugs; no harmful drafts, no dust.

There is probably no place in the region of frost and snow where an invalid can find so favorable conditions for wintering as at the Battle Creek Sanitarium. Nowhere else has so successful an effort been made to create an artificial climate, on a scale large enough to meet the needs of several hundred invalids. In the great solid structure summer reigns from October to April more uninterruptedly than from May to September. There are no chilly mornings or evenings; no raw, damp nights; no cold, drizzly days; and on the other hand, no oppressive tropical heats. Seven acres of floor space inclosed by heavy impervious walls through which the cold can not penetrate; thick stone floors which, once warmed by the radiation from heated steam pipes, remain warm the whole winter through, making cold feet from cold floors impossible,—a difference of not more than ten degrees between day and night; air always dry, pure, full of ozone, unmatched by



any natural climate on earth; with palms, flowers, foliage everywhere, to remind one of summer.

Thus perfect protection is offered those who need it, while those who need to be hardened by contact with cold air, are able to secure the benefits of this great invigorating force whenever desired, day or night, and to any desired degree or extent. In the summer season this great healing force is available only in small measure by means of cold baths, ice rubs, and fans; but in the winter season, the keen frosty air is everywhere ready to be put to work as the great uplifting power it is when rightly applied.

Warm air comforts and allures,  
But cold air hardens and cures.

A mammoth gymnasium for exercise; two great swimming pools; a grand solarium; ingenious mechanical exercise machines; and a great palm garden in which the patient may easily imagine himself in a tropical clime as he sits cosy and warm under a great palm or a banana tree rising twenty feet above his head,—these are features well calculated to produce an atmosphere of summer in the coldest weather.

One does not realize it is winter until he looks out of doors, except for the buoyancy of his spirits, the elasticity of his step, the keenness of his appetite, and the joy of living, which returning vigor brings.

Under the doctor's prescription, excursions are made into the outer region at the proper hours and with suitable precautions,—sleigh-rides, tobogganing, walks, skating, and skiing for strong folks; "air packs," that is, lying out of doors enveloped in cold-proof wrappings, for feeble folks,—from which everybody comes back with a keen appetite for the nourishing, easily digestible food which the Sanitarium menu supplies in rich abundance. Nowhere in the world can an invalid find such a rich and endless variety of wholesome, toothsome, tempting delicacies, easily digestible, even predigested, and so daintily served, as at the table of the Battle Creek Sanitarium.

The winter season, under right conditions, affords the chronic invalid the best possible chance for recovery. All persons suffering from a chronic malady are in need of one and the same thing; namely, more health,—a higher degree of vitality, of resistance, higher nerve tone, higher digestive tone. Hence every chronic sufferer requires tonic treatment—tonic conditions. The winter season alone provides continuous tonic conditions. The dense air, containing from one-eighth to

one-fourth more oxygen than midsummer air, stimulates all the vital processes to a higher degree of activity. Air is a curative force, in operation day and night, and steadily lifts the patient up to a higher level until the ebbing tide of life turns backward, and the renovating forces of the body resume their activities with all the old-time vigor.

An outdoor sun bath finds a complete substitute in the electric bath. Powerful arc lights concentrated upon the body by means of highly polished metal reflectors produce effects the most powerful of which light is capable. In three or four minutes the skin may be as red as if exposed to the sun for half an hour, and in seven or eight minutes a veritable sun burn may be produced when this is desirable. An eminent French doctor in prescribing for some puny infants presented to him by a titled lady, horrified her by the command, "Roast them, Madam. Roast them,—in the sun." An electric-light "roast" may be four times as powerful as a sun bath, thus securing the effects of the actinic rays in a very much shorter time. The actinic ray of the arc light is much more powerful in proportion to the amount of light than that of the sunlight.

During the winter season the phototherapy department of the Battle Creek Sanitarium is thronged from morning till night, and is fairly ablaze with the glorious health-imparting rays sent forth from a number of powerful arc lights especially constructed for the purpose.

**Life is never dull at the Battle Creek Sanitarium.** The patients are kept busy all day getting well. There is no routine treatment. Each patient has a program providing something to be done every hour, which will give him an uplift. With rare exceptions, improvement is experienced with the very first application made, and the healing impulse gathers energy from day to day. The patient soon sees through the philosophy of the Battle Creek Sanitarium System, and learns how to co-operate with the physicians in their work, not of healing,—for doctors can not heal,—but in pointing out the way, removing obstacles, and co-operating with the mighty healing forces of nature, which, divinely implanted, are divinely guided. The same power which created, heals. Healing is re-creating.

A school of health is in progress during the entire winter. Afternoon classes and evening lectures give every patient an opportunity to obey the injunction of the great philosopher, "Know thyself," and by acquiring this knowledge he can learn, not only how to get well, but how to keep well.



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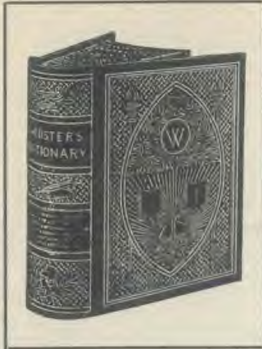
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# GOOD HEALTH

## *A Journal of Hygiene*

VOL. XL

FEBRUARY, 1905

No. 2

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### JUST BE GLAD

O, HEART of mine, we shouldn't worry so ;  
What we've missed of joy we couldn't have,  
    you know.  
What we've met of stormy pain,  
And of sorrow's driving rain,  
We can better meet again,  
    If it blow.

We have erred in that dark hour, we have  
    known,  
When our tears fell like the showers, all alone.  
Were not shine and shadow blent  
As the gracious Master meant ?  
Let us temper our content  
    With his own.

For, we know, not every morrow can be sad ;  
So, forgetting all the sorrow we have had,  
Let us fold away our fears,  
And put by our foolish tears,  
And through all the coming years

*Just be glad !*

— James Whitcomb Riley.

---

### EXERCISES FOR THE SCHOOLROOM

BY J. W. SEAVER, M. D.,

New Haven, Conn.



IN considering the definite exercises that may serve as a basis for the physical training of school children, we must bear in mind their fundamental faults of posture that tend to become habitual, and that tend to restrict to some extent the functional activity of some of the more important organs. The visitor in the lower grades of public schools will notice the great tendency of children to bend forward near to the

work to be done, as if each child were near-sighted. This tendency to let the head sag forward, produces a curve backward in the middle of the back, where, under normal conditions, the spine should curve forward, producing the lumbar curve that should be well marked if the pelvic organs are to retain their normal position and be freed from extra pressure from the organs that lie higher up in the abdominal cavity. This is of special importance





FIG. 1

to girls, as their pelvic breadth offers a much greater opportunity for abnormal pressure to exert its malign influence. The forward tilting of the head also depresses the front wall of the chest, and interferes with the raising of the ribs and sternum in inspiration, so that the breathing process is shallow, and performed largely by the diaphragm. As a result the blood is poorly oxidized, and its circulation is seriously impaired. The circulation in the brain is also obstructed by the bending of the arteries supplying it and of the veins that carry the blood back to the heart. In other words, the circulation through a tube will be freer when the tube is straight than it will be when the tube is bent.

Not only does the child tend to bend forward in the spinal region above the pelvis, but he twists toward the side, and usually toward the left, thus tending to cause the shoulder girdle to dip down at the right and produce a general scoliosis. The common prevalence of this curve has led some physicians

to consider that a certain amount of lateral deviation is normal in children who are right-handed, but I am inclined to think that the curvature is more dependent upon schoolroom posture than upon the mere fact of uni-dexterity. For the use of one hand for the ordinary occupations of life ought to entail such extra work upon the muscles that elevate the arm and shoulder as to tend to counterbalance the greater pull on the muscles of one side in the lower and mid regions of the spine, and I think we find that right-handedness among people who are strong and have spent very little of their lives in school does not exhibit the tendency to lateral deviation of the spine that is seen among people who have spent a large portion of their lives in school and who have never done much active work with the right hand.

A glance at the picture of a schoolroom presented herewith (Fig. 1) shows the typical attitude assumed by children whose attention was not called to the fact that their picture was to be



taken, and it consequently represents what may be seen any day in one of the public schools that is supposed to be well managed and carefully instructed. There was absolutely nothing said to the children about their posture, and yet we will all agree that this matter was the most important point on which these children needed instruction. This illustrates the position habitually taken by children in the third grade in a school that has gymnastic exercises twice a week under a special teacher who visits the school.

Now, what sort of exercises are best adapted to correct the mal-positions that are here illustrated? And what other exercises should be assigned that shall produce hygienic results in the way of healthy growth of vital organs? In the first place, school gymnastics that are to be corrective in quality must be of such a kind as shall produce free extension movements of the spine, to overcome the forward stoop that is produced at the desk. To do this, movements of stretching strongly upward while standing, as shown in Fig. 2, will be found helpful and easy for the pupils to take, because natural. All young animals like to stretch, and it seems to bring into fairly vigorous work many muscles and to place the vertebral column into fairly normal position.



FIG. 2



FIG. 3



FIG. 4

Stretching movements should not be maintained for any prolonged time, but may be used for preliminary movements at the beginning of a day's order. They may be looked upon as movements of preparation for more vigorous group exercises. These stretching exercises may be used in the midst of marching exercises and at other times during the day's order or course of exercises that is being used.

The second set of exercises should be directed to the special extension movements of the spine, as shown in Fig. 3, where the chest is raised as high as possible, and the upper dorsal spine straightened, and the neck held well back, with the chin drawn in. This movement should be accompanied by deep inhalation, and may properly be utilized in connection with certain leg exercises, as knee bendings, marchings, etc.

Next we must give lateral trunk bendings for the sake of strengthening the loins and securing that strength of trunk that enables the child to hold its weight easily in good positions, and that will check the desire to loll and assume bad postures by leaning on the desk for support. (Fig. 4.) Many children lean upon the desk and their own knees for support because they are too weak to support their own weight under the enforced quiescence





FIG. 5

child that can bear confinement without great physical discomfort and danger of deformity. It is as impossible for the growing child to maintain a fixed physical attitude as it is to confine his attention closely for a prolonged

period. A change and relief from tension must be obtained in some way, and I know of no better method than to have frequent periods of active physical exercises interspersed through the school period.

Another point that should be borne in mind is to secure such vigor of exercise as shall start the heart action and increase the respiratory wave. This may easily be done by such exercises as running in place. This is accomplished by having the pupil raise the feet alternately as he would in running, but replacing each foot in the position it formerly occupied, so that no advance is made. Or the pupils may run, taking steps of three or four inches only, and so advancing slowly around

of the school-room. The unconfined child is changing his attitude constantly, and it is only the especially robust

the room until they return to positions beside their desks. There are two objections to be found to this form of exercise in the ordinary schoolroom. One is the disturbance to the pupils in other rooms from the noise and jar to the building. This, however, in a well-constructed building, is of comparative inconsequence. The other objection relates to the raising of dust by the pupils in the running exercises, but if the windows are open and the floors kept as clean as they ought to be in any civilized community, the objection will

have comparatively little weight, and is easily offset by the great advantage of running which is so natural an exercise, and which calls into ready activity so many of the vital processes.

An element of



FIG. 6

recreation should be added to the exercises whenever it is possible, and the running movements afford opportunities for any skilful teacher to suggest complicated



FIG. 7



tions that awaken the interest and enthusiasm of the pupil.

After the running exercises, leg movements, in the way of deep knee bending (Fig. 5), knee elevations, leg raisings, etc., may be utilized, to be followed by arm raisings in various directions and with various complications. Then more vigorous muscular movements may be taken, in the way of trunk bendings forward in connection with charge movements, as shown in Fig. 6, and these may be followed by heel elevations, stepping movements,

etc., all of which tend to give command of the muscles of locomotion, and help the pupil to keep in good standing poise.

The exercises may then close by respiratory movements with arm raisings forward and sideward and with retractions from the position shown in Fig. 7.

All movements should be performed with vigor and exactness of form, for the value of any exercise will depend upon the manner in which it is carried out.

## A FIJIAN FEAST

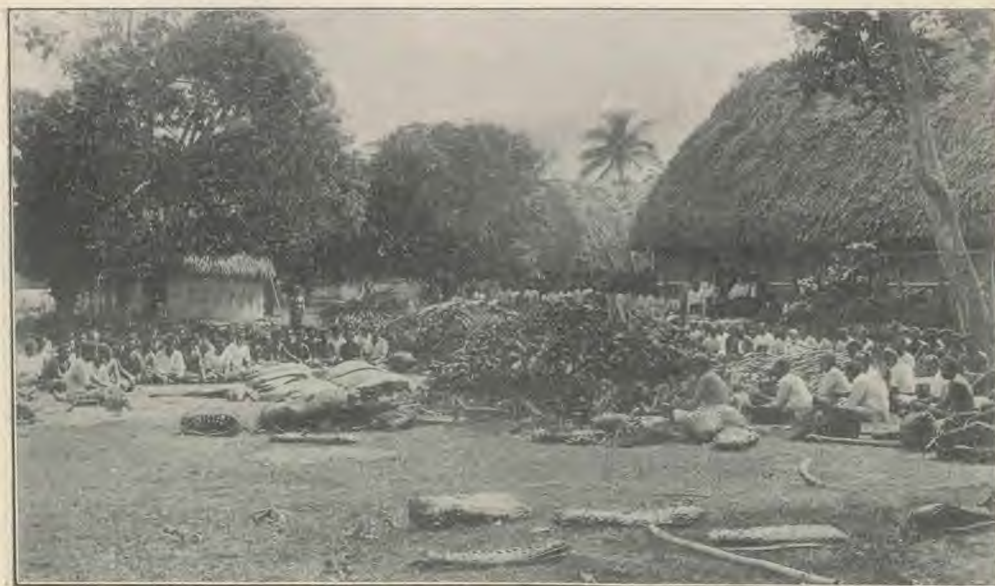
BY A. CURROW,

Fiji



ONE coming from the busy center of a civilized country and landing in the tropics among the dark races is apt to lose all patience in an attempt to change the order of things in general

and bring everything up to time. Gradually the active, energetic, go-ahead finds that he has to slow down and unwillingly conform to the slow, steady, and easy-going conditions about him.



A FIJIAN FEAST



Fiji is known as a *malua* land; i. e., the native tendency is to postpone what might be done to-day until some "more convenient time." Only that which is absolutely imperative is executed with despatch. Any attempt to hurry things results only in delaying them.

The scene represented on the foregoing page gives a glimpse of a native Fijian village. The occasion is a feast. To the right are the leading characters, who go through a form for the presentation of the food to those for whom the feast is given. This party faces the food. Slightly to their right are seen the stems of the yagona tree, from which native *kava*, an intoxicating drink, is made. To the left may be seen the other very necessary items of the feast—a roasted pig and a few turtles. Judging from the high pile of taros in front and the heap of yams to the rear, together with the turtles and pig, the feast here represented was no small one.

Two large mango fruit trees are to be seen on the left; a portion of a breadfruit to the right; and a cocoa-nut shows finely up above the roof

of a native house to the rear.

The houses are of Tongan type, rounded off at each end, reeds worked crosswise forming the walls. The one with wooden sides is the chief's house. Four chiefs appear in the front, one of whom is dressed in European style.

The Fijian loves gatherings. There is stir and excitement everywhere among old and young at the prospect of a gathering for sport or a feast. It constitutes the supreme delight of his physical senses, and to deprive himself of such a delight is indeed a hard trial.

As a preliminary exercise to the feast native *meke*s, or dances, are usually gone through in the best of style, two or more districts performing. Each company has its choir of chanters, to guide the movements of the dancers, and keep them in time. Perfect silence is maintained by the actors, and the splendid order and dexterity of movement make the scene entrancing. With blackened faces, and red-painted breasts, arms and legs shining with oil, joints and elbows tied round with variegated leaves, waists girded with an apron of grasses



WAR DANCERS



and colored bark of fine fibrous texture, adorned with flowers, and armed with heavy clubs,—the impression made is that of a company of demons intent on everything hideous and diabolical.

A view of some of the performers in the dance is here shown. Some are holding circular palm fans, with which they beat and vibrate and make gestures; others are in attitude with clubs.

The feast is somewhat disappointing to the visitor, in that the people do not eat together as a company. Men are set apart to divide into lots for each man or his family a portion of taros, yams, fish, turtle, or pig, according to his rank. It is all set out on leaves in separate lots. A form of thanksgiving is gone through, and as each lot is pointed out, it is carried off by the

owner and eaten inside the house. It is usually at the close of the day that the food is partaken of, the natives by that time feeling very hungry.

During the evening and until the early hours of morn, action songs by groups of young men and young women seated oppositely on the damp ground are carried on, very few within the town obtaining any sleep. These proceedings generally conclude with much harm to the natives, especially the young people, who take part in the night performance.

The custom, with attendant evils, is increasing, and everywhere the people are being seized and absorbed with the desire for these hurtful, worldly pleasures, which sooner or later must end in self-destruction.

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## PROPHYLACTIC HOME TREATMENT FOR COLDS

BY KATE LINDSAY, M. D.



**I** HAVE a cold;" "I am taking cold," "I have a bad cold." These phrases are commonly used by every one. But how many, even among physicians, consider what a cold really is, or what are the effects of this common cold-taking on the life and health of the human family? For colds are prevalent more or less the world over, from the frigid zones to the tropics, and are accepted as a common heritage by the most enlightened nations as well as by the most ignorant savage races. Who ever heard of any effort being made to "stamp out" colds? This term is familiar to all sanitarians. They talk of stamping out smallpox, diphtheria, yellow fever, and cholera by finding out the causes and removing them.

Every disease from which mankind suf-

fers is the effect of some active cause,—some violation of natural laws which precedes the phenomena we call disease. A cold is no exception to this law. It is the result of causes; and the wise thing for every one to do is to look for these causes, and, by removing them, prevent the cold. To do this in a rational manner, it is well for each one to analyze his own condition when suffering from a cold.

The first symptoms are a chilly, languid feeling, more or less aching all over the body, often headache, loss of appetite, mucous surface of eyes, nose, and throat dry, swollen, and congested at first, followed by sneezing; free watery discharges at first, which change to purulent or mucopurulent in a few days. The patient is uncomfortable and indisposed for a week, his mind more or less dulled and inactive. In



fact, there is every evidence of a thorough intoxication of the human organism. The body is evidently waging a war with the toxins. They are being expelled by the lungs, skin, kidneys, and mucous surfaces of the body.

The evidence of toxemia in a cold being so plain, the next inquiry should be, "Where does this toxic matter come from? and how can this systemic infection of the body be avoided?"

There are two sources of infection of the human organism by toxins: the formation and retention of poisons in the body itself, and the introduction of poisons from without.

The first, known by the term "auto-infection," is liable to occur at any time, because even in the most perfect state of health the body is always wasting structure from the breaking down of tissues consumed to keep up its heat and energy. In other words, life is maintained by a process of building up and tearing down. When the eliminative organs are active and the wastes are expelled from the body and the tissue repaired as fast as the structure is disorganized, there is present the condition known as health.

When for any cause the wastes are retained, or the structures are destroyed too fast or not fast enough, then we get the symptoms of disease.

Stop the action of the lungs and carbonic acid gas is retained, there is no oxygen for heating, energy, and tissue repairs. If the patient is completely choked, as by hanging, drowning, immersion in carbonic acid gas, etc., he dies in a very few minutes. When there is partial crippling of this function, the blood fills with carbonic acid gas, as is manifested by blueness of the lips, bluish skin, and shortness of breath.

When the kidneys are diseased in function or structure, uric acid and

other broken-down tissue wastes are retained, and the patient suffers from headache, dizziness, dropsy, and lastly uremic convulsion, stupor, and death.

When the action of the skin is imperfect, its surface may be either cold and bloodless or congested, and the retained toxins may cause serious disturbance of mucous membranes, as a cold from dampness and sudden change of temperature.

In nettle rash how often is there nausea and vomiting. And a deep burn on the surface of the abdomen often causes fatal ulceration in the intestinal tract. Poisons may enter the blood and lymph from without, in the form of germs or germ-formed toxic matter or poisonous chemical materials, through wounds of the skin and mucous membranes, or from fermenting matter retained in the cavities of the body. Spoiled elements in the alimentary canal are one very frequent cause of intoxication. In children this poisoning may be so profound as to cause convulsions and death in a few hours. Bouchard tells us that a patient with dilated stomach and gastric catarrh is always intoxicated more or less, and suffers from catarrhal disorders, as chronic coryza, bronchitis, intestinal disturbance, skin diseases, as eczema, urticaria, herpes, etc., and is also very subject to rheumatism, gout, and neuralgia; and that dyspeptics are predisposed to colds.

Bad air, filled with irritating infected dust and foul gases, irritates the mucous membranes and causes congestion and morbid secretions, which render the membranes good soil for germ culture; the toxins enter the circulation by absorption, and these poisons are carried to all the lymph spaces of the body and are responsible for the miser-



able, tired feelings, general aching, headache, and disturbances of all the other bodily functions.

A cold is evidence that the body is foul and that a systemic housecleaning is needed. Nature, as long as she is capable of any resistance against morbid influences, always seeks to save the body by expelling the injurious elements; so, in case of cold, every effort is made to clean up through every channel by which wastes and toxins can find exit from the body. Thus we have the sneezing, coughing, congestion, inflammation of nasal and bronchial tubes, lung cells, or mucous surfaces, known respectively by the expressions, "cold in the head," "cold on the lungs," which mean an acute bronchitis or a catarrhal pneumonia.

Often there is catarrh of the stomach and bowels, as manifested by vomiting, diarrhea, and other digestive disturbances. The bile duct becomes inflamed from catarrhal inflammation. There is a bad taste in the mouth, and there is fever, more or less, as the intoxication is slight or profound, or the patient very young, old or debilitated, or youthful, vigorous and strong. In young infants and the aged a cold is often a dangerous and not infrequently a fatal malady. It is also a dangerous complication after grip, and scarlet fever and other eruptive disorders.

The greatest mortality in young children from what are known as children's diseases is from catarrhal pneumonia or capillary bronchitis, which is often excited from taking cold.

Even a cold in the head may prove fatal to an infant, from exhaustion due to inability to take food when it can not breathe through the nose.

Having proved that a cold is evidence of filth in the body, combined with weakened resistance to morbid in-

fluence, we shall now consider its prevention.

The prevention of colds means keeping the human organism toned up, clean and strong. This condition can be attained only by using air, food, water, clothing, temperature, exercise, rest, and all hygienic agencies properly.

Plenty of pure air should be inhaled night and day, breathing deep, to insure thorough oxidation of all the tissues and wastes of the body, and by living out of doors and sleeping in well-ventilated, clean rooms.

A vigorous circulation should be cultivated by outdoor exercise, and the skin and other eliminative organs stimulated to a normal functional activity so as to be prepared for the extra work demanded of them from sudden changes of temperature. This can be brought about by either cold air baths with friction to the skin, or better still, cold water baths in the form of early morning cold plunges, douches, and sprays for the strong, and cold mitten friction, towel rubs, etc., for the more feeble. Cold, or at least cool clean air should bathe the respiratory mucous surface, and cool clean water the alimentary mucous membranes, to improve the nutrition and to strengthen these parts to resist disease. As the patient seldom takes cold when there is good elimination of wastes, the kidneys and liver should not be overworked by having to eliminate the toxins of fermenting food or retained excrement in the alimentary canal.

Dr. Jacoby, of New York City, says that the bronchitis of infancy and childhood is usually the result of sour stomach. Bouchard, in his work on autoinfection, says that patients suffering from indigestion, dilated stomachs, etc., are very subject to colds in the head, bronchitis, and other catarrhal



disorders. Haig gives the same testimony in relation to using an excess of food containing uric acid, as failure of the liver to keep back alimentary-canal toxins means that they will be carried to the respiratory organs by the blood, and being wastes these organs are not fitted to eliminate, they cause irritation of the mucous surfaces, cough, and expectoration of morbid exudates.

When the tongue is coated, the skin cold, clammy, and inactive, and the bowels constipated, a cold is liable to result from any temperature change. This means that the body needs a rest in order to clean up. It means, to prevent the cold, fasting for a day or two, and with the elimination will depart the tendency to cold taking, and it may be that the patient will escape laying the foundation for tuberculosis,


pneumonia, or some other serious disorder. Free water drinking to wash out the wastes and flush the kidneys will help elimination.

Clothing enough to keep warm, but never enough to be burdensome or to overheat the skin, should be worn. Care should be taken not to have the rooms overheated and not to make abrupt changes from either a very hot atmosphere to one very cold, or the opposite. Assist the body in keeping clean, rather than wait until it forces an arrest of functions by the penalty of a cold, taking away the appetite and giving time for the cleaning up. To fast before the cold, rather than to be compelled to fast after it is contracted, is the cheaper and wiser plan.

In another paper we shall consider the home treatment to cure a cold.

## CORRECTIVE GYMNASTICS

BY J. H. KELLOGG, M. D.

T is one thing to teach gymnastics to a class of vigorous young men who have all their physical powers in full command and who have a reasonably good symmetrical development; it is another thing to teach gymnastics to young ladies whose physical development has been neglected; and it is quite another thing to teach gymnastics to adults who have entirely neglected physical training, and who have acquired numerous deformities and defects, whose muscles are disproportionately developed, who invariably have weak trunks, and perhaps almost immovable chests. Consequently, the methods and the exercises must be entirely different, and the whole plan of teaching must be

adapted to the particular class to be dealt with.

The Swedish system of gymnastics is admirably adapted to the symmetrical development of the body. It is the most scientific of all systems, the most complete, the most elaborately worked out, and is applicable to all possible conditions, because the body which does the work furnishes the weight and all the needed apparatus.

Very light gymnastics, calisthenics, dumb-bells, wands, Indian clubs, free hand exercises, marchings, drills, etc., are especially adapted to boys and girls, and young people who have average good development.

The German system, which consists almost entirely of overhead work, is adapted to young men who have a sur-



plus of energy, and who want to develop their physical power to the highest degree.

Vigorous young people have great aptitude in learning various physical movements and exercises, while old people have very little aptitude. Children can be taught to dance certain easy steps in a very few minutes, while an older person may have to practice for hours to learn such a thing as a change-step movement. It is simply the lack of aptitude in the control of the muscles and ability to learn new movements. Yet these old people are the very ones who need exercise more than anybody else. Children and young people do not need exercise so very much, comparatively, but the old person is dependent upon some kind of exercise to keep in check the growing-old process. There is no question but exercise is the most effective means of delaying old age. It stimulates the heart, which fills the blood vessels with blood. That stretches the contracting arteries, and fills out the little twigs that are withering and becoming obliterated; they are flushed with blood once more, and the parts that are losing their resistance are vitalized by being filled with warm, healthy, oxidized blood.

Exercise is absolutely essential to prolong life. People who have lived to great age have nearly all been those who worked. Thomas Parr, when he was one hundred and twenty years old, could swim across the swiftest rivers. A few years ago there was living in this country an Indian whose age was investigated by the Smithsonian Institute of Washington, and found to be one hundred and forty years. This was proved by records made and kept in the local Catholic church. Many old men had known this man when they were

children, and he was an old man then. That Indian was a hard-working man. After the age of one hundred and twenty, he would take long trips of thirteen or fourteen miles to the seashore, and pick up great masses of driftwood and carry it home on his shoulders. Every fall he would go off into the woods forty or fifty miles away, and gather pine nuts for his winter food, for he lived chiefly on pine nuts. He was a laboring man, and had lived out of doors and always used his muscles. This is true of most who attain to great age. The old man needs a great deal of work, but not very active or violent work.

These considerations have led to the careful study of the subject of exercise for the purpose of devising some simple, effective exercises which require no skill, no great tax upon the memory to remember the details, no apparatus except those simple things always at hand, and which strike at the root of the difficulties and deformities from which most adults and all sedentary people are suffering more or less.

The most common of these deformities is flat chest. Flat chest means a posterior curvature of the spine; the difficulty with the chest is purely secondary. This is the most common of all curvatures. Postural posterior curvature of the spine is due to muscular weakness, and comes from bad positions in sitting. Too exclusive attention has been given to lateral curvature of the spine, but these lateral curvatures are of far less significance and importance than posterior curvature, because they produce very much less vital disturbance.

Lateral curvature of the spine makes one shoulder higher than the other. A child who has that kind of curvature will be made to wear braces, put in



plaster casts, put through gymnastic exercises, and a surgeon will be employed to get the low shoulder up. A young woman who has lateral curvature of the spine will go to great expense and trouble to get rid of it when it gets so bad that the dressmaker can no longer hide it. But posterior curvature, though generally overlooked and neglected, is of far greater importance.

There are three species of posterior spinal curvature. The first form is simple curvature of the upper portion of the spine, and is mostly in the neck. The effect of it is to cause the head to drop forward. In the normal spine there is a triple curve: a slight convexity in the upper part, then a strong forward curve in the central portion, and another posterior curve at the bottom. In the first form of spinal curvature there is increased convexity of the upper part of the spine, which produces flattened chest, and causes the head to be carried forward.

In the second form, the whole back is curved backward; the lumbar curve is lost entirely. Such persons have brown spots along the middle of the back, and a little row of corns or callouses between them.

A third form is an increase of the sacral or lower curve, which sends the hips forward. With such persons the heels usually strike first in walking. The forward position of the hips necessarily brings the heels down first. The moment you get the chest forward as it should be, the whole problem of walking is solved. A person who carries the hips forward and the chest back, has an abnormal posterior curvature of the lower part of the spine.

These posterior spinal curvatures are of tremendous importance, because, in the first place, they compress the chest.

In the first form, the shoulders drop forward, and interfere with the normal movements of the chest, making it practically impossible to breathe correctly. The chest is confined in such a way that it can not expand, and the person can not possibly take a deep breath. The only way such a one can really get a deep breath is by pulling the shoulders back. So this curvature interferes with respiration, especially in the upper part of the lungs. If there is some part of the lung that is not used, that is the place where tubercular germs will lodge and develop; so these flat-chested, sedentary people, not using every part of their lungs, are very liable to have tuberculosis in the apices.

This form of spinal curvature also lowers the chest upon the abdomen, lessening the distance between the thorax and the pelvis. The effect of this is to relax the abdominal muscles, which lessens the intra-abdominal pressure, and allows the blood to run into the abdomen. As a consequence, the brain and nerve centers are starved, the heart weakened, the hands and feet are cold, and the head empty. A person in this condition can not think clearly. The blood is stagnating in the portal circulation, and is not available for brain work. Intense effort of the mind can be made only by one who has plenty of fresh blood in his head.

It pays to sit up straight. It is worth fortunes to be able to keep the blood in the head, where it will be doing good, instead of having it stagnating where it will do harm to the liver and stomach, asphyxiating the cells it comes in contact with, because it is filled with carbonic acid gas. This is one of the evils resulting from a posterior curvature of the upper portion of the spine.

Curvature of the central portion of the spine does just the same thing, only the



trouble is increased. All the forms of curvature produce the same kind of mischief, and are really different phases of the same malady,—weakness of the spinal muscles.

A stiff back always means weak abdominal muscles, because the back is held erect by the stiffness of the spine, and does not require any activity of the muscles, which consequently become relaxed. A bad position in sitting relaxes the muscles, causes rigidity of the back, the spinal vertebræ become fixed together, the ligaments lose their elasticity so they can not be stretched, and the muscles lose the power to bend the spine. Most old people have, this stiff condition of the spine, so that they can not bend over.

A famous French general, when asked how it was that he had such an erect carriage, replied that it was because he bent over and touched the floor with his fingers thirty times every day. If he had acquired rigidity of the spine so that he could not do that, he would have had with it weak abdominal muscles, which result in portal congestion. This portal congestion interferes with stomach digestion and with the action of the liver. The poison-destroying power of the liver is lessened, autointoxication results, and arteriosclerosis and old age come on at a much earlier day. But by keeping the spine flexible and the abdominal muscles strong and taut, the portal circulation is kept free, and old age is held off.

### Corrective Exercises

Correct position is fundamental; otherwise all exercises and work of any kind will be educating and molding the body into the wrong shape. One should learn how to stand, how to walk, how to run correctly, how to maintain correct attitudes about all the different kinds of

work. A woman should learn how to sweep gymnastically, how to knead bread gymnastically, how to wash so as to get splendid gymnastic exercise in her work; how to scrub so that it will be play instead of drudgery. A farmer should learn how to chop, to saw, to use his plane, hammer, ax, scythe, and spade, gymnastically. He will then find that there is fun in it, and all his work will be developing his manly vigor. (See article on this subject, with illustrations, in January *GOOD HEALTH*, page 38.)

The first thing to do is to get the correct position in sitting, for this is all-important. A few simple exercises, which can be taken by any one almost anywhere, will enable one to get the right sitting position. The description, aided by the cuts on the following page showing the correct sitting position, will enable any one to take the exercises without a teacher.

#### EXERCISE I

Place the hands upon the hips, with the thumbs back and the forearms straight. Bring the elbows up and carry the thumbs back as far as possible. Look up at the ceiling, carrying the head back until you are looking straight up. Press with the thumbs as hard as you can upon the back, and draw down the chin. You will then have a good position, with the chest well out, which is the object of this exercise.

#### EXERCISE II

Start from the same position as before, with the hands upon the hips, the thumbs well back, and the head turned toward the ceiling. Keep looking up at the ceiling while bending slowly forward at the hips as far as possible. Slowly rise, still looking at the ceiling, pressing hard with the thumbs, and





draw the chin in. That brings you up in splendid position.

#### EXERCISE III

Sit well forward on the front edge of

the chair, facing the wall, with the toes against the wall so you can not fall. Place the hands upon the hips and bend slowly backward until the head touches the back of the chair. Press the thumbs



upon the back, draw the chin in, and come slowly forward to proper position. Count four while bending backward, and four while coming forward.

## EXERCISE IV

Sit well forward in the chair, with the feet spread a little and square on the floor. Grasp the seat of the chair firmly,


look up to the ceiling, and push the chest forward as far as possible while holding on to the chair with the hands. That pulls the chest up and the shoulders back. Try to slide forward as far as possible while holding yourself back. In this way the chest is forced out, even in a person who is really flat-chested.

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## A MEETING OF EXTREMES

BY E. E. ADAMS

(Concluded.)

 HIS first day's experience was a fair sample of the days that followed. Things which Mrs. Magee was at first beguiled into doing, resulted in such wonderful improvement in her condition that they were zealously continued from conviction. If ever her enthusiasm began to abate, and her energies to flag in consequence, the sight of some of the walking skeletons about the place never failed to stimulate it.

Light baths and other forms of eliminative treatment, massage, etc., prescribed by the doctor, supplemented her own efforts. At the end of a week the scales justified her most sanguine expectations, and gave her a fresh impetus. Soon after, she was valiantly swinging clubs in the gymnasium.

Although Mrs. Magee continued to Fletcherize enthusiastically, she began to grow a little discontented with the diet. The table at which we sat was one provided for the benefit of those who wished to continue a mixed diet. She began to cast longing glances at the dishes on their way to the vegetarian table.

"All the nicest and most appetizing dishes seem to be reserved for the vegetarian table," she said. "I suppose

they have to bribe people to sit there, in order to keep it up. I don't know how it is, but I don't seem to care for these greasy meat dishes and sweet desserts. Perhaps it is the hot weather. Would you object to changing our places to the vegetarian table?"

As I had been looking wistfully at that table ever since our arrival, I did not object. What Mrs. Magee attributed to the heat was really due to Fletcherizing, which was educating her appetite to detect the true flavor of the food, resulting, as it always does, in the selection of a pure and natural dietary.

In the meantime all that was left of my friend Mrs. Gilbert arrived from England and was installed in a pleasant, sunny room in the front part of the building, overlooking the terrace. At my first visit, after we had exchanged greetings, I was just about to entertain her with an account of my experiences with Mrs. Magee, when her exclamation drew me to the window, and there was the lady sailing majestically up and down the terrace, taking her morning walk.

"Horrors!" cried my friend. "If that is what the treatment here does, I



think I'll stop before I begin. I don't want to be stuffed out of all semblance of anything human. Why on earth doesn't the woman go home? However, it must be very powerful treatment that can make such as she out of

food can never be a glutton, and he who does not *can not be otherwise,*' according to a noted philosopher? This place is not for the purpose of making gluttons, but rather for reforming them, by teaching them to detect 'the true savor



such as I," and her eyes brightened with dawning hope.

The shock of discovering that she, like Mrs. Magee, thought that the place existed solely for the treatment of her own particular ill, nearly took my breath away. Stifling a laugh as the possibilities of the situation dawned on me, I answered,—

"Stuffed! You are not undergoing the 'cramming treatment' here. Every one eats just as much or as little as he wants."

"What a relief!" she sighed contentedly. "I have had to bolt my food so for the past two months, in order to get rid of the stipulated amount, that I have really forgotten the taste of it."

"A glutton, by your own confession," I laughed. "Don't you know that 'he who distinguishes the true savor of his

of food,'" and I proceeded to enlighten her as to the method.

"I feel as if it would be a luxury to chew one morsel all day, and get its full flavor," she said.

"And its full virtue, also," I replied; "for the more work done by the mouth, the less there is for the other digestive organs. They can dispose of their work quickly and easily, and the food is perfectly prepared for assimilation. But all these things you will learn in the doctor's lectures, which I will translate for you."

"In the meantime," said she, "I wish you would enquire of our fat friend out there exactly what she has been doing to work such a transformation. I shall follow her line of treatment as far as the doctor will allow, only stopping short of the final result."



The next day I reported that the stout lady's progress was due to Fletcherizing, swimming, walking, sun and electric-light baths, and massage; and Mrs. Gilbert, with the doctor's permission, began a diligent pursuit of the same methods.

The exercise in the cold water increased her appetite amazingly, and toned up her digestive organs to unwonted activity. Fletcherizing all the food thoroughly, relieved them of their load, and reduced their work to a minimum. Brisk walks in the pure, fresh forest air caused the food material to be thoroughly oxidized. Light and sun baths improved assimilation and nutrition to such a degree that she gained more rapidly than would have seemed possible.

"I would not miss the stout lady's constitutional for anything," she said to me one day when I found her at the window. "It is the most important item on my program, and the one that inspires me to take all the rest of my treatment. I feel that I shall owe my recovery to her inspiring example."

As Mrs. Gilbert had meals served in her room, the two had not met. When Mrs. Magee had seen her with me it had never occurred to her that it was my friend Mrs. Gilbert from England, whom she had mentally pictured as a huge personage not yet arrived at the stage where she could begin to exercise. She had been rather anxious for an introduction, thinking that she might give her some encouragement, but I had put her off on one pretext and another. Mrs. Gilbert had heard me refer to Mrs. Magee, an acquaintance made on my way from England, but imagined her to be a mere framework of bones like herself.

Matters went on in this way for some weeks, and the change in both Mrs.

Magee and Mrs. Gilbert was becoming apparent to the most casual observer. My stay in Denmark had to be cut short, and I was pondering whether to introduce my two friends before leaving, or to let the thing work itself out.

On the last morning of my stay I found Mrs. Magee apparently much depressed, with a resigned and heavy air that recalled the cumbersome individual I had met on the boat, whom I had almost forgotten.

"I don't think I shall stay any longer," she said. "I believe the whole thing is a hoax."

"Why, Mrs. Magee, how can you?" I answered in astonishment. "When you are losing flesh at the rate of ten pounds a week, and gaining vigor and health and good looks in proportion."

"Oh, I know the treatment has a good effect at first, but it does not last," she said. "You remember the gentleman who sat opposite to us at the table, and was such an inspiration to me? I saw him pass just now, and he is getting quite portly. Then there is that companion of yours. When I first saw her she was so painfully thin that I scarcely liked to look at her, but now she is actually getting dimples. Of course it improves her appearance wonderfully, but it shows that the effect of the treatment doesn't last. They haven't lost the tendency to make flesh, when they can put it on so fast." And she was so hopeless that it was with difficulty that I could persuade her to take her usual morning terrace walk (for the benefit of Mrs. Gilbert).

Going in search of the latter, in order to introduce her to Mrs. Magee, and get it over, I found her in just about the same hopeless frame of mind as that lady, whom she was watching from the window.

"I'm losing all faith in this treat-



ment," she said despondently: "it puffs one up for a time, but its effects are evidently not lasting. Just look at that woman. I've had a suspicion for some time that she was losing weight, and now she looks to me about half the size she was when I first saw her. I was thinking of coming to the station to see you off, but I don't believe I feel well enough to go out to-day."

"You must come out for a moment," I said. "I want to introduce you to Mrs. Magee, so that you can keep each other company after I am gone," and I walked her out on to the terrace straight to the lady who had been her chief object of interest ever since she came.

I presented them to each other by name, and taking advantage of their mutual astonishment and mystification, fled to my room, hastily finished my packing, and departed by an earlier train than I had intended.

A few weeks later this letter came:—

"If there were anything in the old adage, 'Laugh and grow fat,' Mrs. Magee would certainly have taken on again all the adipose tissue she has disposed of since coming here, when I explained to her what a blessing she had been to me; and I should certainly not have needed to stay here any longer after I found out that I had been of equal benefit to her in a similar way. This explanation, coming just when it did, was the salvation of both of us. We are still following an identical program, and approximating more closely every week. As soon as the extremes have fully met, we shall start together on a continental tour. As she now weighs only one hundred and forty pounds, and is still losing, and I weigh one hundred and twenty, and am still gaining, we expect that this will be in a very short time."



### HEALTH BY EXERCISE

By ceaseless motion all that is sub ist.  
Constant rotation of th' unwearied wheel  
That Nature rides upon, maintains her health,  
Her beauty, her fertility. She dreads  
An instant's pause, and lives but while she  
moves.

Its own revolveny upholds the world.  
Winds from all quarters agitate the air,  
And fit the limpid elements for use,  
Else noxious: oceans, rivers, lakes, and  
streams,

All feel the freshening impulse and are cleansed  
By restless undulation. Even the oak  
Thrives by the rude concussion of the storm;

The law, by which all creatures else are bound  
Binds man, the lord of all. Himself derives  
No mean advantage from a kindred cause,  
From strenuous toil his hours of sweetest ease.  
The sedentary stretch their lazy length  
When custom bids, but no refreshment find,  
For none they need: the languid eye, the cheek  
Deserted of its bloom, the flaccid, shrunk,  
And withered muscle, and the vapid soul,  
Reproach their owner with that love of rest  
To which he forfeits even the rest he loves.

— Cowper.



## EXERCISES FOR THE INVALID

BY ELIZABETH REITH STEWART



Exercise is absolutely essential in the maintenance of perfect health, even so it may become as important a factor in hastening recovery from disease.

If properly administered, the sluggish circulation is quickened, the blood more perfectly oxygenated, assimilation is increased, and the excretory organs stimulated generally.

Results obtained have proved so satisfactory that to-day we find that sprains, for which a few years ago entire rest was prescribed, are scientifically massaged, bandaged, and exercised.

Volumes are written on exercise for heart disease, even mountain climbing being sometimes prescribed; so we will find that the cases of invalidism for which no form of exercise is suggested will soon be the exception.

In giving exercises to an invalid, great care must be taken not to produce exhaustion. In many cases it is advisable to begin with massage, or in case this can not be obtained, a thorough rubbing to the entire body may be given.

The best time to exercise is two or three hours after eating, although light breathing exercises may be given after each meal, with very beneficial results (especially if taken out of doors or near an open window), as this not only aids in stimulating digestion, but also in diverting the patient's mind.

Special indications for discontinuing

exercises at any time, but especially with invalids suffering from heart disease, are blueness of the lips, drowsy appearance of the eyes, clammy or cold hands, a disposition to yawn, a feeling of suffocation, or any appearance of listlessness or fatigue. In old age the greatest care must be exercised, as the



FIG. 1

after effects may not be felt for twenty-four or even forty-eight hours. The feet must always be warm, so for that reason we will begin with foot rolling, as illustrated in Fig. 1.

The attendant sits facing the patient, grasping the feet low enough so that the pressure will not be objectionable. Quickly rotate the feet outward, reverse, and continue this for several minutes; then have the patient stretch the feet downward to the very utmost, then flex, the attendant offering resistance all the time. This treatment, if persisted in and given several times daily, will overcome many of the cases of chronic cold feet.

If the patient is able to recline as in Fig. 2, a bed rest may be improvised





FIG. 2

by inverting a straight-backed chair and padding it with pillows. To give arm flexion and extension the attendant grasps the wrist with her corresponding hand, steadies the arm by placing the other just above the elbow; the patient now flexes and extends the arm against the attendant's resistance. This is repeated from three to six times, and increased as the patient's strength increases. Follow this with arm and wrist rotation, to keep the joints flexible, holding the forearm with the left hand and the palm of the hand with the right. Gently but thoroughly rotate to the right and left; then, flexing the arm and placing one hand over the elbow, make a complete circle forward and backward and vice versa.

If no attendant is available, the invalid may take the same exercise by offering her own resistance, trying to keep her arm flexed as she extends it, and vice versa.

To avoid tiring any part of the body, follow the arm by a leg movement.

After placing the hands on the hips, point the toes down-

ward and slowly raise the left leg, keeping the knee extended; slowly replace; the same with the right; then both together. This exercise is greatly increased if the head at the same time is raised as high as possible from the pillow, thus making it one of especial value in strengthening the abdominal muscles.

Follow this with head bending, as shown in Fig. 3. If taken without an attendant, be careful to hold the chin in just as long as possible in bending

the head backward, and to bring it in as quickly as possible on raising it forward. Bending to the side is taken by bending to the right and left until the ear touches the shoulder.

If any dizziness is produced, head twisting may be substituted, twisting the head, keeping the chin well in, until the face points directly over the shoulder.

Next flex the knees until the feet rest firmly on the bed, raise the hips, at the same time separating the knees; slowly return to position. This is not only a good abdominal exercise, but splendid for strengthening the muscles of the



FIG. 3



trunk and back, and will often quickly relieve that tired feeling so frequently experienced.

Raise the arms forward or sidewise as high as possible, breathing in deeply; holding the breath, bend gently to the left; return, arms sinking slowly as you breathe out; take the same movement to the right. Repeat from three to six times.

This may be followed by flexion and extension of the leg, given in the same

way as shown in Fig. 2 to the arm, only giving the support below the knee and holding the heel in the palm of the hand. Follow by rotation to ankles and thighs.

All exercises must be varied to suit each individual case. If fatigue is felt, instead of discontinuing altogether, simply take them lighter the next day.

Let thoroughness characterize every treatment; for whatever is worth doing is worth doing well.

## MENU FOR A VEGETARIAN DINNER

BY LUCY WINEGAR

NUT BOUILLON EN TASSE	TOAST POINTS
NUT LOAF	PIQUANTE SAUCE
MARbled VEGETABLES	STUFFED ONIONS
MACEDOINE SALAD	CHEESE STRAWS
GRAHAM BREAD	BUTTER
ORANGE SNOWBALLS	LADY FINGERS
CARAMEL CEREAL	

*Nut Bouillon en Tasse.*—Two pounds of protose, a can of Lima beans, a can of green peas; add two quarts of cold water, one teaspoonful of salt, one tablespoonful of parsley. Chop a slice of onion and half a carrot. Cut the protose in small pieces; add the water, and heat slowly. Let boil slowly for four hours. Strain and set aside. When ready to use, strain, and reheat to the boiling point and serve in cups.

*Nut Loaf.*—Chop fine one pound of protose, one-half pound of nuttolene,

and one onion; put in a mixing bowl; season with two teaspoonfuls of salt, one saltspoonful of sage; add two cupfuls of fine breadcrumbs and moisten with two well-beaten eggs and one-half cupful of cream; mix well and form into a loaf with the hands. Bake in a moderate oven about thirty-five minutes.

*Piquante Sauce.*—Put four tablespoonfuls of cocoanut butter into a sauce pan. When it melts, add three tablespoonfuls of browned flour. Stir until smooth; draw the sauce pan to one side and add gradually one pint of protose broth.



Stir constantly; season with a dash of thyme and mint and one-half teaspoonful of salt; then boil rapidly for four minutes. Add to the sauce three tablespoonfuls of lemon juice, one teaspoonful of sugar, one tablespoonful of minced onion, two tablespoonfuls of chopped olives, and serve.

*Marbled Vegetables.*—Season well one quart of mashed potatoes. Put one quart of spinach through a colander; add to it salt and one tablespoonful of oil and two of lemon juice. Put a spoonful of each in a baking pan until all is in. Moisten the top slightly with cream and brown in the oven.

*Stuffed Onions.*—Peel the required number of Spanish onions. Parboil in two waters, and scoop out some of the inside; set the shells upside down to drain. Fill with a dressing made with equal parts of protose and breadcrumbs. Chop the onion which was taken from the inside and add to the dressing. Season with salt and sage. Fill the onion shells heaping full. Place in a dripping pan and sprinkle with breadcrumbs and moisten the sides with cocoanut butter. Put a little water in the pan. Brown nicely in the oven.

*Macedoine Salad.*—This is an excellent dish to use up remnants of vegetables. Use as many of them as you like. The idea is to get a good blending in color. Tomatoes and cucumbers are cut in thin slices; beets are chopped; and celery cut in narrow strips. Serve with mayonnaise dressing.

*Cheese Straws.*—Two ounces of flour, two ounces of cocoanut butter, two ounces of cottage cheese, half of an egg, and a little salt. Roll and cut in long strips; bake very carefully in a moderate oven.

*Orange Snowballs.*—Boil two cupfuls of rice for fifteen minutes; drain and let cool; pare six nice oranges, being careful to remove the white skin; spread the rice, in as many portions as there are oranges, on pudding cloths; place the orange in the center and tie; boil for one hour; turn out and sprinkle with sugar and serve with strawberry sauce.

*Lady Fingers.*—Six eggs, one cup of sugar, one heaping cupful of flour, juice and rind of one lemon. Beat eggs separately, yolks first; add grated rind to yolks, then sugar, beat whites stiff, add lemon juice. Fold in yolk and sugar, lastly flour. Bake in quick oven.

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## LET THE SUNSHINE IN

LET in a little sunshine  
Each day on some dark life;  
The world's in need of light; let thine  
Gleam brightly through the strife!

A gentle word is better  
Ofttimes than gift of gold;  
A smile may break the fetter  
That long some heart did hold.

\* \* \*

So let each passing day  
Record some kind deed done;  
Go smiling, giving, all thy way,  
Be of thy world the sun.

— Leigh Mitchell Hodges.





### A MUSCULAR CHERUB

DAVID ARTLIP was ten months old at the time the above pictures were taken. His training, which has been very gradual, was begun by his father a few weeks after his birth. The illustrations show the grip of the fingers, by which he is able to support his own weight, the strength of the arms and legs, and the muscles of the back. Little David is a fat, good-tempered baby, as strong as a young Samson, and has always had perfect health. He is a fine demonstration of the value of nuts as food, for he has almost from the first been fed solely upon malted nuts, a perfect baby food.



## EXERCISE IN DIGESTIVE DISORDERS

BY W. A. GEORGE, M. D.



ONE of the most common symptoms of poor digestion is lack of energy, with no desire to exercise. To one in perfect health, exercise is a pleasure, and not a burden; but to the poor dyspeptic the thought of a mile's walk is anything but pleasant. Each step is torture, for he can hardly lift his feet. His arms hang limp at his sides, and perhaps feel numb and lifeless. Again, he may have queer sensations in any part of the body,—pain in the shoulders or between the shoulder-blades; maybe pain or a sort of "dead" feeling in the legs one day and somewhere else the next. No two days alike, and yet always miserable, and the more so if he tries to do anything.

So the poor sufferer goes on from day to day, trying this remedy and that, the rest cure, the diet cure, but all of no avail. On a cool morning even in mid-summer he feels a terrible chill. His hands are cold, his face drawn and pinched, yet he has not life enough to work and warm himself up, as he could easily do if he would make the effort.

This one thing above all others he needs,—exercise,—and yet it is the last thing he thinks of attempting. He needs exercise because his whole body is filled with poisons from putrefying foods. He may obtain some relief from the use of a strong tonic, which so excites his heart that for the time his blood circulates more rapidly, and some of the poisons are carried off, but he is left only weaker and weaker after the effects of the various drugs wear off, so that he almost gives up in despair. Vigorous exercise in the open air will do all that the drugs will do in exciting the heart

to greater action, and much more besides, leaving none of the bad results.

In order to get the best results, exercise in these cases must be vigorous enough to cause free perspiration; for in this way alone, as a rule, will the heart's action be increased enough to carry off the accumulated poisons from the tissues. Many make a mistake in not exercising with enough vigor to get thoroughly warmed up, and so lose much of the benefit that would be sure to follow in due time if they would persist in taking sufficient exercise to cause free perspiration each day or several times a day.

Exercise not only increases the heart's action and the action of the lungs by making one breathe much deeper, but it aids directly in the digestive processes themselves by shaking up the food as it lies in the stomach and intestines and helping to move it along. This is especially true of such exercises as running and all arm exercises. Too much can not be said in favor of arm work in these cases. Shoveling, hoeing, sawing, hammering, lifting, carrying heavy objects in the hands, and numberless kinds of ordinary work in which the hands and arms are brought into use, are all good forms of exercise. The lady who sits in the parlor and does fancy work or entertains company while the work is being done by some one else, would often have more roses on her cheeks and would need no cosmetics if she would spend several hours every day washing and ironing or baking and sweeping. If to this she will add long walks in the fresh air and sunshine she may save many doctor's bills.

Exercise not only aids digestion, but



at the same time improves the action of the bowels, relieving constipation, and thus removing the obstruction which so often prevents recovery from digestive disorders. If you wish health, work for it.

## THE INVALID'S CALLER

BY LENNA F. COOPER



PERHAPS there is nothing more annoying to the sick one and his attendants than the unseasonable caller. Unless one has passed through a severe illness in which the nervous system has been severely taxed, or has cared for some one in this condition, it is hard to realize how the presence of even a dear friend can be an annoyance, but such may be the case.

There are many conditions which require absolute rest and quiet, and for this reason the physician and nurse in attendance many times are compelled to prohibit all visiting. Often the intimate friends of the sick one feel that an exception should be made in their case, and that *they* should be allowed to see their sick friend, little realizing the condition of the patient. No one should ever take offense when such privilege is refused him by the one in attendance, as the faithful nurse well realizes that he must stand, as it were, a sentinel, guarding every little point for the life and health of the patient.

Visiting must usually be very restricted in cases of severe, acute illness, but as the patient begins to convalesce, nothing is more welcome than the thoughtful, friendly caller. It should be remembered, though, that brevity is a priceless jewel. The sick one is yet very weak and tires very easily, hence the visitor should not expect the patient to engage in conversation, and should not ask questions or make remarks

calling for an answer. It will not be necessary to ask the sick one of his condition, his progress, or anything relating to his illness, as this may be learned from his attendants or from other members of the family.

The aim of the visit should not be that of the news-gatherer, but the entertainment of the sick one, who has been shut off from the world, as it were, during the period of illness. The visitor who comes in as a ray of sunshine with a bright face and a few cheerful words of greeting, who can be perfectly free and at home in the sick-room, telling, perhaps, a few bits of kindly neighborhood news, may be a real boon to the invalid. Upon entering the sick-room, the visitor should go directly to the bedside, quietly, but not stealthily as if in the presence of death. Every word, movement, and expression should express confidence in the betterment of the patient. The sick one should understand at once that he will not be expected to entertain.

We once read of a novel method of entertaining used by a lady in calling upon a sick friend. Taking the invalid's hand in hers, she told her that she was going to do the talking, and that as they went along, if she understood, she should give two wee taps with her finger upon her palm, but if she did not understand, and wished to have the statement repeated, she should give a single tap; thus relieving her of talking altogether. Then she quietly proceeded



to relate little interesting incidents, such as a few family jokes, funny pranks of the children, church and social affairs, and other carefully selected news, gliding from one subject to another, leaving no interval in which the patient might feel that she must help to carry on the conversation, and taking her leave as soon as her subject matter was exhausted. She was indeed an ideal caller.

It would hardly seem necessary to say that all harrowing accounts of accidents, deaths, and other unpleasant things should never be mentioned in the sick-room, yet we have known of sick-

room visitors carefully relating, in detail, an account of every one whom they ever knew or heard of, having the same disease or condition as the sick one, especially of those who have been so unfortunate as to succumb to the disease. If any suggestions are to be made as to the care of the sick one or the remedies applied, they should be made to those in attendance, and not to the patient.

The whole object of the visit should be to take the mind of the sick one off his suffering, and to give him something cheerful to think about in his quiet moments.

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### UNITY

BY WILLIAM E. A. AXON,

Manchester, England

THE Force that moves the stars above  
 Moves in each heart the strength of love;  
 The Force that makes the sun to shine  
 Puts in each soul the fire divine.

This Force made both the brute and me,  
 With ears to hear, and eyes to see,  
 With power of joy, and power of pain;—  
 Why, then, the brute should I disdain?

The Force that made the rose so sweet,  
 That gave the deer his flying feet,  
 Links in one chain the great and small,  
 And wills that man should love them all.

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### HOW A FEEBLE INFANT BECAME A GREAT MAN



ELBERT HUBBARD, publisher of *The Philistine*, and proprietor of The Roycrofters' shop at East Aurora, N. Y., which makes a great variety of beautiful books, in his "Little Journeys to the Homes of Great Philosophers," gives a very interesting account of the life of Immanuel Kant. We extract the following sketch, which contains several exceedingly useful lessons:—

"The parents of Kant were very lowly people. His father was a day-

laborer—a leather-cutter who never achieved even to the honors and emoluments of a saddler. There were seven children in the family, and never a servant crossed the threshold. One daughter survived Immanuel, and in her eighty-fourth year she expressed regrets that her brother had proved so recreant to the teachings of his parents as practically to alienate him from all his relatives. One brother became a Lutheran minister and lived out an honored career; the others vanish and



fade away into the mist of forgetfulness.

"So far as we know, all the children were strong and well excepting this one. At birth he weighed but five pounds, and his weakness was pitiable. He was the kind of child the Spartans used to make way with quickly for the good of the State. He had a big, bulging head, thin legs, a weak chest, and one shoulder was so much higher than the other that it amounted almost to a deformity.

"As the years went by, the parents saw he was not big enough to work, but hope was not dead—they would make a preacher of him! To this end he was sent to the 'Fredericianum,' a graded school of no mean quality. The master of this school was a worthy clergyman by the name of Schultz, who was attracted to the Kant boy, it seems, on account of his insignificant size. It was the affection of the shepherd for the friendless ewe lamb. A little later the teacher began to love the boy for his big head and the thoughts he worked out of it. Brawn is bought with a price— young men who bank on it get it as legal tender. Those who have no brawn have to rely on brain or go without honors. Immanuel Kant began to ask his school-teacher questions that made the good man laugh. At sixteen Kant entered Albertina University. And there he was to remain his entire life— student, tutor, teacher, professor.

"He must have been an efficient youth, for before he was eighteen he realized that the best way to learn is to teach. The idea of becoming a clergyman was at first strong upon him; and Pastor Schultz occasionally sent the youth out to preach or to lead religious services in rural districts. This embryo preacher had a habit of

placing a box behind the pulpit and standing on it while preaching. Then we find him reasoning the matter out in this way, 'I stand on a box to preach so as to impress the people by my height or to conceal my insignificant size. This is pretense and a desire to carry out the idea that the preacher is bigger every way than common people. I talk with God in pretended prayer, and this looks as if I were on easy and familiar terms with Deity. Is it like those folks who claim to be on friendly terms with princes? If I do not know anything about God, why should I pretend I do?'

"This desire to be absolutely honest with himself gradually grew until he informed the Pastor that he had better secure young men for preachers who could impress people without standing on a box. As for himself, he would impress people by the size of his head, if he impressed them at all. Let it here be noted that Kant then weighed exactly one hundred pounds, and was less than five feet high. His head measured twenty-four inches around, and fifteen and one-half inches over 'firmness' from the opening of the ears. To put it another way, he wore a seven-and-a-half hat.

"It is a great thing for a man to pride himself on what he is, and make the best of it. The pride of the craftsman betokens a valuable worker. We exaggerate our worth, and this is Nature's plan to get the thing done. Kant's pride of intellect, in degree, came from his insignificant form, and thus do all things work together for good. But his bony little form was often full of pain, and he had headaches, which led a wit to say, 'If a head like yours aches, it must be worse than to be a giraffe and have a sore throat.'



"Young Kant began to realize that to have a big head and get the right use from it, one must have vital power enough to feed it.

"The brain is the engine — the lungs and digestive apparatus the boiler. Thought is combustion.

"Young Kant, the uncouth, became possessed of an idea that made him the butt of many gibes and jeers. He thought that if he could breathe enough, he would be able to think clearly, and headaches would be gone. Life, he said, was a matter of breathing, and all men died from one cause — shortness of breath. In order to think clearly, you must breathe deeply.

"We believe things first and prove them later; our belief is usually right, when derived from experience, but the reasons we give are often wrong. For instance, Kant cured his physical ills by going out of doors and breathing deeply and slowly with closed mouth. Gradually his health began to improve. But the young man, not knowing at that time much about physiology, wrote a paper proving the benefit from the fresh air that circulated through his brain. And of course in one sense he was right. He related the incident of this thesis many years after in a lecture, to show the result of right action and wrong reasoning.

"The doctors had advised Kant that he must quit study, but when he took up his breathing fad, he renounced the doctors, and later denounced them. If he was going to die, he would die without the benefit of either the clergy or physicians.

"He denied that he was sick, and at night would roll himself in his blankets and repeat half aloud, 'How comfortable I am, how comfortable I am,' until he fell asleep.

"Near his house ran a narrow street,

just half a mile long. He walked this street up and back, with closed mouth, breathing deeply, waving a rattan cane to ward away talkative neighbors, and to keep up the circulation in his arms. Once and back — in a month he had increased this to twice and back. In a year he had come to the conclusion that to walk the length of that street eight times was the right and proper thing — that is to say, four miles in all. In other words, he had found out how much exercise he required — not too much or too little. At exactly half past three he came out of his lodging, wearing his cocked hat and long, snuff-colored coat, and walked. The neighbors used to set their clock by him. He walked and breathed with closed mouth, and no one dare accost him or walk with him. The hour was sacred and must not be broken in upon — it was his holy time — his time of breathing.

"The little street is there now — one of the sights of Königsberg, and the cab drivers point it out as the Philosopher's Walk. And Kant walked that little street eight times every afternoon from the day he was twenty to within a year of the time of his death, when eighty years old. This walking and breathing habit physiologists now recognize as eminently scientific, and there is no sensible physician but will endorse Kant's wisdom in renouncing doctors and adopting a regimen of his own.

"The thing you believe in will probably benefit you — faith is hygienic.

"The persistency of the little man's character is shown in the breathing habit — he believed in himself, and relied on himself, and that which experience commended, he did.

"This firmness in following his own ideas saved his life. When we think of one born in obscurity, living in poverty, handicapped by pain, weakness, and de-



formity; never traveling; and then by sheer persistency and force of will rising to the first place among thinking men of his time, one is almost willing to accept Kant's dictum, 'Mind is supreme, and the universe is but the reflected thought of God.'

"Kant was great enough to doubt appearances and distrust popular conclusions. He knew that fallacies of argument follow fast upon actions; reason comes later by slow freight. It is quite necessary that we should believe in a Supreme Power, but quite irrelevant that we should prove it. Truth for the most part is unpopular, and the proof of this statement lies in the fact that it is so seldom told. Preachers tell people what they wish to hear, and indeed this must be so as long as the congregation that hears the preaching pays for it. People will not pay for anything they do not like. Hence, preaching leads naturally to sophistication and hypocrisy, and the promise of endless bliss for ourselves and a hell for our enemies comes about as a matter of course. What men will listen to

and pay for, is the real science of theology. That is to say, the science of theology is the science of manipulating men. Success in theology consists in finding a fallacy that is palatable and then banking on it. Again and again Kant points out that a clergyman's advice is usually worthless, because pure truth is out of his province — unaccustomed, undesirable, inexpedient.

"And Kant thought this was true also of doctors — doctors care more about pleasing their patients than telling them truth. 'In fact,' he said, 'no doctor with a family to support can afford to tell his patient that his symptoms are no token of a disease — rather, uncomfortable feelings are proof of health, for dead men don't have them.' Most of the aches, pains, and so-called irregularities are remedial moves on the part of nature to keep the man well. Kant says that doctors treat symptoms, not diseases, and often the treatment causes the disease, so no man can tell what proportion of diseases are caused by medicine and what by other forms of applied ignorance."

### A Grass Diet.

Several articles have recently appeared telling of the peculiar dietetic habits adopted by certain persons who are making an attempt to live on grass, as did Nebuchadnezzar of old. The experience of these persons is not yet sufficiently long to demonstrate whether or not human beings can sustain life on a diet of grass or green herbs; but it can not be doubted that even grass contains nutritive material sufficient in amount to sustain life for a limited period, at least in the absence of other food. This is clearly demonstrated by an experience recently recounted to the writer by Mr. J. C. Savery, for many

years very active in the West, where he is universally known; now living in retirement on a magnificent estate in the mountains of Montana. When a young man, Mr. Savery spent much time in exploring among the gold fields of the Rockies, and on one occasion found himself imprisoned by snow for many weeks in one of the most inaccessible portions of the then little settled West. For nearly three months he had no communication whatever with civilization. This isolation, being unexpected, was not prepared for. After four or five weeks, all fresh provisions had been eaten, and there was nothing left but salt meat. In a short time



scurvy made its appearance, and death began to come from this terrible disease. It occurred to Mr. Savery that as green vegetables were the one thing needful to prevent scurvy, it was possible that ordinary grass might answer the purpose. Accordingly he proceeded to dig out from underneath the deep snow a supply of green mountain grass, and to eat it, taking pains to masticate it thoroughly. The result was the speedy disappearance of all scurvy. Others in the camp followed him in the adoption of a grass diet, and, to their great relief, all who ate grass lived, and suffered no serious inconvenience from the absence of other green food.

The principal objection to grass as an article of food is the fact that it is coarse, tough, and contains only a very small proportion of nutritive elements. Its taste is also disagreeable to most people. It will be interesting to learn, however, that it may possibly be resorted to as a means of preserving life under circumstances when other food can not be obtained. An important thing appears to be very thorough mastication; but the small amount of nutriment contained in grass will necessarily condemn it as an article of food for human consumption. Cabbage and celery are only forms of grass. Asparagus, spinach, and various greens are essentially the same as ordinary grass. The amount of nourishment contained in these food substances is only about four or five per cent.

The digestive organs of herbivorous animals have a much greater capacity in proportion to their weight and size than those of human beings. It is hardly to be supposed that man should be able to subsist upon a diet which is naturally adapted to a cow or a goat.

Carnivorous animals, on the other hand, have a digestive apparatus of

much smaller capacity than that of human beings. Their natural diet is much more concentrated than that of man. The natural dietary of human beings consists of fruits, nuts, and soft grains,—a diet more concentrated than that of herbivorous, and less concentrated than that of carnivorous animals.

Grass is food. "All flesh is grass." Probably all living things can be sustained after a fashion upon a diet of grass. Grass is good food for oxen and herbivorous animals in general, but is poor food for man. The object to be sought in arranging a scientific dietary is not to eat everything that is eatable, or to endeavor to live upon everything that can possibly sustain life; but to select those foods which are best and most perfectly adapted to human sustenance, and hence capable of sustaining the bodily powers and faculties in the highest degree of healthful activity.

J. H. K.

#### Brain Work and Digestion.

There is not one man in a thousand who has to work too hard, or who is suffering from overwork, except at the dinner table. We were made to work, and hard work is healthful. One may work his brain too continuously and not do enough muscle work. People sometimes get sick from loss of sleep, or lack of fresh air and exercise; but it is neglect of the laws of health, and not the work they have done, that they are suffering from.

A man can work his brain just as hard as he can make it work, and get out of it all that he can, without any injury, provided he eats properly, takes sufficient outdoor exercise, conserves his energy, and obeys all the laws of health. The brain is the softest structure in the body, and it is almost impossible to injure it by work. When



the brain has worked as long as it should, one becomes sleepy, and it is impossible to keep awake without the use of artificial means. After a night's natural sleep the brain is fresh and healthy, and ready for another day's work.

The majority of those who are complaining of overwork are suffering from overeating or from improper diet. A locomotive drawing a train along the track, comes to a standstill without any apparent cause. The engineer says that he can not keep up steam. You examine the locomotive and find the wheels, the machinery, the boiler,—everything all right. What is the trouble?—The grate bars in the fire-box have become clogged, so that the air can not circulate through, and the draft being stopped, the fire will not burn; it is too low to keep up steam. It is not the work that has hurt the engine; it is not the running of the wheels, nor pulling the heavy load; it is the putting into it of bad fuel full of clinkers that have clogged the bars and stopped the draft.

This is what is the matter with the majority of those who think they are suffering from overwork. The mental wheels, the muscle wheels, will not turn, the nerve wheels are all tangled up, and work has to be stopped. The trouble is in the firebox. The stomach does not digest the food well, and it does not make good blood. The blood is to the body what steam is to the engine. It is the blood that turns the wheels of life; it is the blood that stimulates each organ to the proper degree of activity; it is the blood that furnishes to the body the energy with which to perform its work. If the blood is impure, full of poison, it is just like coal that is full of stones and dirt. It is just like the clinkers on the

grate bars, and the draft will be stopped.

In Tartary men still go hunting with eagles, and they have a very curious way of catching the young eagles. A man takes a sack of pebbles smeared with blood, and spreads them on the ground in the country where the eagles are. The men hide behind a bush a short distance away. The eagles soon smell the blood, and mistaking the pebbles for blood clots, they swallow them. When they have swallowed a handful or two of the pebbles, the men run out from their hiding place. The eagles spread their wings to fly and find that they can rise only a little way from the ground. Loaded down with the stones in their stomach, they can not soar.

That is just the situation of thousands of men and women. They sit down to the table and swallow stones instead of bread. They eat fried foods, saturated with grease, and other things as indigestible as stones, and after filling their stomach with these things they wonder why they can not soar, why their brains are not bright and keen, and why they can not accomplish great things. Such people are in the very same condition as the eagle. They can rise only a little way and are easily defeated.

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#### A Weighty Argument.

A weighty argument in favor of temperance that will appeal to moderate drinkers through their pockets as well as their logical faculties, is the announcement made by the leading life insurance companies that they contemplate the issuance of policies to total abstainers at rates materially lower than those which the drinker, no matter how moderate, has to pay. No suspicion of prejudice, nor trace of sentiment, can be attributed to the in-



insurance companies. Their attitude to the question of total abstinence is based on cold statistics and definitely ascertained facts. It shows that even small quantities of alcohol will measurably diminish the drinker's chances of life. The death rate among moderate drinkers has been found to be much larger than among abstainers. From the age of forty to that of fifty, which is regarded by insurance men as the prime of life, there were in a period of sixty-one years 6,246 deaths among total abstainers, and 10,861 among moderate drinkers, an excess of seventy-four per cent in one decade.

#### **Typhoid Fever in Philadelphia.**

It is now believed that a large percentage of typhoid fever which has afflicted Philadelphia for years, and been attributed to the sewage-laden water of the Schuylkill River, has been caused by contaminated watercress. The watercress, which is sold in great quantities, has been found to possess a peculiar parasite which attacks the liver, and in a few days causes a dropsical condition, this usually ending in the death of the person attacked. The State Board is investigating the matter, and it is probable that the sale of the green will be altogether prohibited. The danger of eating contaminated food would be greatly lessened, if not entirely removed, if all persons would confine themselves to man's original diet of grains, fruits, and nuts, avoiding animal foods of all kinds and leaving the green herb to the lower orders of creation, for which it was intended.

#### **A Famous Russian.**

The vegetarian principles of the greatest of the Russians, Count Leo Tolstoy, are well known. Another emi-

nent Russian, the well-known sculptor, Prince Troubetskoi, who recently visited Paris, is even more stringent in the matter of diet, and considers meat eaters as little better than cannibals. He taboos every kind of animal food, including eggs and milk, and lives on salads, fruits, and bread. At his home in St. Petersburg he keeps a number of animals, including a bear, two wolves, and nine dogs, none of which are flesh eaters.

If all Russians, like Tolstoy and Troubetskoi, subsisted upon a natural diet, it is possible that some recent history would read differently. It is quite clear to all thinking people that the Japanese are superior in endurance, as well as alertness and tactics, to their antagonists. We shall hear no more of the antiquated argument that meat eating is necessary to develop fighting quality in a nation. The Japanese, it must be admitted, are on record as the greatest warriors of all time.

#### **Let the Little Ones Nap Outdoors.**

The mothers of Cleveland are demonstrating the great benefits of the open-air treatment for delicate little ones. Senator Hanna's granddaughter was an extremely delicate infant when the family physician prescribed this treatment for her. Since that time she has taken a daily two-hour nap in the open air, in all kinds of weather, with the result that at three years of age she is as robust a child as can be found in any home. Other mothers are adopting the same treatment, and the babies are enjoying their midday nap out of doors.

HUGO wrote to his wife: "When Christ said, 'Do unto others,' he meant to include the animal kingdom as well as mankind."



# *Chautauqua School of Health*

## THE USES OF MUSCLES IN THE BODY

BY J. H. KELLOGG, M. D.

THE muscles and the bones constitute together the machinery, the levers, by which the body is moved about, and movements of all kinds executed. Every muscle is a living machine; every bone is a lever or a fulcrum which some muscle or group of muscles uses in doing work. Five hundred pairs of voluntary muscles act upon two hundred bones in performing the different kinds of work the body has the power of doing.

Besides the voluntary muscles, which constitute about half the bulk of the body, there are also involuntary muscles, muscular structures which act independent of the will, in numbers too great to be even estimated. The skin is a perfect network of little muscles. Every hair has a minute muscle attached to it by which it may be made to stand erect. The stomach is a muscular sac. The intestine is a long, muscular tube. The air tubes of the lungs have muscular walls. There are muscles in the spleen and other internal organs. The heart, the great pumping engine of the circulation, is a wonderful muscular structure.

All these muscles, voluntary and involuntary, contract under the influence of nerves. The voluntary muscles are the servants of the human will, and enable it to execute its purposes. The

marvelous skill of hand shown in piano playing, in drawing, and in various arts, the soul-stirring tones of the orator, the musical notes of the soloist,—all are dependent upon the action of muscles. This is equally true of a large part of all the experiences of life. Those sudden changes of the face which constitute what we call expression, are due to the play of delicate muscles which by their action pull the skin of the face about, this way and that, as may be necessary to express a mental state or a moral sentiment. Without the voluntary muscles, man, if he could live, would be quite unable to express his thoughts or feelings, or to communicate them in any way.

The two sets of muscles, voluntary and involuntary, very forcibly call our attention to the two wills existing within the body, which seem each to have its special set of muscles to carry out its orders. The human will controls, if not absolutely, to a large degree, the movements of the large groups of muscles which clothe the bones and help to form the walls of the trunk and chest, the voluntary muscles; while the involuntary muscles, acting wholly independent of the human will, are controlled by the so-called automatic will.

While we are asleep, as well as when we are awake, the automatic will main-



tains the never-ceasing rhythm of the heart and lungs. When we take food into our mouths, after we have chewed it and passed it to the back part of the throat, through the direction of the automatic will the muscles of the esophagus seize it and carry it to the stomach. Under the same control, the food is acted upon by the muscles of the stomach walls, passed into the intestines, and in due order moved along from point to point until it has been acted upon by the various digestive fluids, and absorbed and converted into blood to nourish the body.

Thus it appears that in the digestive process the food is moved along from one stage to another by means of muscles; we breathe by means of muscles; the blood is circulated and the blood supply to each particular part regulated by means of muscles; these muscles are all under the control of a will which

never sleeps, which acts intelligently, which does its work with absolute fidelity and loyalty to the well-being of the body, even when the conscious will is working against the body's interest.

When a muscle acts in obedience to the will, it is by shortening, or contracting. As it shortens, it at the same time thickens, but the most remarkable changes which occur in a muscle are invisible to the eye. When the muscle began contracting, it may have been pale; but as it begins to work, its arteries dilate, and fill with blood, for it is the blood that brings to the muscle the energy which it requires for work. A working muscle is warmer than one at rest, for the reason that muscular contraction is always accompanied by the formation of heat by the burning up of some of the material which is stored in the muscle and brought to it in the blood.

## A WHOLESOME PIE FOR THE INVALID'S TRAY

BY MRS. E. E. KELLOGG

PIE, from the very nature of its composition, is an article which can rarely be permitted a place in the invalid's dietary.

Most pastries, compounded, as they generally are, of an excess of fats and starch, are difficult of digestion, and

especially so in times of ill health, when the vital powers are less vigorous. For the sick one longing for a "piece of pie" a superior and perfectly wholesome crust may be made from granola, (manufactured by the Sanitarium Food Company).



GRANOLA PIE CRUST

For a medium-sized pie, take three-fourths of a cup of granola (mix, if desired, a little salt with it) and pour over it quickly from one-fourth to one-third of a cup of thin



dairy cream, almond cream, or cocoanut cream, just enough to moisten slightly. If too moist, the crust will be soggy. Turn immediately into a pie tin which has been lightly oiled, and spread and press evenly with a spoon over the bot-

tom and sides of the tin. A teaspoon is best for the sides, and pressing the finger against the other edge as one is pressing with the spoon, makes the edge firmer. The crust should not be allowed to come over the edge of the tin. Fill with a fruit pulp prepared by pressing nicely stewed prunes, apples, apricots, grapes, or peaches through a

colander. If the pulp is very moist it should first be evaporated to the consistency of marmalade before using in



LEMON PIE WITH GRANOLA CRUST

the crust. Sweet California prunes, requiring no sugar, make thus a pie which the ordinary invalid will find both toothsome and digestible. Other fruits may be used if allowed, as may also a previously cooked lemon, orange, or pineapple filling. A meringue adds to the appearance of the dessert, and is desirable when allowed. E. E. K.

## ALTERNATE HOT AND COLD APPLICATIONS TO THE SPINE

THE general effect of alternating applications of heat and cold to any portion of the body is stimulating and tonic. The hot application with which the procedure must always begin, dilates the cutaneous blood vessels. The cold application causes first contraction, then with the reaction which immediately follows, active dilatation of all the vessels of the surface to which it is applied, with an increased movement of the blood.

Alternate heat and cold, when applied to the upper part of the spine, stimulates the brain and heart. It is a most useful measure in asphyxia, syncope, weak heart, opium poisoning, collapse, sunstroke, and in nearly all cases in which there is a loss of consciousness. The application should be continued

not only until the patient shows evidence of returning consciousness, but for some time after, to maintain the necessary degree of nervous and vital activity.

The alternate process to the entire spine is of great value in neurasthenia, especially in very feeble cases, a remarkable reviving effect being at once experienced by the patient during the application, and for some time afterward.

The most common and a very convenient method of applying this treatment is by the use of the fomentation followed by rubbing the spine with a piece of ice, which may or may not be covered with two or three thicknesses of cheesecloth. The requisites for the treatment are: a pailful of boiling hot



water, two or three flannel cloths of sufficient size to extend the entire length of the spine and to double into several thicknesses, one or two towels, and a small piece of ice.

The patient's clothing being removed, he lies face downward upon the couch or upon his side and inclined toward his face, covered with a bath sheet or a blanket.

A cold cloth having been applied to the head, one piece of flannel is then spread, single or double, as needed, upon the patient's back, to cover nearly the whole of its area; upon this is spread the fomentation carefully wrung out as dry as possible and covered either with a portion of the first flannel cloth so arranged as to double over for this purpose, or with an extra cloth or half blanket provided for the purpose. After the fomentation is adjusted, the sheet or blanket should be drawn up over the patient's arms; the attendant standing near, meanwhile, in order to deftly raise for a moment with

his hand any portion of the fomentation which is too hot for the patient's comfort. The fomentation may remain in place for five, ten,



WRINGING THE FOMENTATION CLOTH

or even fifteen minutes, if the cloth retains the heat (it should never be left to become cool), then the whole carefully folded back over the sheet, while the spine is rapidly rubbed with ice from the head downward for half a minute only, towels being placed on each side of the patient to prevent the bed from becoming wet. With a quick hand, the attendant then lifts back the hot cloths in place upon the patient's spine, removes the fomentation cloth for reheating, but keeps the other covers carefully in place meanwhile. When the cloth is again hot, it is applied as at first. Three hot and three cold applications, always ending with the cold one, are generally sufficient for the good results to be obtained by this measure of treatment. J. H. K.



RUBBING THE SPINE WITH ICE



# SCHOOL OF HEALTH SEARCH QUESTIONS

## THE USES OF MUSCLES IN THE BODY

1. Name the two kinds of muscles in the body.
2. How many of these are under the control of the human will?
3. By what means are the involuntary muscles acted upon?
4. Name some of the processes carried on by means of the involuntary muscles.
5. How are the muscles supplied with energy?
6. Why is a working muscle warmer than one at rest?

## ALTERNATE HOT AND COLD APPLICATIONS TO THE SPINE

1. What is the general effect of alternating hot and cold applications to the body?
2. What parts are affected by such applications to the spine?
3. In what conditions is this measure useful?
4. How long should the application be continued?
5. What is the most convenient method of applying this treatment?
6. How long should the fomentation remain in place before applying ice to the spine?
7. How many times should the hot and cold applications be made?
8. Which should end the treatment?

### Indigestion and Depravity.


We do not know how much that is charged to depravity is really due to indigestion. One suffering from auto-intoxication, drunk on uric acid, on the poisons and intoxicants generated in his own body, often does not really know what he is about. Nervous dyspepsia is one form of autointoxication in which the brain is poisoned by the poisons generated in the stomach. We sometimes hear of a man who has held a high reputation suddenly committing some crime, and we think that he must have been an awful hypocrite all these years. He has not necessarily been a hypocrite at all. It may be that he has

simply got into a miserable state of body. His whole system has become contaminated with poisons until he has lost his health; his muscle tone, his nerve tone, is lowered, and by and by his moral tone comes down with the rest. A high moral tone depends to a wonderful degree on a high physical tone, a high nerve tone. We are composite beings. Our moral nature, our mental nature, our physical nature,—these three elements of man,—are interwoven so that it is impossible to separate them absolutely. Our mental and moral state depend to a marvelous extent upon our physical condition.



## Health Chats with Little Folks

### WHAT SMOKING DOES FOR BOYS

S there an American boy who does not wish to grow up tall and straight and athletic, with a fine, clear brain, and firm, steady nerves? We do not believe there is one. Yet many of these same boys are doing something that will stop their growth and make them pale, weak, and dull. They are smoking the deadly cigarette.

\* \* \*

Boys who wish to be *athletes* will not smoke. When an athlete is in training for some special work, such as rowing or footballing, he is never allowed to smoke, because tobacco weakens him and makes him unable to do his best. It makes his heart weak and his breath short. If tobacco does harm even to the full-grown and firmly-set body of a strong man, how much more harmful must it be to the unformed, delicate body of a growing boy!

It is by exercise of all kinds that boys grow strong and hardy. The boy who smokes does not like to exercise. Tobacco makes him lazy and dreamy and idle.

\* \* \*

Boys who want to be *healthy* will not smoke. Have you ever seen what happens to the silly boy who smokes for the first time. Soon he begins to tremble, and grows sick and dizzy.

This is because he is poisoned. The tobacco plant belongs to a very poisonous family of plants, of which the deadly nightshade is one. One-tenth of a grain of nicotin — tobacco poison — will kill a frog in a few minutes. There is enough of this poison in one cigar to kill two men if it were taken pure. So the boy who smokes is sucking in deadly poison.

The poison hurts his stomach so it is not able to digest food that is in it, and to get rid of it the quickest way, this is thrown up through the mouth. If the foolish boy pays no attention to this warning, but goes on smoking, by and by the stomach gets so weak and worn out that it can not make the food he eats into good blood to nourish his body. The blood gets thin and weak and watery.

The heart is the force-pump of the body that sends the blood to every part. The tobacco poison at first makes the heart beat very much faster than it ought to. It will even make it beat 112 times in a minute, when the proper number is only 74. See what a lot of extra work this forces upon the heart. After a while it gets tired out, and can only beat very slowly and feebly. The heart beats are not strong enough to force the blood to every part of the body. Some parts do not get their share, and all sorts of diseases come from this cause.



\* \* \*

Boys who want to be good *students*, *lawyers*, *doctors*, or *business men* will not smoke. The brain needs one-fifth of all the blood in the body. When the blood is poor and the heart weak, the brain does not get its full supply and can not do its work properly. This makes the boy smoker dreamy and stupid. He can not study, for he can not fix his attention on any one subject; his mind wanders from one thing to another.

The nerves are the telegraph wires that carry messages from all parts of the body to the brain, which is the Central Telegraph Office. Tobacco poisons and spoils the nerves, so they can not do their work quickly and well. The smoker can not think and act quickly, and he loses his memory.

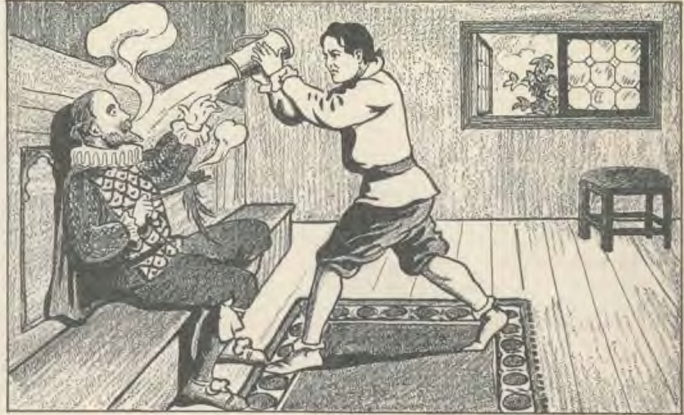
The nerves of the eye get weak, the sight becomes dim, and the smoker has to wear spectacles. Sometimes even these will not help him, and he loses his sight altogether. A great doctor says that out of thirty-seven cases of paralysis of the nerves of the eye that he examined, twenty-three had been blinded by using tobacco.

\* \* \*

Boys who want to grow up to be good *men* will not smoke. The cigarette brings a host of moral evils in its train. When the brain and nerves are poisoned by its use, the conscience gets weak. The boy smoker will sometimes lie or steal without feeling that he is doing anything very wrong.

It is hardly a step from the cigarette to the gin shop. Tobacco smoke dries

up the lining of the mouth, and makes the throat burning hot. Pure water does not taste good to the smoker. He must have something with a stronger taste. So smoking leads to



"PUTTING HIM OUT"

the drinking of intoxicating liquors.

Did you ever hear the story of Sir Walter Raleigh, when he first began to practice in England the filthy habit of smoking he had learned from the American Indians? His pipe made him thirsty, of course, and he called for a tankard of beer. When his servant came in with the beer he was horrified to find that his master was, as he supposed, on fire, for smoke was pouring from his mouth and nose. He was in such a hurry to put him out that he ran and emptied the tankard of beer right over his master's head.

From that day to this, people have been trying to put out with beer, wine, and whisky, the fires caused by their tobacco smoking. But they pour it down their hot throats, inside their bodies, instead of over their heads, where it would not do any harm. Smoking and drinking are twin evils. Wherever you find one you are almost sure to find the other.

\* \* \*

Boys who want to be *gentlemen* will



not smoke. It is an unclean habit. It gives a bad odor to the breath and the clothing, and makes one unpleasant to other people. It also makes one selfish. The smoker goes about poisoning the air that other people have to breathe, caring only for his own pleasure.

In short, smoking is good for nothing, and bad for everything, except chimneys.

"Tobacco is a filthy weed;  
It was the devil sowed the seed.  
It hurts the conscience, spoils the clothes,  
And makes a chimney of the nose."

E. E. A.



### A WINTER GARDEN

"A DEAR little lady, as sweet as the May,  
Said she meant to plant flowers the whole live-  
long day.

'The weather is cold and 'tis winter, I know,'  
'But I'll try it,' she said, 'and I think they will  
grow!'

"When the baby fell down, she was first to its  
aid,

She gave him a kiss, did this sweet little maid,  
'Jump up and don't cry, for I love you,'  
cried she,

And so Johnny-jump-ups bloomed gaily, you  
see,

"'Twas a still winter's day, yet once in a  
while

A sunflower blossomed, and that was a smile —  
Sweet peas were her 'Thank you' and other  
-kind words,

And the songs that she sung fluttered light  
as the birds.

"The home was her garden; the light in her  
eyes

Made it blossom with daisies in spite of chilled  
skies;

And when grandma said there was some-  
thing to do,

Forget-me-not started, so gentle and true.

"The dear little lady, as sweet as the May,  
Went about planting flowers the whole live-  
long day.

'You're a flower yourself,' said her mother at  
night,

'My dear little heart's-ease, my ladies' de-  
light!'"



## .. *By the Editor* ..

### THE ICE BAG IN APPENDICITIS\*

THE application of the ice bag is a very simple procedure, but in appropriate cases it is perhaps the most effective of all known measures for controlling a deep-seated acute inflammatory process. Salpingitis, perimetritis, parametritis, and especially appendicitis may be wonderfully controlled by the application simply of an ice bag, provided it is properly employed.

Most physicians who have made use of the ice bag have been disappointed in the results, not because of the inefficiency of this powerfully antiphlogistic measure, but because of neglect to attend to a few points of technique which are highly essential for success. Properly employed, there is certainly no means of controlling inflammation so effective as the ice bag. On the other hand, when improperly employed, it is equally potent for mischief.

There are two things which require especial attention in the use of the ice bag. First, the application must not be prolonged without interruptions at least every twenty or thirty minutes. The effect of the ice bag when applied to the skin is to cause contraction of the blood vessels in deep-seated parts which are reflexly connected with the skin surface to which the application is made. This contraction is brought about by reflex stimulation of the vasomotor centers through the temperature nerves. When the ice bag is applied so long as to numb the skin, the reflex action ceases, and the blood vessels dilate, thus produc-

ing an effect the very opposite of that which is desired. Hence, the ice bag must be removed every twenty or thirty minutes for a sufficient length of time to allow the natural heat of the skin to return. This restores the sensibility of the nerves and renews the reflex effect. If, instead of simply removing the ice bag, a fomentation is applied, the activity of the skin is thereby increased, the sensibility of the nerves being instantly restored by the application of heat, and their sensibility increased. The fomentation has a further excellent effect in that it exerts through the heat nerves an inhibitory influence over pain; that is, "heat kills pain." Cold has a tendency to increase pain by exciting nervous irritability; so the use of the fomentation or some other form of hot application in connection with the ice bag is a means by which the good effects of the ice bag may be obtained and any possible unpleasant effect counteracted. The hot application may be made over the ice bag, that being covered with flannel and a piece of mackintosh so as to prevent the too rapid melting of the ice, or to some remote part. For example, if an ice bag is applied over an inflamed tube or appendix, a fomentation may be applied across the pelvis or upon the hips; or, if the pain is severe, a blanket may be wrung out of hot water and wrapped around the hips and legs; or a simple foot bath may be administered; or fomentations may be applied to the legs.

Still another measure, and one which is particularly good as a means of con-

\* Taken from *Modern Medicine*, December, 1904.



tinuing the effect of the fomentation, is to wring towels out of cold water very dry, wrap these about the legs, and wrap each leg separately with mackintosh and flannel. The wet towels are quickly warmed up by the heat of the body and remain warm. Hot bags may be placed around the legs to accelerate and intensify the heating. By these hot applications the inhibitory influence of heat over pain makes the patient very comfortable while the ice bag is combating the inflammation. It is very important, however, to remember to take off the ice bag every twenty or thirty minutes and apply a fomentation to warm the parts, and thus prevent the reversely reflex action which the ice bag is intended to secure.

Two cases will illustrate the beneficial results of this method of procedure. Recently the writer was called to see in consultation a patient who had suffered several attacks of appendicitis and was lying in bed for a few days preparatory to an operation for removal of the appendix. The appearance of the menstrual function had postponed the operation for a few days. On the morning of the day when the writer was called, the patient had a very severe chill, with severe pain in the region of the appendix, and the ordinary symptoms of the disease. When seen, there was a large hard lump in the region of the appendix which was extremely painful, and the temperature was  $103.7^{\circ}$ . This certainly looked rather unpromising; but the results of immediate operation in such cases are so often unfavorable that it was decided to try the ice bag for a few hours at least. This was accordingly tried. The nurse was given the following directions: Apply hot hip and leg pack for ten minutes with ice bag over the appendix every three hours. After the hot hip and leg pack, apply to the legs towels wrung out of cold water, and wrap each leg separately with mackintosh and flannel very warmly. After the towels are warmed, apply the ice bag over the appendix again. Remove the ice bag every

thirty minutes, and apply a fomentation for ten minutes. Then renew the ice bag for a like length of time. Apply a large hot enema every four hours. Apply a cold towel rub every hour so long as the temperature remains above  $102^{\circ}$ . Withhold all food for forty-eight hours.

Under this treatment the patient's pain was rapidly relieved, and by morning the temperature was  $100^{\circ}$ . The temperature rose to  $101^{\circ}$  the next evening, and the following morning was normal. The patient has had no further pain. The swelling has disappeared almost wholly. Slight tenderness remained, but in a few days the patient was ready for a radical operation for removal of the appendix.

Here is another case which speaks with still more emphasis in favor of the ice bag. Not long ago the writer received at 11:00 P. M. a long-distance telephone call from a prominent business man residing in a city three or four hundred miles away. This was the message: "Doctor; my boy is very sick. He has appendicitis. His pulse is 120, and temperature  $102^{\circ}$  and going up. He is vomiting almost incessantly; suffers extreme pain. We have had a consultation of doctors. They say his case is critical and he must have an operation immediately. The surgeons are now at my house getting instruments ready to operate. What is your advice?"

The gentleman being an old friend and a former patient, we felt under obligations to express our views respecting the case; at the same time we naturally hesitated to express an opinion under such circumstances. We accordingly begged to be excused from taking any responsibility in the case. The question came, "What would you do if it were your boy?" Our reply was that we should be strongly inclined to try the ice bag for a little while before proceeding to operate. The boy had already been ill twenty-four hours and had eaten supper the evening before, and had had no preliminary preparation for an operation. Declining at the same time to take any responsibility in the case,



since there might be conditions which indicated the necessity for an operation so strongly that any delay whatever would be dangerous, we suggested that the plan of treatment previously outlined should be followed for a few hours at least.

The next morning at seven o'clock we received another telephone call from the same gentleman. The following is the message: "After talking with the doctors we decided to try the ice bag for a few hours. [The directions given for the use of the bag were the same as outlined above.] The result was the vomiting ceased in a few hours, the pain disappeared, and now the boy's temperature is normal, his pulse is 96, and he is feeling first-rate. The doctors pronounced him out of danger and have gone home." The patient's improvement has continued without interruption.

Dr. Ochsner, of Chicago, has shown most conclusively that appendicitis is by no means so deadly a disease as it is by many supposed to be. Patients die of appendicitis as patients sometimes die of salpingitis and other forms of pelvic inflammation; but it is not customary for physicians to remove the ovaries or tubes within twenty-four hours after the beginning of inflammation of these organs; or to operate in every case of inflammation. In fact, the great majority of cases of pelvic inflammation recover without surgical interference; and there is no doubt that an almost equal proportion of cases of appendicitis may be cured by the employment of proper measures without operation. Certainly it is proper that this non-surgical method of treatment should be considered in every case before surgical measures are adopted.

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## FOOTBALL FIGHTING

It is strange indeed that such a dangerous game as football should be tolerated by human beings, and especially by the authorities of our great universities. In a game recently fought at Ann Arbor, between the Michigan University and the Chicago University teams, one-half of the men of the latter team were so badly damaged that they were compelled to retire from the field before the close of the game. One had his leg broken, and all were terribly bruised and injured. Much the same thing happens in every closely matched game.

Delaney, trainer for the Northwestern University eleven, recently stated to a newspaper reporter that the players are injured mentally as well as physically by the hardships to which they are subjected in training and in fighting their games. According to this expert, the football player never sleeps well at night, and is more or less unsound mentally during the day. The trainer declared that he found it necessary continually to adopt methods for opposing this morbid tend-

ency so as to prevent "the weird processes of a mild form of insanity caused by the steady diet of football, football, and nothing else.

"It is known that every player of the game fights his games over and over again in his dreams; but only by the men who are in closest touch with the players is it recognized that they are given to constant day dreaming, during which they make strange motions, as if struggling with an imaginary opponent."

These facts sufficiently refute the claim which has been made for the beneficial effects of football as a means of developing the minds and bodies of the participants. It has been claimed that these strenuous sports are necessary to develop strong, manly traits, and the ruggedness of constitution which is necessary to enable men to reach the highest mark in professional pursuits. It now appears, however, that the men are not only likely to be maimed for life by the terrible physical combats in which they engage, but are also so seriously damaged mentally



that special effort must be made to prevent them from actually becoming insane. Indeed, Delaney confesses that the football player not infrequently actually suffers from insanity to a degree that would certainly unfit him for any serious pursuit in life, except perhaps it might be that of professional football fighting. The published description of a modern football game would certainly lead one

to believe that the participants had quite lost their heads and gone stark, staring mad. This so-called sport certainly has no place in a Christian civilization; and it is only its antiquity and the influence of the great universities which encourage it, that continue to secure for the brutal game the degree of toleration and popularity accorded by an unthinking public.

### How to Get Rid of Wrinkles.

One who would get rid of wrinkles must first know what causes the wrinkles. There are little muscles attached at one end to the points of the face, and at the other end to the skin of the face. These little muscles pull the face into all kinds of shapes, to make it fit the mental state of the individual. When a person is happy you know it; for the corners of his mouth turn up toward his ears and make him look happy. With the corners of the mouth drawn down, the person looks sad.

It takes only two or three lines to indicate good nature or bad nature. If you allow the corners of your mouth to get drawn down, you can not possibly look happy: all the rest of the face is drawn into a corresponding shape. So if one wishes to be happy, all he has to do is to keep the corners of his mouth up.

Among these curious little muscles attached to the different parts of the face, are some that are attached to the edge of the nose and the edge of the lip. We see some persons in whom those muscles are so strong that they keep that part of the face pulled out of shape all the while. If one allows those muscles to be exercised too often and too strongly, they become too strong for the rest of the face, and the person looks scornful when he does not necessarily feel that way at all.

To keep away ugly wrinkles, one must keep the right kind of expression on the face. To get rid of them after they are formed, one must cultivate the opposite kind of wrinkles, must smooth out the vertical wrinkles by making transverse

ones take their place. Some wrinkles are not objectionable. One does not object to seeing people with wrinkles on their face that indicate a happy expression all the while. It is these ugly looking wrinkles that people are so anxious to get rid of. So if one cultivates the right kind of wrinkles, and keeps the face pure and sweet altogether, he is doing all he needs to do.

### The White Plague.

It is not so generally known as it should be that consumption, a disease of the lungs with which every one must be more or less familiar, is responsible for at least one-seventh of all the deaths which occur in this country, and a much larger proportion of deaths in some older countries. The ravages of this disease increase with the increasing age of a community; doubtless due to the fact that homes, hotels, churches, and other places of public gatherings gradually become more and more infested with the germs of this disease.

Within the past few years it has been clearly shown that this disease has also increased among animals. Cows are particularly prone to the disease, because they are often shut up in close, unventilated stalls, and being kept together in herds, the disease, which is very infectious, extends from one to another. Whole herds have often been found to be infected.

When a cow suffers from tuberculosis, the milk is very likely to contain the



germs of the disease, and through the milk it may be easily communicated to children, and to all who make use of the milk. Infants fed on cow's milk are particularly likely to be infected.

The only sure method of prevention is to boil or heat the milk sufficiently to kill the germs. It is not necessary that the milk should be boiled, but it must be scalded to insure destruction of the tubercle germs. A single feeding with infected milk is often sufficient to produce most direful consequences.

### Rockefeller on the "Simple Life."

According to the *New York Times*, Mr. John D. Rockefeller recently gave his Bible class an excellent exhortation on the subject of the "Simple Life." There is probably no one who is better able to help a multitude of people to enjoy the simple life than the young man's father, who is accounted to be the richest man in the world. There are thousands of people toiling for the barest necessities of life who are slaves because they can earn each day only barely enough to supply their absolute necessities. A few hundred dollars would suffice to provide a simple home for a humble family, and the relief from rent would furnish a few things above the bare necessities which would add materially to their comfort, convenience, and satisfaction of living. We have no personal acquaintance with Mr. Rockefeller, but have no doubt that if he should once become interested in the betterment of the condition of his fellows, the immense energy and wonderful ability which have made the Standard Oil Company the world-wide power which it is, would be the means of lifting hundreds of thousands out of misery into comfort.

### A Pearl in an Appendix.

Pearls and diamonds and other gems have often been found in very curious places, but a pearl was recently found in a most remarkable hiding-place, where it had become the source of much mischief.

A woman who suffered severely from repeated attacks of severe pain in the right side, accompanied by vomiting, was finally submitted to an operation by a prominent surgeon, and was found to have a diseased appendix, which was removed. On examination of the diseased parts which were removed, a good-sized pearl was found imbedded in the tissues. When informed of the fact, the lady asserted that she had never consciously swallowed a pearl, but admitted that she had been exceedingly fond of oysters, especially raw oysters, of which she had habitually eaten very freely. It is evident that in swallowing a live oyster she had actually swallowed also an oyster pearl.

As is well known, the oyster pearl is a product of disease, so this particular oyster at least was diseased, but in that respect it was perhaps no worse off than a large proportion of its relatives. Raw oysters subsist for the most part upon the germ-infected slime which covers the stones and weeds of the ocean bottom. Multitudes of disease germs are always to be found in the stomach of the juicy bivalve. Oyster juice is constantly swarming with germs. It is quite possible that more people are going about with oyster pearls in their appendices than are aware of the fact. Certainly the use of the oyster as food, especially of raw oysters, is not above suspicion as a cause of appendicitis.

### A House Afire.

The sick man is a house afire. An acute illness is a sudden blaze, as a burst of flame from the ignition of alcohol or gas. A chronic illness is different. It is a fire in the walls, out of sight, but slowly eating away the pillars and the substance of the house.

There are thousands of people whose houses are on fire, while they are unconscious of it. A headache or a coated tongue may be the only sign. The time to cure disease is in its incipiency. Put out the fire quickly by returning to a natural life. This is the only real remedy.



## ... Question Box ...

**10,155. Paralysis Following Diphtheria.**—A. W. S., Ontario: "1. Why should one be paralyzed after the use of antitoxin in diphtheria? The throat, hands, right arm, and feet were paralyzed. 2. Suggest treatment."

*Ans.*—1. Paralysis sometimes follows diphtheria, no matter what the method employed.

2. A fomentation to the spine daily, followed by cold towel rubbing to the whole body. (See April GOOD HEALTH for method of applying the cold towel rub.) Special attention should be given to the paralyzed parts. Keep the patient in the open air, exposed to the sun as much as possible. Eat only natural food; that is, avoid flesh meats, condiments, and other unwholesome articles. Special attention should be given to thorough mastication of the food.

**10,156. Dizziness.**—W. H. W., Montana: "1. What is the cause of continual dizziness and consequent weakness? Have had catarrh and stomach trouble for years. 2. Outline treatment."

*Ans.*—1. Probably indigestion.

2. Two or three months at a good sanitarium is almost indispensable in such a case. If such an opportunity can not be secured, write to the Sanitarium Food Company, Battle Creek, Mich., for a diet-prescription and foods with which to carry it out.

**10,157. Cider — Horseback Riding.**—W. Q. K., Ohio: "1. Am subject to bilious spells, usually brought on by the use of just such acids as you suggest to cure such a condition. A single swallow of cider or orange, or a small quantity of lemonade produces a bilious condition almost at once. I masticate food well, and am careful as to diet. I use a table-spoonful of malted milk with each meal. I take a moderate amount of outdoor exercise. 2. Would you advise horseback riding for this condition?"

*Ans.*—1. I think probably you are suffering from chronic gastritis. In such a case even vegetable acids are sometimes irritating.

Such cases are rare, however. I should advise you to avoid the use of milk, even in the form of malted milk. Malted milk is preferable to ordinary milk, but malted nuts, and such other nut preparations as nuttolene, pinola butter, or filbert butter, will be better for you.

2. Yes. Horseback riding ought to be good for you; also any other form of outdoor exercise. You are in need, however, of thoroughgoing treatment. We would advise you to visit the Battle Creek Sanitarium or some allied institution, where you could have a thorough course of health culture. You are not likely to recover without it.

**10,158. Vegetables.**—L. E. W., Connecticut: "1. What vegetables are best in case of weak digestion? 2. When you state that vegetables and fruit should not be combined at the same meal, what do you mean by vegetables? 3. Are tomatoes and peas classed as vegetables?"

*Ans.*—1. Potatoes, green peas, tender asparagus tips, and spinach. Everything must be chewed thoroughly, and whatever can not be reduced to a liquid state should be rejected.

2. If food is thoroughly masticated in the manner above indicated, there is not so great necessity for avoiding a combination of fruits with vegetables. In fact, the observation of this rule is necessary only in extreme cases in which there is great gastric dilatation or loss of motility; that is, cases in which food is retained too long a time in the stomach.

3. No, not in relation to food combinations. Only green vegetables are referred to.

**10,159. Salt — How to Grow Tall.**—D. K., California: "1. Do you know of any person or persons who ever have lived or are now living on a diet entirely free from mineral salt? 2. Has any one person ever given it a thorough test under favorable circumstances? 3. Do you know of any scientist or well-posted stock raiser who withholds salt from



his horses, cattle, or sheep? 4. If so, with what result? 5. Is a moderate use of salt in our food likely to aggravate catarrh of the head or to increase the tendency to rheumatism? 6. Is it possible, by scientific methods, to cause a person to grow taller after his growth is once completed?"

*Ans.*—1. Yes.

2. Yes.

3. Yes.

4. Excellent results.

5. A very small amount probably would produce no appreciable effects. A large amount would certainly prove detrimental. Cases of rheumatism have been reported which were greatly aggravated by the use of salt, and in which recovery was rapid when salt was removed. The same thing has been observed in cases of dropsy from Bright's disease.

6. No. All such claims are preposterous and deceptive.

**10,160. Bread and Milk—Pillows—Excessive Appetite—Fruits.**—L. A. W., Wisconsin: "1. Is bread and unsterilized milk healthful for young children? 2. By cotton pillows, do you refer to the cotton batton for sale in the market? 3. Advise treatment for one with excessive appetite. 4. What causes leucorrhoea? 5. Advise treatment. 6. Are the figs, dates, and raisins found in the market wholesome?"

*Ans.*—1. No. Unsterilized milk is unsafe.

2. Cotton must be specially prepared for use in pillows and mattresses. The ordinary cotton batton is not suitable.

3. Masticate the food very thoroughly. Avoid the use of meats and condiments. Eat dry food only.

4. Low vital resistance, and infection of the diseased parts with germs which give rise to suppuration and irritation.

5. The hot vaginal douche, followed by a sitz bath at 80° for eight to ten minutes daily, will usually be found beneficial. The temperature of the sitz bath should be lowered one or two degrees daily until a temperature of 65° is reached. It is sometimes beneficial to add a little permanganate of potash to the water used for the vaginal douche, sufficient to produce a pinkish color.

6. Yes.

**10,161. Corn Flour.** J. W. T., Ohio: "I wish to take exception to your answer, No. 10,004 in January (1904) GOOD HEALTH. You say that corn flour contains all the

elements necessary for nutrition. I have had a long experience in feeding and raising stock, and have studied the different constituents of the food necessary for the growth and physical development of man and animals. Before my studies in this line, I used to lose pigs by feeding them too much and almost exclusively cornmeal. Apparently, they would go insane and soon lose the use of the hind legs. I found that the cornmeal did not contain the phosphoric acid nor the phosphates for bone formation and support, nor sufficient muscle-forming food. Are not wheat and eggs the most perfect food? I have noticed that horses fed on corn or cornmeal sweat very easily, and are not so bright and energetic as those fed on oats, bran, and middlings; although they are fat and the hair shines, they are wanting in activity. After I learned the necessary constituents for the formation and the support of animal life, I had no more sick pigs, and there was general improvement in the farm animals, egg production, and poultry feeding. Please reply."

*Ans.*—Our reply to 10,004 in January GOOD HEALTH possibly did not give a clear presentation of our views in relation to corn flour. We did not mean to intimate that a person should undertake to live upon corn only, but that corn is a whole food; that is, that it contains all the elements required by the body. Some of these elements may not be present in sufficient quantity; so that other foods may be added advantageously to the corn; yet it is possible for a person to live for some weeks or even months on corn without a serious depreciation of health. The Kaffirs live almost wholly on corn, and are very healthy, vigorous, and enduring. We gather from our correspondent's experience that an exclusive diet of corn is not healthful for pigs. Wheat and eggs in combination would make a perfect food. Wheat is deficient in fat; eggs contain an excess of albumen. Corn is too concentrated to constitute a perfect diet for herbivorous animals.

**10,162. Numb Fingers.**—Mrs. P. G., Ohio: "For about five months I have been troubled with smarting, prickling, and numb feelings at times in one thumb and finger. Their appearance is the same as ever. Suggest remedy."

*Ans.*—The difficulty may be due to neurasthenia. It may be the beginning of some serious organic disease. You should submit to a thoroughgoing examination by a competent physician. The case is doubtless curable if taken in hand at once.



**10,163. Asparagus—Celery—Grapes—Rhubarb—Meltose.**—C. L. S., Missouri: "1. Is asparagus a healthful food? 2. What is the best method of cooking it? 3. Do you recommend celery? 4. How can grapes be canned so as not to form hard grains that taste like cream of tartar? 5. Are rhubarb and meltose good combinations in case of constipation?"

*Ans.*—1. Yes.

2. Stewing.

3. No. It has practically no food value. If eaten at all, only the juice should be swallowed.

4. I do not know any way of avoiding this difficulty.

5. Rhubarb is not a wholesome food. Meltose is a good food and is useful in cases of constipation.

**10,164. Asthma—Acne.**—Mrs. A. C. G., South Carolina: "1. What would you advise for a boy of thirteen who has asthma? 2. Prescribe treatment for acne."

*Ans.*—1. A thoroughgoing examination to ascertain the cause of his disease. It may be nervous, gastric, or pulmonary.

2. Acne is generally temporarily relieved by the application of very hot water for four or five minutes two or three times a day to the affected parts. The Polyvaporizer, by which a jet of steam can be applied to the affected skin, is perhaps the best of all means of local treatment. The general vital resistance of the body must be raised to prevent a recurrence of the difficulty. This requires careful attention to diet. Animal fats should be avoided; also cane-sugar. Great pains should be taken to masticate the food thoroughly. Plenty of outdoor exercise and a cold bath daily will be found beneficial.

**10,165. Varicocele.**—M. A. S., Oklahoma: "1. Suggest treatment for varicocele upon the left side. 2. Is it curable without operation? 3. Does the operation afford permanent relief? 4. Is varicocele a cause for lack of vitality? 5. Do you recommend any particular suspensory?"

*Ans.*—1. The daily cold bath and a cool sitz bath at 70° for ten minutes once or twice a day will be found helpful.

2. No.

3. Yes.

4. It sometimes becomes a serious matter when considerable pain is present through reflex disturbance of the sympathetic spinal centers.

5. No.

**10,166. Stomach Trouble.**—F. P. S. Cuba: "Am troubled with rumbling in the stomach and have faint spells in the morning. 1. Could a number of doses of salts cause this feeling? 2. Do you recommend tomatoes for me?"

*Ans.*—1. Yes.

2. Properly cooked, and in combination with other foods, tomatoes may possibly be taken without injury. They are not specially to be commended.

**10,167. Entire-Wheat Flour—Dr. Jo'Neal's Treatment—Hemorrhoids—Stomach Trouble.**—E. B. G., Massachusetts: "1. Is entire-wheat flour the best to be obtained? 2. Can Dr. O'Neal cure cataract of the eye without operation? 3. What is the best food for a man of forty-nine who is very nervous and has bleeding piles? 4. Can they be cured without operation? 5. What is the best food in case of sour stomach?"

*Ans.*—1. Yes.

2. Probably not.

3. Send for a booklet entitled "The New Dietetics." In general, foods which will prevent constipation. The following may be recommended: fresh fruits, apple juice, lemonade, acid fruit juices, grape juice, egg-nog, kumyss-nog, apple-nog, buttermilk, figs, malt honey, bromose, malt honey caramels, health cocoa, fruit jellies, fruit soup, pea soup, nut-tola, granose biscuit, butter, olive oil, nut oils, maltol, stewed raisins, kumyss, prunes, malted nuts, fig bromose, health chocolates, granuto, nuts, especially pecans, almonds, filberts, peanuts; granose, toasted wheat flakes, corn flakes, asparagus, cauliflower, Irish potatoes, spinach, tomatoes, sweet potatoes.

4. Yes.

5. The following foods are to be recommended: fats of all kinds, cream, yolks of eggs, nut butter, olive oil, maltol, butter, milk, nuts, nut cream, ripe olives, malted nuts. Great pains should also be taken to masticate thoroughly.

**10,168. Constipation.**—R. S., Texas: "Prescribe treatment for constipation and for general burning sensation. The feet swell at times. There is dull aching in lower part of the bowels. I urinate as many as twelve times a day; the urine has a white sticky sediment. There is a dull pain in the back. Please advise."

*Ans.*—Constipation requires first of all special attention to diet. Mushes, gruels, and similar foods should be avoided. For foods



to be eaten, see answer to 10,167. For the other symptoms thorough general treatment must be given. The symptoms indicate very strongly that disease of the kidneys may be present. We should advise the patient to visit the Battle Creek Sanitarium or some allied institution for a thorough examination. The case is not one which can be successfully treated at home. All the advantages of a first-class sanitarium are needed.

**10,169. Tobacco — Bathing — Horseback Riding — Ulcer on the Eye — Heat-Producing Foods.**—H. P. A., Texas: "1. Is tobacco ever useful? 2. Should one swallow the saliva produced between meals? 3. How often should a laboring man wash his face? 4. Should he use cold or warm water? 5. How often should men bathe who work in open air? 6. What is your opinion of pepper? 7. Do you advise horseback riding in case of heart trouble? 8. Are peppersauce and onions injurious to sore or weak eyes? 9. Advise treatment for ulcer on the cornea of the eye. 10. What are the best heat-producing foods?"

*Ans.*—1. No.

2. The saliva secreted between meals is disposed of automatically; that is, it is swallowed unconsciously. When produced in great excess there will be no harm in rejecting it.

3. As often as it becomes dirty, at least two or three times a day. Cold water may be applied to the face often with advantage, as it refreshes the brain and nerves.

4. Cold water is preferable.

5. Daily.

6. It is to the highest degree pernicious and in no way beneficial.

7. If the heart affection is not serious, moderate horseback riding may be beneficial.

8. Certainly.

9. A good oculist should be consulted. Bathing with very hot water two or three times daily is generally useful.

10. Carbohydrates (which are starch and sugar) and fat.

**10,170. Inflammatory Rheumatism.**—Mrs. M. A. H., Iowa: "1. What causes toxemia? 2. Can it be cured without drugs? 3. How? 4. What will cure inflammatory rheumatism? 5. What will prevent its recurrence?"

*Ans.*—1. Sedentary habits and wrong diet, especially meat eating.

2. Yes. Drugs are in no way beneficial in such cases.

3. By regulation of the diet; exercise in the open air, especially breathing cold air in winter-time, and daily cold bathing. A hot bath may be taken at night two or three times a week, but it should be followed by a cold bath.

4. Rest in bed, regulation of the diet, sweating baths.

5. A thoroughly hygienic life, avoiding meat, taking pains to masticate thoroughly. Live in the open air as much as possible, and keep the skin and kidneys active.

**10,171. Levulose — Water — Ear Wax.**—A. B. B., Canada: "1. Is levulose found in other foods than fruit? 2. Why do some advise sipping water that does not quite boil? 3. What should be done to soften the ear wax? 4. What will stop a noise, as escaping of steam, in the ear? 5. Why does such a condition exist? 6. Should any local application be given to effect a cure? 7. Have you any booklet describing the healthful qualities of fruit?"

*Ans.*—1. Levulose is found in milk.

2. There is no particular advantage. Water that is long boiled loses its gases and is hence changed in flavor.

3. Drop in a little warm oil.

4. Disease of the middle ear.

5. It is usually due to catarrh communicated to the ear from the nose through the Eustachian tube.

6. The general health should be improved by the cold bath and outdoor exercise, while the nose and ears should be treated with the Polyvaporizer and the pocket vaporizer.

7. "The Miracle of Life."

**10,172. Numbness — Electric Belts — Catarrh.**—Mrs. A. B. S., Idaho: "1. What causes numbness of the toes, fingers, and different parts of the body when sitting or lying down? 2. What will cure it? 3. Do you approve of electric belts? 4. Why should one's joints snap? 5. Is there a cure for nasal catarrh?"

*Ans.*—1. Pressure upon the nerves.

2. Exercise, the daily cold bath, massage of the back and limbs, and, if necessary, applications of electricity.

3. No.

4. The snapping is usually due to slipping of the tendons. A relaxed condition of the joints is often the cause.

5. Yes, not merely local treatment, but treatment for the improvement of the whole body.



## LITERARY NOTES

THE *Atlantic Monthly's* Toastmaster opens the *January* number with A Readable Proposition, a hearty greeting to its readers, spiced with pleasant comment on the program for the incoming year.

The long-promised extracts from Thoreau's *Journal* begin in this number, introduced and accompanied by a prefatory essay by Bradford Torrey, the editor of the journal.

Mrs. Elizabeth Robins Pennell, niece and literary executor, begins a series of papers on the late Charles G. Leland, poet, scholar, and traveler, the first article being devoted to the world-famous Hans Breitmann poems.

Other sketches and essays are *The American Audience*, a sketch of the old Lyceum days, by Col. T. W. Higginson; *Mile-Stones*, more quotations from the *Diary of a Country Parson*; *The Country Store*, a humorous sketch of its character and the reasons for its existence, by Charles M. Harger; and *Ethics of the Street*, A Protest by Marguerite Merington against some modern public abominations. Poems are contributed by J. W. Chadwick, Laura S. Portor, and Rev. John B. Tabb; and the Contributors' Club justifies the encomium of Edward Everett Hale's *Lend a Hand*, which says "it is one of the best features of the magazine. It is always restful, entertaining and instructive."

Few people have any idea of the millions of dollars which are wasted by the modern society men and women in pandering to their love of luxury. "The Reckless Luxury of Modern Hotel Life," in the *January Woman's Home Companion*, gives a glimpse of this expenditure that will startle the average reader.

Thomas F. Millard, the war correspondent, who was five months with the Russian Army, writes in the *January Scribner's* his deductions as to the new features of war under present conditions. Many of the deductions of theorists as to the result of modern high-power weapons are entirely overthrown by actual practice.

"Tuberculosis is the real race suicide," writes Samuel Hopkins Adams in the *January McClure's*. And he treats us to a sledgehammer arraignment of the "ignorance,

prejudice, and greed" by which alone this disease remains "the scourge of the world," although it is "often curable, almost invariably susceptible of alleviation, and always preventable."

The *January* number of *The American Journal of Nursing* is one of unusual interest. The leading article is contributed by Mrs. Dita H. Kinney, Superintendent of the Nurse Corps of the United States Army, and is entitled "Some Questionable Nursing Schools and What They Are Doing." The writer deals boldly with the question of what is coming to be looked upon as quackery in nursing, showing the increase of correspondence and short-course schools that profess to give a nursing education without that training in a hospital which educated nurses and the intelligent public believe to be so essential in fitting a nurse for the duties of the sick-room.

Subscription, \$2.00 a year. Single copy, 20 cents. American Journal of Nursing Co., 227 South Sixth St., Philadelphia, Pa.

A "star" feature of the *January Homiletic Review* is an address by Phillips Brooks before the Harvard Divinity School on "The Minister and His People"—an address reported stenographically at the time and revised by the author, but never included in any of his published works. It is one of the most characteristic of his addresses, and compels thought.

Rev. Dr. Charles E. Jefferson, of New York, has a remarkably well-written article on the unhackneyed subject, "Influence of Great Cities on the Sense of Personal Responsibility."

Other especially interesting features are: an editorial résumé of the religious developments of the world in 1904; "A Study of the Great Awakening," by Rev. Arthur Metcalf; an article on "The Second Service," by Rev. Dr. John Balcom Shaw; and one by Rev. Dr. Charles L. Goodell on "Disadvantages of the Long Pastorate." The sermons this month are by Charles Wagner, Lyman Abbott, Emory J. Haynes, George M. Hammel, F. H. Decker, and Wm. J. Dawson.

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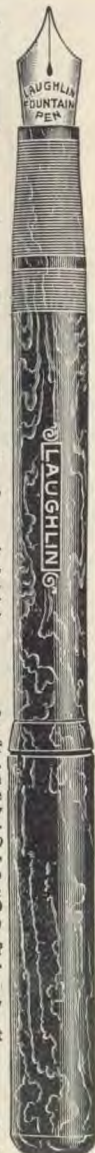
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