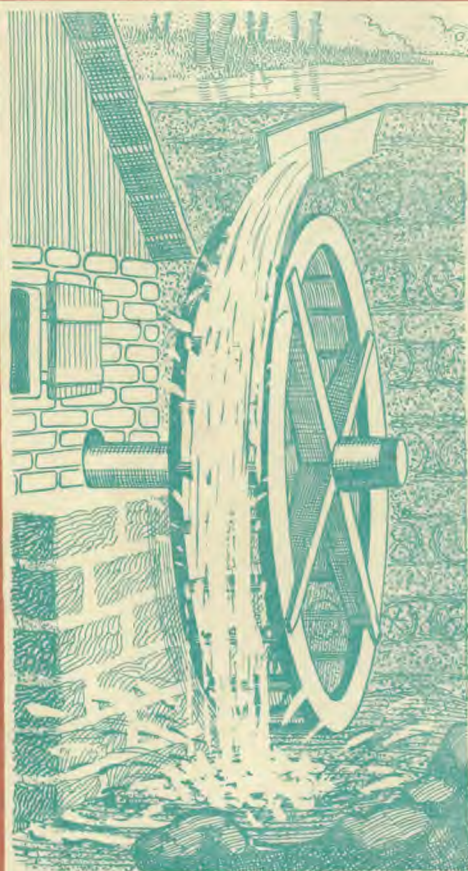


PACIFIC HEALTH JOURNAL

*"The blood is the vital stream that turns
the wheels of life"*



JANUARY, 1902

THE RELATION OF DIET TO MIND AND CHARACTER

By J. H. KELLOGG, M. D.
*Medical Superintendent, Battle Creek,
Mich., Sanitarium*

THE FOOT-BATH AND ITS USES

By HENRIETTA E. BRIGHOUSE, M. D.

THE MISSION OF MOTHERS

By MRS. E. G. WHITE

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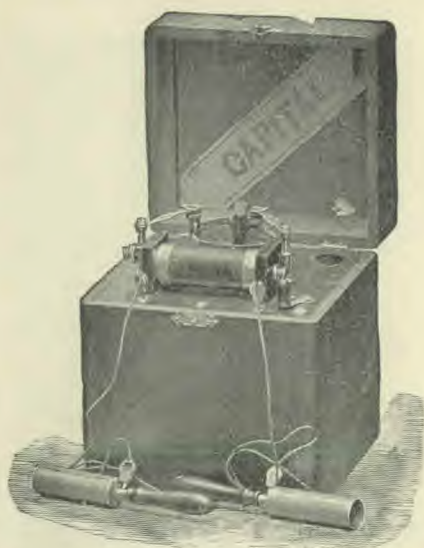
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PACIFIC HEALTH JOURNAL

A SOUND MIND IN A SOUND BODY

VOL. XVII.

SAN FRANCISCO, CAL., JANUARY, 1902.

NO. 1.

The Relation of Diet to Mind and Character*

By J. H. Kellogg, M. D.



THE blood is the vital stream that turns the wheels of life. When this stream is copious and pure, it furnishes the normal stimulus whereby all forms of vital activity are maintained. Says Holy Writ, "The blood is the life." The blood builds, creates, repairs, heals. Cut off the blood supply of a part and it dies at once. Diminish the normal blood supply, and the action of the organ is proportionately slowed. With an increased amount of pure blood passing through a part, the functions of the part are increased. This is as true of the brain as of any other organ. The brain which receives impoverished blood is hampered in its activities. A brain surcharged with blood is, on the other hand, overtaxed. The results may be sleeplessness and irritability, even frenzy, mania, or insanity. If the blood is charged with irritating substances, the organs through which it circulates will be naturally exposed to abnormal irritation, excitation, and disturbance of function; a brain receiving too large a supply of blood

must suffer first, and most, in this regard. Whatever is taken into the stomach and absorbed enters the blood and circulates through the body. The odor of nicotin which hangs upon the breath of the smoker, the alcoholic odors which emanate from the body of the inebriate for many hours after he has ceased drinking, are evidences of this.

The total depravity which we often hear talked about is, half the time at least, nothing more nor less than total indigestion. So good a man as Calvin signed the paper which sent Servetus to the stake for heresy. We never could comprehend so inconsistent an action until we learned that just afterward the great and good theologian wrote in his diary that he had for several weeks been tormented by a dyspeptic stomach.

For parents who find their children still ungovernable, notwithstanding the frequent use of the rod, we recommend the advice of a wise writer, that "cow's milk is a much better means of curing a boy's waywardness than cow's hide." Many parents who give their children an abundance of wise counsel and religious training, send their boys to the saloon and the brothel by the influence of morbid and

*Extracts from a paper read before the National Purity Convention in Chicago.

inflamed appetites, engendered by the irritating and passion-stimulating foods with which they are fed at the table.

A clergyman who had thought much upon these subjects tells of a father who was sorely tried over his son. The child was so obstinate and wayward that the father sought counsel of his minister. He asked what he should do with the boy. He had tried everything he could think of,—moral suasion, entreaties, and he was about to resort to force. But nothing seemed to reach the case; the child was incorrigible. The good clergyman had evidently met such cases before. He asked the father how he fed the child; and he learned that its dietary was of a kind that would naturally overheat the blood and inflame the passions. He prescribed an entire change in the boy's food; instead of meats and gravies, rich pastries, and the like, he substituted plain bread and milk, with wholesome fruits.

A short time afterward he called, and asked as to the results. The father informed him that his son seemed entirely changed in his disposition; from being irritable, he had become docile. The congestion at the base of the brain had been relieved, and the intense nervous irritability no longer existed. To the father this sudden transformation seemed almost miraculous. To the minister it was very plain. He had removed the cause, and the effect no longer followed.

The relation of the food to intemperance is well worthy of most careful and earnest consideration. It is perhaps not going too far to say that the cooks make more drunkards than the saloon-keepers. Bad cookery leads to indigestion, and frequently the indigestion leads to the taking of bitters of

some sort to correct it—a remedy which is worse than the disease. The victim goes first to the doctor, who prescribes some variety of tonic bitters, ready prepared or otherwise, and in a little time the man gets to buying bitters for himself. I was reading the other day of a man found drunk on the street, with a bottle which had held "Plantation Bitters" in his pocket. A man can get drunk on almost any variety of the popular bitters advertised. Richardson's Bitters contain sixty per cent of alcohol, more than the best Scotch whisky. Saloons keep patent-medicine bitters of various sorts on their shelves; for many of their customers prefer them to other drinks.

Bitter substances do stimulate the stomach, and are thus a temporary aid to digestion; but their help is simply what a whip is to an overworked horse. They impart no strength, and in the end leave the stomach worse than they find it. Using bitters to-day only makes the demand still more urgent to-morrow.

Spices and condiments in the seasoning of food also lead to intemperance by the cultivation of a taste for hot, irritating substances. They create a craving for more food than can be digested, and for liquors as well. Persons who do not know how to cook, seek to make food palatable by using spices and condiments to hide defects. Really good cooking consists in increasing the digestibility and improving the palatableness of food. Bad cookery injures the natural flavors of foods, and adds a variety of high seasoning which renders it still more digestible than the unskilled preparations would be without them.

The cultivation of a taste for

spices is a degradation of the sense of taste. Nature never designed that pleasure should be divorced from use. The effects of gratifying the sense of taste differ materially from those of gratifying the higher senses of sight and hearing. What we see is gone; nothing remains but the memory, and the same is true of the sweetest sounds which may reach us through the ears. But what we taste is taken into the stomach, and what has thus given us brief pleasure through the gratification of the palate, must make work in the alimentary canal for fourteen hours before it is disposed of.

The influence of flesh foods in stimulating the animal instincts is too well understood and recognized to require enforcement by argument. The fruit-eating savage, although unrestricted by either civil or moral laws, is less impure in conduct than are multitudes of the meat-eating dwellers in civilized lands.

Unnatural appetites are much less often inherited than is generally supposed. Depraved appetites are most commonly the result of improper training in early childhood, perhaps we might more properly say, in early infancy. We have often been distressed, almost horrified, in fact, at the sight of a parent giving a child its first lesson in dietetic depravity. The mother would place in the mouth of the little one a little bit of rare roast beef, a piece of bread covered with rich meat gravy, or potatoes well buttered and peppered. A young child

has at first no liking for such food, and turns away in disgust. It is only by repeated persuasions that the child can be induced to soil its lips with such unnatural food. By and by, however, a perverse appetite is developed, and with the unnatural craving comes a dislike for those wholesome, bland, and simple foods which the Creator gave to man for his bill of fare, and which nature supplies so bounteously.

We must recognize with a solemn reality that religion includes the body, and that the laws which govern the healthful performance of the bodily functions are as much the laws of God as are those of the decalogue. So long as a man regards his body as a harp of pleasure to be played upon as long as its strings can be made to vibrate, so long will he continue to travel down the hill of physical decadence and degeneration, in spite of guaranteed laws and the most minute sanitary regulations. But when he recognizes his divine origin and obligations, and himself as the crowning masterpiece of creation, his body a precious thing, to be sacredly preserved, developed, expanded, and purified, for service for humanity in this world, and a never-ending opportunity for development and joyous existence in the world to come, then only will he begin to climb towards the heights from which he has fallen, where he may once more stand forth as the crowning glory of creation, the masterpiece of God, the beauty of the world, the paragon of animals.

Health Maxims

Don't go to bed with cold feet.
Don't try to cool too quickly after violent exercise.
Don't neglect constipated bowels.

Don't sleep with false teeth in your mouth.
Don't sleep in the same undergarments you wear during the day.

The Warfare against Tuberculosis. No. 3

By G. H. Heald, M. D.

THE PREVENTION OF TUBERCULOSIS BY PERSONAL HYGIENE.

NOTWITHSTANDING all that may be done in the way of preventing the scattering of tubercular germs, the air, especially of our large cities, is full of them. No one can go where he can be absolutely safe unless he goes to the desert or some uninhabited isle in mid-ocean or up in the mountain above the snow line. Even these might not confer absolute safety. When we think that the expectorating consumptive sometimes raises *several millions of tubercle bacilli a minute*, that these bacilli can pass through the intestinal tract of the house fly and the earthworm alive, that tubercle bacilli can remain alive for several months after being thrown onto the ground, we wonder why everybody is not infected. The reason is that everybody is not equally susceptible. Some may succumb to the attack of very few bacilli, while others withstand the attack of a much larger number.

No one, no matter how healthy, can afford to invite tuberculosis by living where they are thrown off in exceptionally large numbers, as would be the case in sleeping in a small room with a consumptive patient whose lungs are actively breaking down. The question may arise, What can each one do to lessen his individual susceptibility to the disease? Efforts have been made to find some serum or antitoxin which injected will confer immunity against the disease. But, though this may never prove a success, there is a natural immunity which all

can cultivate, the immunity incident to robust health.

The body in normal condition has a wonderful army ever ready to repel the invasion of germs. The fluids of the body, as the blood serum and the mucous secretion of the nasal passages, are germicidal. Then there are in the blood *phagocytes*, little fellows whose business it is to eat up all intruders, whether they come in through the lungs or the intestinal tract. While this normal resistance is naturally greater in some than in others, it can be cultivated so that one naturally susceptible may become more or less immune.

By observing those who usually fall victims to tuberculosis, it will be noticed that they usually conform to a certain type. Children are undersized, or spindling, with narrow chest and more or less of a stooping posture. The appetite is poor; there is a marked inclination to an indoor, inactive life. In fact, all the inclinations of the child tend to increase his susceptibility to the disease. Older persons with tubercular tendency have much the same characteristics, poorly-developed breathing power, appetite, and digestive power, poor circulation, and a tendency to sedentary occupation. There are, of course, exceptions, but this is the rule. To diminish the susceptibility to tuberculosis, the indications are to increase the appetite and digestive power, to increase the breathing power and the chest capacity, to harden the skin by means of abundant sunlight and properly-regulated

baths, to develop the chest, the heart, the digestive organs, and increase the general vitality by means of appropriate exercise.

The appetite and digestive power will be improved incidentally by the means used to improve the action of the chest, heart, muscles, and skin. In fact, measures to improve one function of the body will naturally improve other functions, for the body is a unit, each organ being in the most perfect sympathy with every other.

The most powerful natural stimulant of the appetite and digestion in atonic conditions is tonic hydrotherapy—the skilful application of the cold bath, the application being so graduated as always to result in a good reaction, as shown by a glowing warmth of the skin. In order to secure such results, mild applications should be made first in a warm room. The reaction of the skin can be assisted by vigorous friction, which will have the more effect when performed by the individual himself. As the resistance is built up, the applications can be made more severe.

One should begin with the hand-bath, using a basin of water, not too cool at first, and rapidly go over the face and neck and upper chest, securing proper reaction by vigorous friction. The severity of the applications may be gradually increased by increasing the amount of body surface treated, by increasing the length of the exposure, by lowering the temperature. The guide in all cases is to make no applications which are not followed by a good reaction. If treatment is followed by chilliness or coldness of the skin, the application has been too severe, or there has not been a sufficient amount of exercise, and

the next treatment should be governed accordingly.

CARE OF THE UPPER AIR PASSAGES.

The external atmosphere is not usually in a fit condition to enter the lungs. It may be too dry, may be too cold, or may contain a large amount of foreign matter which should never enter the lungs. The nasal passages when in normal condition prepare the air so it will not be irritating to the lungs. Hairs at the entrance sift out the coarser dust, and much of the finer dust is caught on the moist mucous surfaces of the nasal walls. Provision is made to add moisture to the air and warm it, and the nasal mucus has the property, when healthy, of destroying germ life. So healthy nasal passages act as a protector to the lungs. When these passages are occluded, through catarrh or foreign growths, causing mouth breathing, or when the mucous surface is diseased, it adds greatly to the danger of lung infection, so that one of the first objects to work to in building up the resistance of the lungs, is to secure a healthy condition of the nasal passages. Care is taken to cleanse the mouth daily or oftener, and yet more filth by far enters the nose than enters the mouth, and why should not the nasal passages receive daily cleansing? When this is properly performed by the use of an alkaline antiseptic solution, the condition of the mucous membrane is much improved. Many solutions are recommended, but for general use a teaspoonful each of baking soda and salt added to a quart of pure water at a little above body temperature is as good as any. Some of the solution should be poured into the hand and snuffed into the nostrils,

one at a time, gently drawing the fluid back into the throat. Repeating this several times, the nose will be cleansed, will feel much better, and will be a better protection against lung invasion.

In case there are growths or obstructions to the passage of the air, a specialist should be consulted, for it may mean much more than a little inconvenience. Especially in *ozena*, or atrophy of the nasal tissue, should medical aid be sought to check its progress if possible, for in this condition the nasal passages are so large and dry that the dust and germs can pass into the lungs unmolested. It is well to remember that catarrh is too important not to merit all the care that is required in order to effect a cure.

A most important factor in preventive treatment of tuberculosis is

LUNG GYMNASTICS.

Deep breathing has long been rightly regarded as of great utility for this purpose. Ordinarily one takes into the lungs about 25 cubic inches of air. By forced inspiration one may breathe in 100 cubic inches of air additional. On forced expiration it is possible to breathe out 100 cubic inches of air more than in ordinary breathing, making a total of 225 cubic inches vital capacity, of which only 25 cubic inches are ordinarily used. This is a wise provision for emergencies. Were the lungs only of sufficient capacity for ordinary work, we could never make any extra exertion. Running, climbing mountains, etc., would leave us literally and permanently "out of breath," and an attack of pneumonia would be sure death. As it is there is a large reserve capacity in the lungs.

Many air cells are unfilled or only partly filled during ordinary respiration, and, like an unused limb, are not so well nourished as other parts of the lungs, and thus more liable to disease. For this reason it is important that these air cells should have their proper share of exercise, which may be accomplished by systematic breathing exercises, properly graded.

Whatever the occupation, and especially if it be sedentary, one should occasionally take deep inspirations, slowly and quietly filling the lungs as completely as possible.

This may be better executed by taking several short inspirations, mentally counting 1, 2, 3, 4; 1, 2, 3, 4; 1, 2, 3, 4, etc., holding each breath and taking another with each count, until the chest is completely full, then breathing out in the same way, or in one long, slow expiration. In time, the chest can be filled much fuller than at first, for two reasons, the chest itself becomes more expansive by the exercise, the muscles of inspiration becoming more powerful, and air cells which have never been in full use are dilated. Sometimes this exercise is at first accompanied by some unpleasant sensation, which soon passes away, leaving a new feeling of vigor and elasticity in the chest, well worth the effort to obtain it. If, before beginning a systematic exercise of this kind, the chest be measured both as to its expansive power (the difference in the measurement at full inspiration and complete expiration), and its average circumference, a very encouraging gain will be apparent in a few weeks. And this is an increase in what is appropriately termed the "vital capacity." The deep breather is not a candidate for consumption. It is the

flat-chested, shallow breather, with the arch of his chest behind instead of in front, who is most likely to fall victim to tuberculosis.

If the reader will cease to procrastinate, and commence *right now*, before going any further in this article, the process of deep breathing, a beginning will have been made. It is a good plan to hold the breath a little when the lungs are full, and then let the air out through lips tightly closed so as to form a resistance, making it necessary to call into play the expiratory muscles.

One can form the habit of doing this while working at the desk, at the bench, or in almost any occupation except talking. And one is never talking so constantly that he can not find time for a breathing exercise,—at least men never are. This deep breathing can be practised for several inspirations a number of times a day, and one will finally become so accustomed to it that it will become more or less automatic.

The next article will give more detailed directions for breathing exercises.

Health and Temperance

By Alonzo T. Jones

THE purpose of this JOURNAL is to teach the principles of health and temperance. But without the Bible the true principles of health and temperance can no more be taught than can the true principles of anything else that pertains to man's greatest good.

God has made man that He may be glorified. He made man in His own image. He made him to be immortal, in body as well as in spirit. He has promised that the bodies of those who trust Him shall be brought from the dead, or, if living when He comes in His glory, they shall be changed in the twinkling of an eye, and made immortal, even like the glorious body of the Son of God. "Our conversation is in heaven; from whence also we look for the Saviour, the Lord Jesus Christ; who shall change our vile body, that it may be fashioned like unto His glorious body." Phil. 3:20, 21.

Christ has bought us bodily. His salvation is a salvation of the whole

man. We do not believe a cent's worth in that kind of religion that looks only to the salvation of the soul separated from the body, and even at the expense of the body. In the early monasticism it was considered most meritorious to despise, to neglect, to degrade the body. He who would do this most was considered the greatest saint, because it was evidence of the supremacy of the soul. The hair went uncombed, the nails untrimmed, the body unwashed, made as filthy as possible, and tortured in different ways. All this was the way to saintship, and to the exaltation and salvation of the soul. But such is not the way of the follower of Christ, for says He, "Ye are bought with a price; therefore glorify God *in your body*, and in your spirit, which are God's."

In harmony with this view, another scripture says, "Beloved, I wish above all things that thou mayest prosper and be in health, even as thy soul prospereth." God does not want

anybody to be weak and sickly; He does not want any one to be sick, even. No; He wishes "above all things" that we may "be in health." But above all things, temperance is most conducive to health—not temperance in the generally accepted meaning of the term, not simply abstinence from strong drink, there are thousands of people who might be considered strictly temperate so far as strong drink is concerned, but who at the same time are sadly intemperate in other things. There are thousands of intemperate temperance people. That sort of temperance which is most conducive to health is temperance in all things; and this is the kind of temperance that the Bible demands. The Lord's wish that we may be in health is supported by the Lord's command to be temperate in all things. The Bible doctrine of health goes hand in hand with the

Bible doctrine of temperance. We can not have either without the other.

The Bible is ahead of the world on the subject of health and temperance, as it is on every other subject; and it always will be ahead. Every genuine advance that the science of temperance, hygiene, or medicine shall ever make will only be to approach nearer to the principles of health and temperance laid down in the Bible. We know that some may think this a hard saying, and perhaps may not be prepared to believe it, but it is the truth, whether or not anybody believes it. God made man, and He knows what is best for him; and in the Bible it is where God has told man what is best for him. The closer man conforms to the directions laid down in the Bible, the more nearly he acts in accordance with his own best interests, whether moral, physical, spiritual, or intellectual.

Hydriatic Measures in Chronic Diseases

By J. R. Leadsworth, B. S., M. D.

[Supt. Mount View Sanitarium, Spokane, Wash.]

Few there are who realize the seriousness of lowering the resistance of the body either by indiscretions or excesses. Health is said to be a perfect circulation of pure blood in a sound organism, and any deviation from this condition would be termed disease. After a disturbance is once brought about, the conditions are more favorable for a repetition of the abnormal condition. With each recurrence the indisposition is overcome or gotten rid of with more difficulty than before, until finally a chronic disease is contracted, too often of such a nature as

to permanently incapacitate the person for ordinary duties.

The story is told of a proud eagle which, after resting for a moment on a crag, soared skyward with a strength that would seem almost to challenge that of the tornado. As he flew higher and higher, he began to waver in his flight, and to become unsteady. First one wing and then the other hung motionless, and the monarch of the air fell helpless to the ground. Some shepherds, who had watched his upward flight, hastened to the spot where he had fallen, and, searching for the

cause of his death, found thrust deep into his flesh the fangs of a snake which had, during the short respite on the crag, transferred its resting-place to the warm shelter of the eagle's breast. So in the contraction of any of the so-called common diseases, first one part is impaired, then another, until the victim falls a helpless prey to some serious malady.

A few years ago diseases which were looked upon as dread scourges, whole cities being almost deserted by their appearance, now receive hardly passing notice. This is due partly to the fact that under modern methods of treatment these diseases are less fatal and more readily controlled than formerly, but it is also true that by frequent association with maladies, the names of which exhaust the vocabulary of several languages, we now cease to look upon disease as a common foe.

The chronic invalid is sick all over. What he needs is not simply an improvement in the condition of his stomach, his liver, his heart, his nerves, or any other single organ, no matter how conspicuous the symptoms may be in this particular part, but a general tissue renovation and reconstruction. He needs a new birth physically, and no permanent improvement can be secured by any

process which does not take in the whole body.

The disturbance most frequently complained of by the chronic invalid is a disturbed circulation, giving rise to almost constant chilliness, with a marked intolerance for drafts. To remedy this the skin should be subjected to a hardening process by means of the daily sponge bath, using the hand and water at a temperature of a little below that of the body. From week to week the temperature of the water should be lowered, and, after rubbing briskly with a wet hand, follow by vigorous friction of the part with a Turkish towel until the skin assumes a healthy glow.

For the cold feet which are almost a constant factor in chronic disease, the alternate hot and cold foot-bath is an excellent measure. Have two pails of water, the hot at a temperature of 110-115 degrees, while the cold should be about 50 degrees or even colder. Place the feet in the hot pail for three minutes, then in the cold for half a minute, repeating this procedure for fifteen or twenty minutes. By the use of this simple measure every evening, instead of toasting the feet by the fire, and then endeavoring to keep them warm by the use of hot bricks, etc., permanent relief will likely soon be experienced.

The Foot-Bath and Its Uses

By Henrietta E. Brighthouse, M. D.

THE foot-bath, though simple, is yet a most useful home agent in treating sickness. Its simplicity, the ease with which it can be given, and its wide range of usefulness, make it especially commendable. We are apt to look upon so simple a treatment as having virtue only in infrequent dis-

eases or unimportant conditions, but this is not true of the foot-bath, as it is of great service in severe cases, and is of inestimable value; it can be used by any one not initiated into the intricacies of more complicated treatments.

Have you ever tried treating a cold

by means of the foot-bath? If not, you will be surprised at the result. Take a thorough foot-bath, to which mustard has been added, in the very incipency of the cold. By "thorough" it is meant that the feet shall be placed in water which will come as high up the calves of the legs as possible, and the water as hot as the feet can be placed into. Then, by continuously adding hot water, the foot-bath should be kept as hot as can be borne for twenty minutes at least. At the same time hot water should be drunk freely. The patient is now ready to go to bed, and after drying the feet thoroughly, should cover up warmly with extra clothing. Place something warm to the feet.

If there is a cough and pain in the chest, a hot application may be given to the chest after the foot-bath. In many cases this treatment will suffice to break the cold. If not, repeat at least every day, possibly more frequently. Should the cold not yield to one or two treatments, fasting will be advantageously added—not necessarily entire abstinence from food, but the eating of a limited amount of very simple food.

Headaches will frequently yield to a foot-bath without other treatment. Try it. If the head is hot, wring a towel from cold water, and wrap around the head. Another condition very much benefited by foot-baths is painful menstruation. The hot mustard foot-bath should, by all means, be tried for this trouble. All cases are not alike relieved, but so simple a thing should not be neglected, and may many times be the only treatment needed.

Habitually cold feet are treated by the alternate hot and cold foot-baths. Persist in the treatment every night,

or both night and morning. Do not get discouraged, and results will be obtained in time, unless there is some other underlying cause preventing it.

Some people suffer with difficulty in going to sleep. The brain is active, and because of the multitude of thoughts, sleep will not come. A warm foot-bath may be all that is needed. A tepid foot-bath will be found very restful and quieting to the tired nerves of a busy housewife. She will resume her work, refreshed, after the simple treatment.

To the weary patient in bed a tepid foot-bath seems a luxury. It may be given as the patient lies in bed, by using a vessel not too deep, in which tepid water is placed, with the patient lying on the back. Draw up the knees, and place the feet in the water, care being taken that the water is not spilled on the bed. To one too weak to indulge in a sponge bath or other treatment, this can be given without fatigue, and with restful effect.

The warm foot-bath is found helpful to the weak heart. Pain in the heart from organic heart disease will frequently be very much relieved by simply placing the feet for a short time in a moderately warm foot-bath. It does not need to be so hot that the patient can scarcely bear it.

The foot-bath will sometimes relieve certain forms of indigestion. That form in which there is intense burning after meals, with a good deal of pain and nervousness, will be benefited by a foot-bath taken immediately after the meal, especially if the feet habitually become cold after meals.

Other uses of the foot-bath might be mentioned, but from these which have been given it will be seen that it is not to be despised as a household remedy.

San Francisco, Cal.

Grape Juice as Food

By B. B. Bolton, M. D.

[Director Los Angeles Sanitarium Laboratory.]

STARCH foods must first be converted into grape sugar before they can be absorbed or assimilated by the system. The process is a long one, requiring several hours for its completion, and the expenditure of a considerable amount of energy, which, if needed for other purposes, can not well be spared for this work.

The conversion of starch consists in a number of steps, beginning with the raw starch contained in the starch granule and ending with the sugar found in the muscles, and to which the muscles owe their power to contract. The digestive organs of the cow are so well fitted to this work that she can not only digest raw starch but also woody fiber the composition of which is similar to that of starch.

The steps in this conversion, beginning with the granulose of raw starch, may be considered as occurring in the following order: granulose, gelatinous starch, erythrodextrin, acroodextrin, maltose, and glucose, or grape sugar. Grape sugar is found in the blood to the extent of one-tenth per cent, and furnishes energy for the muscles and heat for the body.

The boiling to which ordinary starch foods are subjected converts the raw starch into gelatinous starch. Dry heat at a higher temperature than that of boiling water, will carry the process a step further and produce dextrin. The diastase present in malted barley will, under proper conditions, effect the conversion of starch into maltose. Unlike the digestion of the cow, that of man can not properly digest raw

starch. The starch digestion must first be carried one step, and if it is carried as far as the production of dextrin, the result will be much more satisfactory.

The most effective of all means by which grape sugar is produced is found in sunlight. To trace the action of the sunlight upon this important food element from its first step we must go back to the very origin of starch. Under the influence of the sun's rays the chlorophyl cells of the green plant are able to convert carbonic-acid gas and water absorbed from the air, into starch or granulose, this in turn being converted into sugar by the sunlight, acting in connection with certain reducing agents present in the juices of the plant. Green fruits contain large quantities of raw starch, which, as the fruit ripens, is changed into grape sugar by the sunlight, aided by the acids which the fruit juices contain.

The amount of grape sugar found in various fruits is as follows: peaches, 1.57 per cent; plums, 2.12 per cent; blackberries, 4.44 per cent; strawberries, 5.73 per cent; prunes, 6.25 per cent; pears, 7.45 per cent; sweet cherries, 10.79 per cent; grapes, 12 to 25 per cent.

From the above it will be seen that the grape is one of our most valuable foods, and is a ready means of obtaining the grape sugar which the system needs for the production of muscular energy, fat, and heat.

Grapes contain wax, cellulose, or woody fiber, tannin, the astringent principle found in tea and oak bark,

coloring matter, gum, sugar, potash, lime, soda, iron, phosphorus, vegetable albumen, various acids, and certain odoriferous substances and flavoring matters, some common to all vegetable juices and others peculiar to the grape, and which give to it its distinctive flavor and aroma. These substances vary in the different varieties of grapes, and even in the different samples of the same variety when grown under different conditions of soil, climate, weather, or exposure to the sun.

The juice contains but a trace, if any, of the tannin and other substances derived from the skin, and only the most nutritious portion of the pulp. The coloring matter of the black grape lies only in the skin, and finds its way but slowly into the juice of the crushed grape, where the acids of the juice turn it red instead of purple. The juice, which is the most valuable portion of the ripe grape, has the following average composition:—

	Per cent.
Sugar	18.59
Free acid53
Albuminoids25
Mineral matter29
Extractive matter	4.71
Total solids	24.37
Water	75.63

Grapes, if green, or grown in a warm, sunny soil, may vary greatly from Neubauer's analysis, as given above.

Green grapes contain over two per cent of acid, largely oxalic, and no sugar. As the grape ripens, the sunlight, through the agency of the chlorophyll cells and certain reducing substances present, manufactures sugar from the carbonic-acid gas of the air and the water of the juice, and converts the oxalic acid into glyoxylic

acid, then into tartaric acid, and a portion of this into malic acid, glycollic acid, and succinic acid; and as the grape is increasing in size, and sugar is constantly being manufactured, while the quantity of acid remains the same, the percentage of acid becomes less, and the percentage of sugar increases until the grape is sweet and ripe.

The principal value of the grape as a food is due to the grape sugar, fruit salts, and fruit acids which are contained in the juice.

The fruit salts present in the juice of the grape furnish certain elements necessary to the bones, brain, spinal cord, and the entire nervous system. The iron present enriches and reddens the blood, enabling it to carry more oxygen, and to break down and carry away waste matter more readily.

The acid of the green grape is nearly all oxalic acid, which is quite poisonous, but when the grape has thoroughly ripened, under the influence of bright, warm sunlight, the oxalic acid has become converted into the milder acids,—tartaric, malic, glycollic and succinic,—and these are of especial value. If the tongue is covered with a thick coating, brown or white, be assured that the entire alimentary tract is in an undesirable condition. Now this coating is alkaline, and the fruit acids are just the thing to remove it. A light meal or two, consisting entirely, or nearly so, of fruit or fruit juices, may be taken. The secretions present in a sore throat are alkaline, the juice of the grape is mildly acid, and the effect is cleansing and agreeable. Grapes are laxative, and this enables them to further cleanse the system of impurities.

Grape juice is a concentrated food, and should not be taken freely with or

at the beginning of a hearty meal, as the grape sugar is ready for immediate absorption, and may ferment while waiting for the other foods to digest. It should therefore be taken at the close of an ordinary meal, or even a few minutes afterward. If the meal is a very light one, it may consist largely of grape juice or grapes.

Grape juice makes an excellent food for invalids and convalescents, many of whom, if thin in flesh, find the free use of grape juice the very best means of increasing their weight and strength, because it furnishes, in a predigested form, the food element needed, and which they were not able to digest. When too tired or weak to digest an ordinary meal, or when unable to bear solid food, grape juice, taken cold, will often agree perfectly with the delicate stomach, and furnish the needed nourishment without the digestive strain, as it is very nearly ready for absorption and does not contain the indigestible portion of the grape.

During the winter and early spring, when fresh fruit is not easily obtained, canned grapes and bottled grape juice are especially desirable, and for a spring blood purifier grape juice is unexcelled, as it contains sulphur, furnishes iron to enrich the blood,

cleanses the mucous surfaces by means of its fruit acids, and stimulates a healthy action of the intestinal tract, thus securing better elimination of waste matter and impurities from the system.

Cane sugar should not be added to grape juice, as it renders it very liable to ferment in the stomach, and interferes with digestion. Grapes properly ripened in the abundant sunshine and warm soil of California contain sufficient grape sugar, which is one of the most wholesome forms in which sugar can be taken.

The acids contained in grape juice attack metals much more readily than those of many other fruits, and it is necessary, for this reason, to use glass instead of tin cans for its preservation. The juice when in contact with tin forms stannic oxide and stannic acid, both of which are very injurious. When the tin is removed and the iron is exposed, water is decomposed to furnish oxygen to rust the iron. The residue of the decomposed water, which is hydrogen gas, combines with the sulphur present in the juice, forming the substance to which spoiled eggs owe their flavor and odor. Even a trace of this greatly injures the flavor of the juice.

Health Necessary to Happiness

I BELIEVE that happiness is essential to health. Of course there are some people who appear to be healthy who are not at least very happy, but the number is small. What is happiness? Coleridge calls it a state of felicity. He objects to the use of the word "happiness" because it involves chance, but at present the word has

become so incorporated into our language it would be a pity to discard it on account of its origin. The Greeks used the word "goodhap" to include what we call happiness. Aristotle said, "To live well and to act well is to be happy." Happiness is the working factor in women's lives more than in the lives of men. It is more essen-

tial to them. They suffer more when unhappy, and it does them more harm. Perhaps some will doubt this, but I am sure I am right.

A great many of us could be happier than we are if we would cultivate the art of being happy. One thing to do is to refuse to allow to enter into the stream of consciousness, the painful and uneasy feelings that come to us through our senses. This is best done by calling up other and more agreeable feelings. It may be difficult at first to do this; but in the

end, success will come to those who will it.

Happiness is the result of good health and the normal activities of the body and mind. When the body is suffering, or when there is enforced inactivity of either mind or body, then comes unrest, and unrest is unhappiness. I pray you, my readers, my friends, let us, so far as possible, live naturally, healthfully. If this is done, happiness will be our lot, whether we think of it or not.—*Jennie Chandler, in September Health.*

What to Talk

TALK happiness; this world is sad enough
Without your woes. No path is wholly
rough;

Look for the places that are smooth and
clear,

And speak of those to rest the weary ear
Of earth, so hurt by one continuous strain
Of human discontent, and grief, and pain.
Talk faith; the world is better off without
Your uttered ignorance and morbid doubt.
If you have faith in God or man or self,
Say so; if not, push back upon the shelf

Of silence all your thoughts till faith shall
come;

No one will grieve because your lips are
dumb.

Talk health; the dreary, never-changing
tale

Of fatal maladies is worn and stale.

You can not charm, nor interest, nor please
By harping on that minor chord—disease.

Say you are well, or all is well with you,
And God will hear your words and make
them true.

—*Selected.*

THE House of Representatives of the state of Colorado has had before it for consideration a bill to provide for a board of medical examiners before whom all applicants for marriage license must appear, and who are to have the power to refuse a license to all parties who, as a result of disease or degeneration, are unfit for parentage.

Such a law unless passed in the surrounding states can have only a partial restraining influence, for parties determined to marry will simply have to cross the state line; but legislation

in this line will probably become more general as the necessity for it becomes more apparent.



M. MARTIGNON, who has given much study to the causes of appendicitis, makes excessive meat eating largely responsible for the late frequent appearance of this dangerous malady. In the north of China, where he resided for a long time, the diet is mostly vegetarian, and he says that appendicitis is hardly known in that region.

EDITORIAL

G. H. Heald, M. D., Editor

The Daily Nitrogen Requirement

It is pretty well known that the standard commonly accepted as necessary for the support of the body in good health is about twenty grams of nitrogen, and a fuel value of thirty-five hundred calories per day. A number of investigations have obtained much smaller figures than this from men and women in health, but the great majority of people eat an average of about this amount, and this has generally been accepted as a proper standard.

Albu has conducted some investigations with an unmarried woman of forty-two years. She stated that she had been using the same diet for over six years. Her diet was purely vegetables and fruit, without meat or fish or eggs. The average daily intake of nitrogen throughout the five days' experiments was only five and six-hundredths grams, with a fuel value of fourteen hundred calories, yet the woman showed a daily gain of nitrogen. From this case Albu concludes—what has been already well known to some persons,—that a purely vegetable diet is capable of obtaining the proper nitrogen balance, and of keeping a person in good health.

The writer has referred in the past to other experiments in this line, showing that vegetarians handle nitrogen much more economically than those living on a flesh or mixed diet. The claim sometimes made that it is necessary to use meat in order to get a sufficient amount of nitrogen has no foundation in fact.

Another illustration of a similar kind is given by Baelz, who quotes the case of a sailor, eighteen years of age, who had been confined to prison and hard labor for forty-nine days. The physician hired the man to go on a diet consisting of only certain varieties of vegetables. The sailor agreeing to this, he was fed for the entire time on millet pap, which he received three times a day. After forty-nine days he had gained in weight one pound and a half, and was well able to perform his work.

This amount of food undoubtedly contained considerably less than the amount of nitrogen supposed to be required, and is another example indicating that the proposed dietary standards are not entirely reliable.

Gluten Foods

In the October number of the *New York Medical Journal* Dr. H. C. Sherman gives a description of some of the gluten foods found on the market. The claims made by these foods were various, but all claimed to be rich in

gluten, to contain little or no starch, and to be valuable as foods for diabetic patients. With the exception of one sample which contains twice as much carbohydrate (starch, etc.) as protein (principally gluten), the samples have

about the composition of ordinary wheat flour, that is, about seven parts of carbohydrate to one of gluten. These foods are sold at fancy prices, and are principally eaten by persons whose health depends on their having foods free from carbohydrate.

It will be seen from this that much of the so-called "gluten" is simply white flour or some grade of flour made of selected wheat having a gluten percentage very little higher than ordinary entire wheat flour. That the cupidity of any company would cause them to sell to a class of patients whose life depends upon obtaining foods comparatively free from starch, such material as this at a high price, under the representation that it is nearly pure gluten, is not a matter of surprise in this degenerate age, when the ingenuity of man combined with his rascality will adopt any method which gives promise of financial remuneration. But there is no need of any one being deceived as to

the purity of gluten; for by means of a little iodine solution, which can be obtained at any druggist's for a few cents, any one can determine approximately the amount of starch present in any sample represented to be gluten. The iodine will turn the starch blue; or if the starch has been partly dextrinized, it will be turned to a reddish color. Pure gluten is something that is practically unknown. The purest gluten that the writer has seen is that which is sold as "pure gluten" by the Battle Creek Sanitarium Health Food Company and by the St. Helena Sanitarium Food Company, in which the gluten is repeatedly washed in water until no more starch can be separated from it by this method. This gluten is usually about eighty per cent pure. These companies also make a forty per cent and twenty per cent gluten, which have a percentage composition about as claimed in their advertisements.

Reform in Chinese Customs

ATTENTION has been called, for many years, to the revolting practise among Chinese of dwarfing women's feet. This practise has been universally condemned as one of extreme cruelty, both in its process and results. But the world is now informed, through the wife of the Chinese minister at Washington, that the custom is losing its former favor, and is likely to be entirely discarded.

If this is true, it is a most sensible thing, and shows that the Chinese are desirous of reforms that will place them abreast of other nations. It is

well known that the practise of foot-binding among the Celestials has made its subjects almost entirely helpless, because of their being unable to move about, except as one attempting to walk on amputated stumps.

Commenting on this subject, an editorial writer in the *San Francisco Examiner* of November 29, 1901, says in a jocular way:—

"A person with stunted feet or with no feet at all can have a very fair degree of health, live to the average age, and enjoy about all there is to enjoy in life. Their brains will work as

well, their eyes will see as much, their minds assimilate as much, as the brains, eyes, minds of persons with normal feet. They can acquire as much knowledge and gain as much wisdom.

"In our own blessed land, where there is none of the savagery of the Chinese—for which we should be thankful—women do not compress their feet. No, sir; they are too wise and too civilized for that. In the happy lands of western civilization women compress their waists.

"They do this probably because to compress their waist interferes with the action of the heart and impairs the circulation of the blood, preventing the healthy action of the brain and other organs. Sometimes it displaces the heart and causes fatal diseases.

"It interferes directly with the workings of all the stomach organs, which in turn invites a train of disorders that would be appalling if you could see them all.

"Also it prevents the proper working of the lungs, which in turn prevents

the proper purification of the blood, and that in turn brings another host of physical and mortal ills.

"It causes consumption, for one thing, and chronic stomach complaint, for another. It is the commonest source of dyspepsia and disorders of the liver. It shortens life, multiplies disease, and increases suffering.

"You can see how much better it is to compress the waist than to compress the feet, as the foolish Chinese do."

Facetious as this may seem, it contains much serious truth that it would be well for the women of America to consider, if they would avoid the train of ills that follows the compression of the waist. If the dull, conservative Mongolian woman sees the necessity of reform in the matter of foot-binding, why should the Caucasian woman, with her high intelligence and quick discernment in so many things, continue a practise fully as objectionable as that of her heathen sister, when looked at in the light of physiological results?
C.

A New Cancer Cure

It was recently reported from Atlanta, Ga., that a case of cancer, in aggravated form, was cured by application of the Cathode-ray, which is the root of that which is known as the X-ray. A telegraph operator there, whose lower lip and jaw were nearly eaten away, took fifteen treatments, and, it is said, considers himself perfectly cured of the terrible malady. The method of treatment was to apply the ray directly to the exposed parts for ten minutes, and to repeat this at intervals of three days. The last treatment was applied the middle of

last April, since which time no indication of the return of the disease has appeared.

If the report of this case is reliable, the world is entering upon an era of great joy; for the spread of cancerous growths in the human family has been notably rapid in late years. There are many sufferers from this malignant trouble who would gladly submit to any treatment, and at any cost, could they but be rid of the harrowing disease. But it is far better to avoid those things which superinduce such troubles. When it is so well known

that the use of diseased meats in one's diet is a fruitful source of this disease, it would be well to discard the use of flesh foods, and so avoid the necessity of being cured of a cancer. C.

A Simple Cold Cure

It is well to remember that a fresh cold in the head may sometimes be broken up immediately if treated early, by snuffing warm salt water up the nose from the palm of the hand. This is a simple procedure, which can be performed anywhere, by any one of ordinary intelligence, without apparatus. A teaspoonful of salt or baking soda to the pint is about the right proportion.

In blowing the nose to dislodge the water be careful not to blow so violently as to drive the water into the eustachian tubes, as the result may be deafness.

About a pint of water should be used, drawing it through the nasal cavities into the throat, whence it can be ejected from the mouth. If one application does not relieve the congestion and irritation, repeat it in a few hours, and take a hot foot-bath on retiring, as described in another article of this number.

A Valuable Book

"RATIONAL HYDROTHERAPY," a new work from the pen of J. H. Kellogg, M. D., of the Battle Creek Sanitarium, is just at hand. It contains nearly twelve hundred pages, and embraces every phase of rational treatment for disease.

Passing quickly from the history of water treatments, the author covers, in

their order, The Physics of Water, Air, Heat, and Light in Relation to Hydrotherapy, Anatomy, and Physiology in the same relation, also the Physiological Effects of External and Internal Application of Water, of Friction or Mechanical Irritation of the Skin, and of Light. Then follows General Principles of Hydriatics, with the Therapeutic Effects of Their Applications in All Known Diseases, together with General Rules, Principles, and Suggestions Relating to the Practical Employment of Hydrotherapy, and the General Management of Cases.

The work has nearly three hundred illustrations, showing exactly how to give the various treatments suggested. Many of these illustrations are colored and are of the finest order. It should be in the hands of every one who would be instructed in rational methods of treatment. We are not informed as to the price of the book. The F. A. Davis Company, of Philadelphia, are the publishers. C.

WE call special attention to our frontispiece for this month. It represents a group of nurses in the grounds of the St. Helena Sanitarium. Their open, pleasant faces betoken not only good cheer and happy contentment in their work, but they also promise faithfulness in performance of duty. In fact, no other class of nurses is tolerated at the St. Helena Sanitarium. This full-page illustration is the first of a series which is expected to appear in future issues of the JOURNAL. In these will be revealed some of the charming spots in the vicinity of the health home on the side of Howell Mountain. C.

WOMAN'S REALM

Conducted by Mrs. M. C. Wilcox

The Twilight Bell of the Angels

THERE has come to my mind a legend, a thing I had half forgot,
And whether I read it or dreamt it, ah, well, it matters not!
It is said that in heaven, at twilight, a great bell softly swings,
And man may listen and harken to the wondrous music that rings.
If he puts from his heart's inner chamber all the passion, pain, and strife,
Headache and weary longing that throb in the pulse of life,
If he thrust from his soul all hatred, all thoughts of wicked things,

He can hear in the holy twilight how the bell of the angels rings.
And I think there lies in this legend, if we open our eyes to see,
Somewhat of an inner meaning, my friend, to you and to me.
Let us look in our hearts and question, Can pure thoughts enter in
To a soul if it be already the dwelling of thoughts of sin?
So, then, let us ponder a little, let us look in our hearts and see
If the twilight bell of the angels could ring for us,—you and me.

—Anon.

Greeting

By Mrs. M. C. Wilcox

A NEW YEAR'S greeting to all in "Woman's Realm;" from the child and maiden to maturity and old age, a Happy New Year to you all,—happy in its truest, purest sense, which means the tender and loving ministry of self-sacrifice, not simply to those in our own homes, but a reaching out to bless others without homes in the great, cold, selfish world around us.

How many homes can we brighten, how many hearts can we lighten, in this beautiful new year before us, the pages of which are, as yet, unstained by deeds of selfishness, in seeking for worldly gain and self-aggrandizement.

May God bless our sisters and friends everywhere who are seeking to enlighten, uplift, and bless humanity. Let us never forget that ours is a most sacred and holy calling, and that

every effort to reach a higher standard will receive its true reward.



IN order to find time and strength for work outside our homes, we must learn to economize our work. There is much needless work done by many women—for illustration, making bed-quilts of small pieces of cloth sewed together. Often I have seen women, after cutting up all the pieces they had of a certain kind, buy more material of the same kind and cut it up in the same small pieces, to sew together again, so that the color and pattern might harmonize. Yes, they were quite pretty, and some pieces of cloth were used in them that otherwise would have been thrown away, but the time and strength it takes to piece and quilt them would be sufficient to

make a half dozen or more comfortables all of plain material, and when the pieced quilts are done, they are not the best kind of covering. A pair of blankets, a couple of light comfortables, and a clean white spread, if not too heavy, is much more healthful, and is quite as attractive, besides being far more economical in the end.

AND, oh! the time that is spent in doing the various kinds of fancy work with which to ornament the home! Do not misunderstand the writer, as being opposed to beautifying the home in its true sense. But to spend time and money and strength in needless ornamentation does not at all belong to the work of noble Christian women, with souls perishing all around us for lack of the loving ministry we might give them. The time spent on embroidery and lace-making alone would be sufficient to carry the blessed news of the gospel to all the dark corners of the earth in an incredible short space of time. Are we willing to face the record of moments and hours spent in

this needless way when the morning of eternity dawns? Let us seriously consider it as we enter upon the new year.



THERE are many ways in which we may learn to economize our time and strength in cooking. From a health standpoint it is not best to make too much dessert. It takes time to make pies, cookies, and dainty cakes. It is true they look tempting and appetizing, but after they are made and eaten, are we satisfied with the kind of happiness they bring? Do they help us to have clearer minds to appreciate pure and holy things? Do they help in mind and heart culture? Is it not wiser to study and plan a little to see if we can not make our tables look tempting and inviting when spread with food more nearly as it comes from the hands of the Creator, and use the time we would otherwise use over the stove cooking and baking, to help cheer the heart of some wandering, disheartened soldier in life's battle?

The Mission of Mothers

By Mrs. E. G. White

WHAT an important work is that of mothers! And yet we hear them sighing for missionary work! If they could only go to some foreign country, they would feel that they were doing something worth while. But to take up the daily duties of the home life and carry them forward, seems to them like an exhausting and thankless task. And why?—Because so often the mother's work is not appreciated. She has a thousand cares and burdens of which no one knows. When her husband

comes home at night, he frequently brings with him the cares of his business. He forgets that his wife has any care, and if things in the home do not exactly suit him, he speaks impatiently, and perhaps harshly.

The mother has perhaps done her very utmost to keep things running smoothly. She has tried to speak kindly to the children, and this has cost her an effort. It has taken much patience to keep the children busy and happy. But she can not speak of

what she has done as some great achievement. It seems as if she had done almost nothing. But it is not so. Heavenly angels watch the careworn mother, noting the burdens she carries day by day. Her name may not have been heard in the world, but it is written in the Lamb's book of life. The mother occupies a position more exalted than that of the king upon his throne.

There is a God above, and the light and glory which shine from His throne rest upon the tired mother as she tries to educate her children to resist the influence of evil.

The husband should appreciate the work of his wife. When he enters the home in the evening, he should leave his business cares outside. He should enter the home with smiles and pleasant words. If the wife feels that she can lean upon the large affections of her husband, that his arm will sustain her, that his voice will be heard in encouragement, her work will lose half its dread.

Christ loves the children. He watches mothers to see if they are forming the characters of their little ones according to the perfect pattern.

When He was upon this earth, mothers brought their children to Him, thinking that if they were to receive His blessing, they would be more easily trained in the way of God. When these mothers came, the disciples rebuked them; but Christ knew why they had come. He knew that they were expecting a Saviour's blessing, and, drawing the children to Him, He said to the disciples, "Suffer little children to come unto Me, and forbid them not; for of such is the kingdom of heaven."

Parents, take time to establish in your children correct appetites and habits. Take them into the open air, and point them to the beautiful things of nature. Teach them that in each leaf they can trace the wonderful power and love of God. Tell them that God's hand paints the color on every flower. Teach them to look to God for strength. Tell them that He hears their prayers. Teach them to overcome evil with good. Teach them to exert an influence that is elevating and ennobling. Lead them to unite with God, and then they will have strength to resist the strongest temptation. They will then receive the reward of the overcomer.

Advice to Girls

RECENTLY a husband and wife in Oakland, Cal., celebrated their golden wedding. Their fifty years of married life have been pleasant and prosperous. The wife was asked, "If out of your own experience you were advising a young girl, what would you tell her?"

Here is her reply, as given by Helen Dare in the San Francisco *Examiner*:

"I would tell her, don't marry at all unless you marry for love. Don't let wealth or position or convenience

enter into your calculations. Marry for principle and work for prosperity is my motto, then live so as to please your husband. If you love him, that will come easy, for that will be your natural desire. I don't mean for you to sacrifice your individuality to him. Be yourself. Have your own way when it is a right way or a better way than his, but study his wishes.

"Be industrious. A woman can not care for a home without industry. She can not keep herself attractive

without industry. She can not do her duty by her children without industry. And she can not live without waste unless she is industrious.

"Be content. A contented mind is a continual feast. The woman who always wants something her neighbor has, or who wants more than her husband can afford, brings unhappiness into her home, and is a danger to its peace and security. If her husband is distressed by her discontent, he may ruin himself to gratify her whims. If he is too sensible for that, he may be soured by her discontent.

"Be home-loving. Most men crave a home; but a home is not a home to a man if his wife is away from it, if he sits down to his meals without her, if he sits by his fireside without her. Such a home is not a real home, whether it be rich or poor."

The husband was asked, "And if a young man wishing to marry should come to you, what would you say?"

"I should tell him, also, to marry for love, but I should tell him to fall in love with a woman who had good sense, good judgment. A little temper is not objectionable if a woman has good sense; then her good sense will regulate it and control it.

"Then I should tell him when he had married such a woman to let her have her own way. If she loves him, it will be a good way. If she doesn't—well, she'll have her own way anyhow.

"I should tell him to let her attend to her own business, to the household and whatever appertains to her, without interference, and for him to attend to his business. That does not mean that there should not be confidences and mutual interest.

"A man should spend his leisure with his wife so far as he can. If his home is pleasant, he will want to."

This is good advice for these days, isn't it?

Freedom

By Minnie Embree

How we all love freedom! Everything in nature loves it, from the little bird which soars away quickly when loosed from captivity, to the lion which throws itself upon the strong bars of its cage. Love of liberty is a principle which God has implanted in nature. It is right for us to love it. Every muscle and organ of the body reaches out for liberty—freedom from every restriction.

When this natural love of freedom is not perverted by wrong habits of dress, then if one does put on a tight dress, what a bondage it is! How delightful it is to get it off! It hardly seems possible that a woman could become so accustomed to such a yoke

of bondage that it is desired, and she comes to feel that she would "fall to pieces" if her corset is left off.

Sometimes ladies say to me when I refer to the evil results of corset-wearing, "I wear it loose; it surely can not hurt me." Such have not tasted the joys of freedom—entire liberty from any restriction. Some make a mistake by hanging the skirts upon the hips. This is also bondage.

Dear sisters, accept the liberty which is rightfully yours; leave off the corset, and any other restrictions in clothing. Let the weight come on the shoulders, and enjoy the real pleasures of living, instead of worrying along under a yoke of bondage.

HEALTHFUL DISHES

By Mrs. S. H. Colvin

Almond Whipped Cream.—Reduce almond butter to the consistency of cream, and pour slowly over the well-beaten white of an egg. Sweeten and flavor to suit the taste. This is an excellent substitute for whipped cream for persons who can not use cow's milk.

Tomato Salad No. 1.—Tomatoes, one-half dozen; almond butter, heaping teaspoonful; juice of one lemon; water, one-half cup; salt, lettuce leaves, celery seed. Peel and slice tomatoes, arrange daintily in a salad bowl with nice crisp lettuce leaves, and pour over the following:—

DRESSING.—Dilute the almond butter in the water, place in double boiler on stove, stirring until it begins to thicken. Take from stove, add the lemon juice and salt, sprinkle over all a little celery seed. (Celery seed is perhaps the best form of celery seasoning, and should be better known than it is.)

Tomato Salad No. 2.—Tomatoes, one dozen; olive-oil, one-half cup; lemon juice, one-half cup; salt, parsley. Pare and slice the tomatoes, salt, place in salad dishes. Mix olive-oil and lemon juice thoroughly and pour over tomatoes. Garnish with parsley.

Cream Substitute.—Almond puree, or, as it is often called, almond butter, or almond cream, may often be used to advantage where cream is unobtain-

able or where cream disagrees. In fact, many prefer the almond cream to dairy cream for all purposes. It has the advantage of being free from danger of contamination with tubercle bacilli or barn-yard germs, being sterile. It will keep indefinitely. Used in proper quantities the expense is not great.

Stuffed Tomatoes.—Tomatoes, one dozen, size of an egg or a little larger; one onion; lettuce, one head; protose, one-eighth pound; yolks of eggs hard boiled, four; salt.

DRESSING.—Olive-oil, one-half cup; lemon juice, one-half cup; eggs well beaten, four; eggs, whites, hard boiled and chopped, four.

Pare the tomatoes and cut off stem end. With spoon remove inside, leaving enough to keep shape of tomatoes. Chop fine the part removed and drain on colander. Mince the onion fine and the lettuce (previously washed and dried). Add the protose, egg yolks, and the drained tomato; salt. Fill the tomatoes with the mixture. Place in salad dish and put spoonful of following dressing on each tomato:

DRESSING.—Place in double boiler the olive-oil, lemon juice, and beaten eggs; stir until thick and remove from fire. Place in pan of cold water, stirring until cold; salt. Sprinkle over top the fine-chopped whites of the hard-boiled eggs. Celery or olives may be used in place of lettuce.

Sanitarium, California.

Sacramento Branch of the St. Helena Sanitarium

Connected with and conducted on the same plan as the St. Helena (Cal.) and Battle Creek (Mich.) Sanitariums.

IN response to the many requests from patients and citizens of Sacramento, who had visited the St. Helena Sanitarium and had learned of the benefits to be derived from the methods and the treatments as practised in that institution, the board of managers has established a branch in Sacramento.

LOCATION.

The branch is located in the Ochsenr Building, 719½ K St., under the name of the "St. Helena Sanitarium Treatment Rooms." Two suites of rooms, one for ladies, the other for gentlemen, are fitted up with the

necessary conveniences and appliances for a thorough and scientific applica-

tion of hydrotherapy, massage, electricity, and various manipulations in the treatment of diseases.

ELECTRIC-LIGHT BATH.

The electric-light bath or radiant-heat bath, with which the rooms are provided, proves to be one of the most effective agents in the treatment of certain classes of diseases, its properties being exhilarating and tonic, and especially eliminative. Its effects are produced not only by external heat, as is the case with hot air or steam, but by radiant heat, which penetrates the tissues of the body as well.

The electric-light bath is a nearly complete substitute for the sun bath, and has the



MAIN BUILDING AND DOCTOR'S OFFICE.

advantage that it is under absolute control, and is ready for use, "rain or shine."

MASSAGE.

Special attention is given to massage. Only skilled manipulators are employed. The system used, while not absolutely novel, is in some respects peculiar to the mother institution. The most valuable features of the French, Swedish, German, and English systems are combined, and are so modified as to suit individual cases. It is not employed in a haphazard way, but is prescribed as any other curative agent, and is not left to the manipulators themselves.

EFFECTS OF MASSAGE.

The effects of massage may be well understood by experiments, which have been made by some of the most eminent physiologists and investigators of the world. Mosengeil, a German physiologist, has graphically demonstrated the influence of massage in promoting absorption. He injected India ink into the joints of a number of

rabbits. To some he applied massage, and to others he did not. In those where massage was applied, the swelling which was produced by the injection of ink, rapidly subsided. Some months afterwards the rabbits were all

killed and the joints examined, with the result that in those which had been masséed the ink had disappeared from the joints and was found in streaks between the muscles and in the lymph glands, while in those not masséed the ink was still in the joints.

EXPERIMENTS ON ANIMALS.

Zablowdowski made some experiments with frogs to demonstrate the ready removal from muscles of the poisons which produce fatigue. He completely exhausted the muscles of frogs with electricity, which, after a rest of fifteen

minutes, were not restored, but revived at once after being masséed, and were able to perform twice as much work as before.

Another experiment by the same investigator shows the effectiveness of massage. A man lifted, with his little



SWEDISH SHAMPOO AND ELECTRIC-
LIGHT BATH.

finger, a weight of two and one-half pounds, eight hundred and forty times, lifting the weight once per second. This completely exhausted the muscles of his little finger. The finger was then masséed for five minutes, after which the same weight was lifted one thousand one hundred times, with no great sense of fatigue of the finger muscles.

Massage applied in the right way, and at the proper time, is one of the greatest physiological therapeutic measures in modern medicine. Its beneficial influence is realized in a marked way in the improved nutrition, digestion, circulation, muscular and nervous tone, and increased activity of every function of the body in every instance. It must be remembered, however, that the beneficial effects are in many cases not realized until after several days, and in some cases two or three months, the results being a real physiological growth to normal conditions.

WATER TREATMENTS.

Hydrotherapy, or the use of water in the treatment of disease, has within the last twenty-five years assumed a prominent place both in the cure and prevention of disease. This is especially the case in hospitals, sanitariums, and asylums, where facilities for the use of water can more readily be procured and utilized than in the ordinary home.

The use of water as a remedial agent, however, is not a modern innovation, but has been known for centuries; but during the past century it has been developed into a science, and taken, to a large extent, out of the hands of routine quackery. Water, like powerful drugs, is a two-edged

sword, and disastrous results may follow its unscientific use. The prejudice existing in the minds of some against its use is due to the routine practise of so-called water doctors who have little or no knowledge of physiology, anatomy, and the nature of disease, a knowledge which is absolutely essential in the use of water as a curative agent.

The treatment-rooms established by the St. Helena Sanitarium are under the supervision of thoroughly-educated physicians, who give conscientious care in directing the treatment as each case may require. Hydrotherapy, combined with massage and electricity in its various forms, offers one of the most effective curative agencies in the hands of the intelligent physician and educated nurse. But, while the foregoing is true, no claim is made for extraordinary skill by the physicians or nurses, and no panaceas, no "certain cures," no secret remedies or methods, and no "guarantee" for cure is offered in any case whereby the confiding public may be deceived.

It is the aim of the management and promoters of the institution to open up centers where in one place, and under favorable conditions, some of these most effective means, methods, and appliances recognized in rational medicine, can be brought together and made accessible to the public. The great purpose is to place within easy reach of physician and patient these effective agencies for the most complete and permanent recovery of the sick in the shortest time.

BATH-ROOM ATTENDANTS.

The bath-room attendants, both lady and gentleman, are strong, healthy young people, who have gone through

a thorough course of training at the main institution on the Pacific Coast, the St. Helena Sanitarium, having been graduated after two years of hard study and practise. They are fully instructed in the art of nursing the sick, and competent to act in that capacity in the most critical cases of disease and surgery.

One feature to be noticed is the air of cheerfulness that pervades the institution, and the hope and courage that all connected with it seem to try to instil into the mind of the patient, recognizing that a happy, contented frame of mind is conducive to his or her recovery.

It was only a little more than one year ago that these treatment-rooms were opened, but the patronage and support received from the people of

Sacramento more than show the need and the appreciation of the people for them.

FACILITIES OF BATH-ROOMS.

The bath-rooms afford facilities for baths, hot and cold, general and local, tepid and temperate, as the case may require,—hot and cold sprays, packs, fomentations, sitz baths, salt baths, salt glows, electric baths, Swedish shampoos, etc. Every warm treatment is followed with some tonic treatment and a rub, to protect against cold, and to neutralize the weakening effects of hot and sweating procedures.

Any information desired may be obtained by addressing the St. Helena Sanitarium Treatment Rooms, or the superintendent, G. A. Droll, M. D., 719½ K Street, Sacramento, Cal.



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SAN FRANCISCO, CAL., JANUARY, 1902.

No. 1.

DR. MARGARET EVANS has been called home to California from Chicago by the illness of her mother.

TREATMENT-ROOMS conducted by nurses at North Yakima, Wash., report an abundance of patronage and a good field.

DR. A. N. LOPER, formerly medical superintendent of the Lincoln (Neb.) Sanitarium, has accepted the position of medical superintendent of the St. Helena Sanitarium.

DR. ABBIE WINEGAR, who has for many years been the leading lady physician of the Battle Creek Sanitarium, has connected with the work at the St. Helena Sanitarium.

WE thank our many friends for the new subscriptions that have been received during the past month, over one thousand having been added to

the list. Now is the time to subscribe; you or your friend may be benefited.

THE Vegetarian Café, 755 Market Street, San Francisco, has increased its seating capacity by erecting a neat balcony at one end of the dining-room, which not only relieves the crowded conditions, but adds to the beauty of the café.

DR. HENRIETTA E. BRIGHOUSE, of the St. Helena Sanitarium, has taken up work with the San Francisco Branch of that institution. Attention is called to her article, entitled "The Uses of the Foot-bath," found elsewhere in this number.

THE St. Helena Sanitarium Food Company has been obliged to move its store from 59 East Santa Clara Street, San Jose, to larger quarters, owing to the increase in business. The store has been fitted up in a most attractive manner, and is equal in point of beauty to any in San Jose.

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