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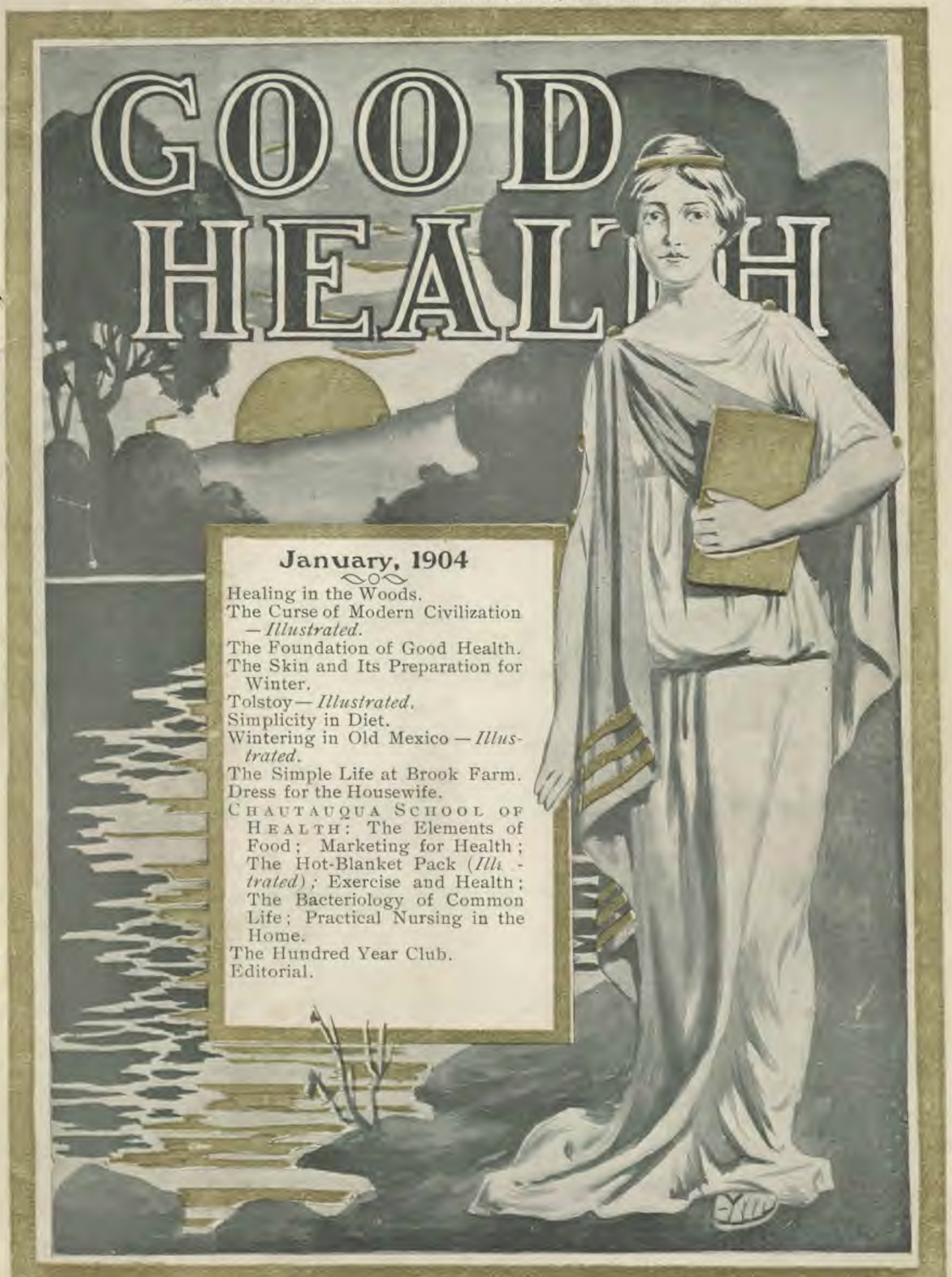
GOOD HEALTH



January, 1904

VOL. XXXIX. *Edited by J. H. KELLOGG, M. D.* **NO. 1.**

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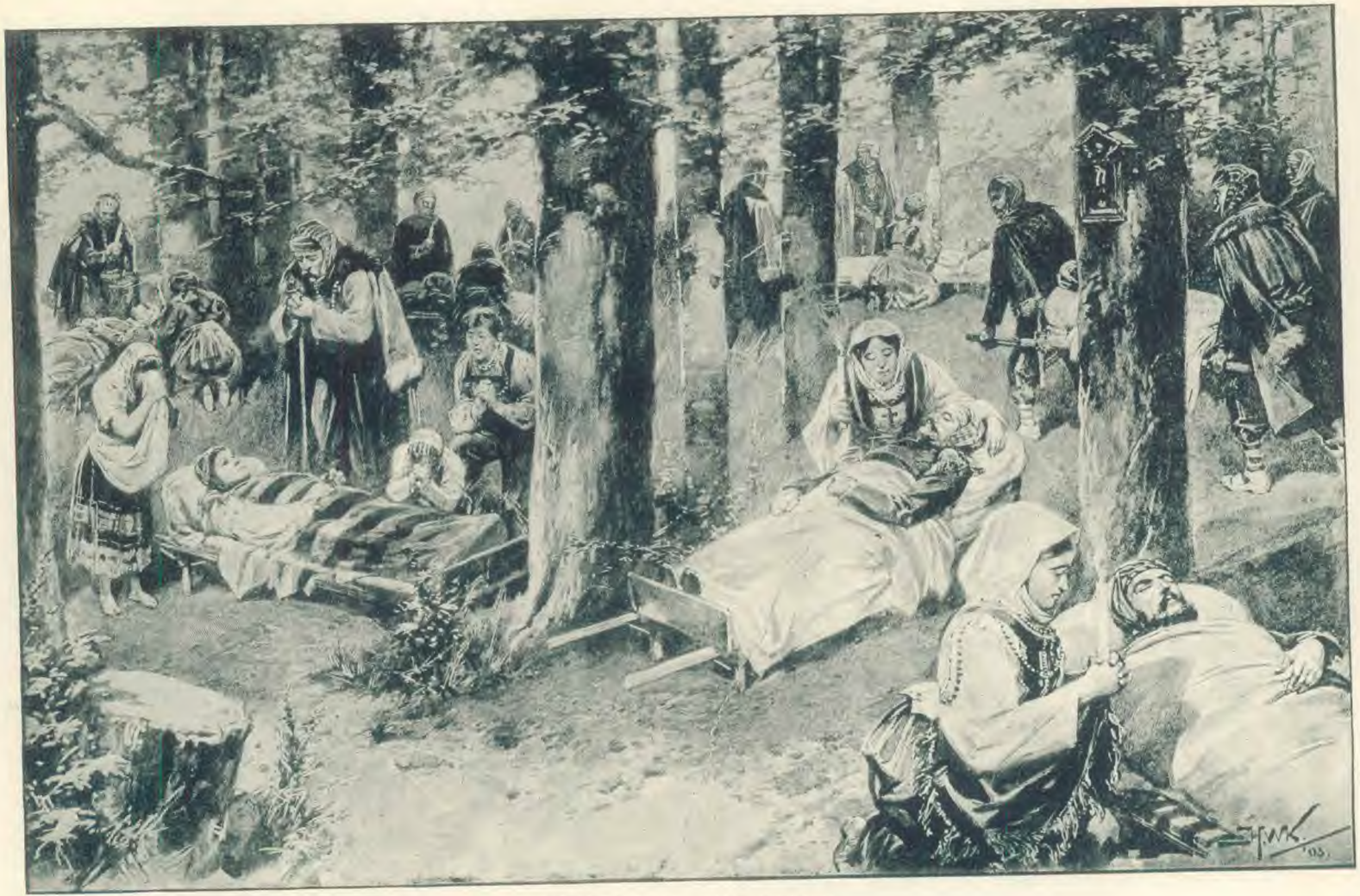


HEALING IN THE WOODS

GOOD HEALTH

A Journal of Hygiene

VOL. XXXIX JANUARY, 1904 No. 1

REST WHERE YOU ARE

WHEN spurred by tasks unceasing or undone,
You would seek rest afar
And cannot, though repose be rightly won,
Rest where you are.

Neglect the needless, sanctify the rest,
Move without stress or jar,
With quiet of a spirit self-possessed;
Rest where you are.

Not in event, restriction, or release,
Not in scenes near or far,
But in ourselves are restlessness or peace;
Rest where you are.

— *The Congregationalist.*

HEALING IN THE WOODS

BY J. H. KELLOGG, M. D.

SOMEHOW the quietness, serenity, and varied beauty of the woods appeal most strongly to the religious sentiments of all men. The savage, as well as the man of science and culture, feels the spell of the holy charm which dwells in leafy solitudes, in the fragrant shadows of great trees.

"The groves were God's first temples." In time, perverse men forgot the worship of the Maker and worshiped trees, the Maker's handiwork; but still the thought lives deep in the hearts of all men that God is near the trees. This fact is well illustrated by our frontispiece, a reproduction from the *London Illustrated News*, in which is shown a remarkable custom prevalent in Servia. In a grove near Belgrade the sick are gathered in multitudes, waiting the manifestation of divine healing power which is popularly believed to be especially associated with this particular spot. How important that men should know that healing power is not confined to any particular place or conditions, but is present and ready to be manifested in every place where there exists a need for healing. Creative power and healing power are one.

Modern science, as well as experience, has shown that contact with natural surroundings, especially fresh air, sunshine, and the ozonizing emanations from growing plants, has marvelous health-imparting virtues. In these natural agencies is active the power which created and maintains all things, and which is constantly communicated to all living things as the essential condition of continued life. The more closely we come to nature, the more deeply we may drink from the fountain of life and healing. To live in harmony with Nature in the fullest and truest sense is to live in harmony with God; and to live in divine harmony is to be happy.

THE CURSE OF MODERN CIVILIZATION

BY DAVID PAULSON, M. D.

THE cup of priceless blessing which modern civilization has extended to us is mingled with the bitterest curse. Last year the American people attended half a million funerals that were easily preventable. Of the twenty-seven million cases of illness, fully one-half million were typhoid fever, and every intelligent person knows that the majority of such cases are due to criminal carelessness, neglect, and ignorance. One-third of our grown-up population to-day have become weaker than the microbe, and sooner or later will fall victims to the tubercular germ. Nearly one-half the infants born into this world perish before they are five years old, and in most instances merely because they are deprived of proper food, suitable clothing, the necessary air, and a mother's love. In this country insanity is increasing three times faster than the population; while in one of the Southern States its increase is five times that of the population.

The stamp of physical degeneracy can readily be seen upon an alarmingly large proportion of the people, and it is almost as noticeable among the offspring of the wealthy as among those raised in the slums. Of twelve thousand young men who recently volunteered from the city of Manchester for military service in Africa, nine thousand were rejected, and twelve hundred of those accepted were below standard. If these nine thousand were unfit to perform military duties, are they not equally unfit to assume the responsibilities of the home, the church, and society? The fact that there are half a million regular criminals in this country who are preying upon their fellowmen is alone sufficient evidence that modern civilization has fallen as far short of saving us morally as it has physically.

Dr. Gould, one of our most eminent physicians, in a paper read before the Wisconsin State Medical Society, stated: "There can be but little doubt that we are teaching the previously temperate Filipinos vices which do disgrace to their semi-civilization." And he quotes the following from a competent observer specially commissioned to investigate this matter: "During the time of the American occupation of Manila, of the sixty thousand sick soldiers treated in all the army hospitals in Manila, about ten thousand were cases of venereal diseases. There were but three saloons in Manila when the American troops took possession of the city, while to-day there are one thousand, one hundred and nine places in the city of Manila where intoxicating liquor is sold openly and publicly, not counting the hundreds of 'blind pigs.'"

A noted physician has said that "civilization and syphilization destroyed the American Indians." There are strong indications that unless a great moral and physical reform is speedily ushered in that shall sweep our land from center to circumference, the same fate as was visited upon the aborigines awaits the present occupants.

In a paper on this subject before the American Medical Association, Dr. Gross said: "When a pestilence, *e. g.*, smallpox or cholera, breaks out in a community and threatens to decimate its population, every man's fears are at once aroused, and steps are taken to counteract its progress; but here is a disease [syphilis] a thousand times

worse than the deadliest epidemic, doing its work silently and, as it were, in disguise and darkness, ruining entire families, destroying many of our best men and women, and laying the foundation of untold misery, wretchedness, and woe, not infrequently extending through several generations."

Dr. Sturgis has stated as his belief that there are each year fifty thousand new infections from this disease in New York City alone. Divine Writ has declared that the "curse causeless shall not come." To deny that modern civilization has ushered in an overshadowing curse is either to betray ignorance of or utter indifference to the real facts; and it is useless to content ourselves, in the face of these evils, by merely saying, "Peace, peace, when there is no peace." The ax must be laid at the root of the tree. Dr. Gould after profound study upon this subject, gives it as his opinion that sin alone prevents a reduction of our death rate and sickness one-half, and the lengthening of average life to fifty or sixty years. He expresses the significant truth that we have just about reached the limit in our medical possibilities in the cure of the sick. He says: "We can never cure a much greater proportion of the sick until we have better bodies and souls in the patients. The great progress of the future in medicine will consist in prevention. We must lose our life to find it . . . . Wherever sin exists, it works itself out finally in sickness and death.

MAORI GIRL.

BURMESE WOMAN CARRYING WATER.

SOUTH AFRICAN GIRL.

The best therapeutics is to render therapeutics unnecessary. . . . Science, it is plain, has outrun morality. We know how to lengthen the average human life by many years, with a proportionate reduction of all the suffering and expense, but we are powerless to do it, simply because of sin."

One of the most terrible of these sins is intemperance, which has certainly come to be the withering curse of our land. There are nearly two million of our population who secure their support in the production and sale of that which is hurrying toward drunkards' graves ten million of our population. Every year the growth of this terrible evil is so rapid that the total amount of liquor consumed last year was almost double the quantity used in 1880. A noted writer has said, "France is literally being killed by alcohol." In England, not only men, but women can be seen making their way through jostling, drunken crowds up to the bar, to be served the poisonous draft from the hand of one of their own sisters.

The unnatural tension, wear, and tear that are incident to the high pressure under which we are living are driving a multitude of men and women to resort to sedative drugs to soothe and calm their irritated and hypersensitive nerves. The drug habit is becoming so alarmingly prevalent that it is already being regarded as a national calamity. The number of morphine, cocain, and kindred drug fiends is enormous. In addition to the prescriptions of physicians and to legitimate sales, the inhabitants of one small New England town last year used three million doses of opium. As the divine declaration, "Whatsoever a man soweth, that shall he also reap," is as unerring in its operation as is the law of gravitation, what results must be sure to follow such a frightful sowing!

The persistent use of tobacco has already undermined the health and strength of tens of thousands of even our strongest men. But the most desperate result has followed the introduction of its use in the form of the cigarette by our boys during this last generation. The child's nervous system is peculiarly susceptible to the influence of this deadly poison; yet several billion cigarettes were consumed last year, one company alone manufacturing from seven to nine million each day. The boy who smokes cigarettes continually is destroying his brain; he is soon too wretched to live, and yet not sick enough to die. Are we content to remain silent, with folded hands, and allow the flower of our youth to go down to destruction? This nation is now expending more for its vices than it does for its necessities, so what else can be expected than such a condition as has already been pointed out?

Our cities are growing so rapidly that only about one-half of our population are now living in the country. Dr. Gould, speaking of the wrong of shutting men and women up in houses and forcing them into sedentary occupations, says: "There is enough land and opportunity, if both were allowed and utilized, to give every human being a livelihood that will permit life of a normal length." He adds, that with proper hygienic living, especially in youth, and with right lung expansion and development, no person should have pulmonary disease.

None but a physician has any comprehension of the far-reaching evils resulting from the conventional styles of dress. Tight lacing, clothing not properly distributed over all parts of the body, and many similar evils are developing deformities and attendant suffering, which can never be fully re-

lieved by the swallowing of a few drops of pain-destroying drugs.

It is safe to say that modern cooking develops business for both the saloon-keeper and the undertaker. When a boy eats mustard plasters in the form of food that is almost saturated with fiery spices and irritating condiments, a thirst is created that nothing but liquor or cigarettes will satisfy. We are admonished to "eat for strength, and not for drunkenness," but in these days anything that will tickle the four square inches of taste surface is considered good food, although it may contain scarcely any of the elements that nature requires to replace broken-down tissues and to rebuild the worn-out brain. As a consequence, the vitality and physical resistance soon reach such a low ebb that the individual falls an easy prey to any microbe that he may chance to come in contact with.

We have called attention to but a few of the curses that accompany modern civilization, and we have designated only a few of the causes. The remedy is the most important part of this subject. One of the crying needs of the hour is more men and women who have a genuine desire to devote themselves to the betterment of the race.

The old dispensation had its cities of refuge and the new dispensation had its good Samaritan. Why should not this generation have an army of men and women who are laboring to break the shackles from those who are groaning from the results of violated law? The universal notion that a man can freely sow for trouble and disease, and then can juggle and conjure away the results by swallowing a few drugs, must be met and combated. The invalids of our country last year purchased $200,000,000 worth of patent medicines and quack remedies, with the false idea that they could thereby be absolved from their wrong-doing without any need of physical repentance.

People must be taught the sacredness of the human body: that the divine command to glorify God in the body is as binding on the human race as are the ten commandments; and that physical righteousness is as divine a heritage to the race as spiritual righteousness — a gift which Providence is just as ready to bestow upon His willing, obedient, and trusting children as He is ready to bestow the gift of spiritual righteousness.

Viewed from the standpoint of a medical missionary, the whole world is a mission field, for everywhere are those who are needing the gospel of health. In fact, modern civilization seems to be the wilderness in which the lost sheep of chronic invalidism have gone astray, and it needs faithful gospel of health shepherds who will go after them and bring them back to the Father's fold of spiritual light and physical blessing.

MAN'S rich with little, were his judgment true;
Nature is frugal, and her wants are few;
These few wants, answer'd, bring sincere
delights;
But fools create themselves new appetites.
—*Edward Young.*

THE FOUNDATION OF GOOD HEALTH

BY J. HOWARD MOORE

GOOD health is a quadruped. It has four legs — diet, water, exercise, and fresh air.

The *diet* of man should be varied, well-cooked, well-masticated, and well-balanced — but not over-attractive. Most people eat too much. If they ate one-half of what they actually do eat, they would be much better off. It is not the amount we eat, but what we do with what we eat that is of consequence. Variety should be attained by changes from one meal to another, rather than by a multitude of dishes at each meal. A wilderness of attractions is likely to lure the average mortal to a line of action that is ruinous. Spices and other stimulating accessories also tend to fasten one in the same deadly snare. An appetite that has to be incited to action by stimulants or an array of fine dishes, needs a vacation, needs rest needs a course of treatment in which starvation is the chief factor. It is a foolish notion many people have that they ought to eat at conventional intervals whether they desire to or not. Food is poison to a system that loathes it or is indifferent to it. An appetite is not natural unless plain whole-meal bread and butter, or plain bread without butter, tastes delicious. Starvation is one of the very best remedies for a large class of human ailments. It enables the eliminative organs to catch up, rests the overworked stomach, and refreshes the whole system. Two meals a day are better than three for those not engaged in hard labor.

Water is the great solvent and purifier of the body. A cold bath followed by a vigorous rub is the best of tonics, and a hot bath is the most marvelous of all poultices for the relief of internal congestion. A cold dip followed by energetic massage is a glorious and indispensable initial to the activities of the day. A double bath — a hot bath followed by a cold bath — is an excellent remedy for one when feeling a little out of tune. Get into a tub of water as hot as you can bear and stay there until you are perspiring freely. After drying yourself, lie down on a couch and perspire gently for fifteen or thirty minutes. Then take a cold dip and a rub, and you are comparatively brand new. Water may be applied internally as well as externally. It is a good thing to bathe the tissues as well as the skin. The power of water as a restorative of human health is proved by the prosperity of the watering places. Dilapidated men and women flock to these resorts and after a stay of a few weeks, during which time they take all sorts of baths and gulp gallons of water, they go away benefited. But it is not some marvelous magic of the waters that helps them. It is the thorough drenching and rinsing they undergo. They could do the same thing at home in their own bathtub if they wished to. Hot water is medicinally the same thing, whether it is heated by subterranean rocks or an ordinary boiler. Pay no attention to those doctors who warn you to beware of the bathtub. Be aquatic.

The best *exercise* and the only exercise that is of much benefit is that which exercises and develops the *will* — walking, running, rowing, wheeling, chopping, playing, mountain-climbing, skating, gardening, punching the bag — anything that sets the blood to charging and excites that potentiality of will which is the invariable accompaniment

of a healthy body. Exercise should be earnest and whole-souled — something that will set the machinery spinning and leave the body positive and dynamic. Outdoor exercises are by far the best. But indoor exercises are immensely superior to none at all. It is not necessary to have a lot of apparatus. It is not necessary to have a real pigskin in order to punch the bag nor a race-course in order to run. If you are really in earnest about it, you can punch (metaphorically) a spot on the wall, and run while remaining in the same place.

O, exercise! What a wonderful restorer! How it puts new life and ambition into the flabby and disconsolate tissues! It is by means of exercise that weak and unwell wills are best enabled to get on their feet and go out for an hour's vigorous stride in the early morning before breakfast, when the day is new and the air is wine. Intersperse the walk with spurts of running. Keep the head up, the shoulders back, the lungs wide open, and the mind free. You will come back with your brain glittering with diamonds and with an appetite such as you have not had since you were a child. Don't go simply once. Keep it up. It is the most delicious and magical medicine in the world. An hour spent in this way is worth a half day spent in bed.

No person can be permanently well without *fresh air*. Even the poor birds and monkeys die of consumption after a little while when they are shut up in the deoxidized atmosphere of our homes and menageries. A plentiful supply of oxygen is a normal necessity of every animal. Open the windows and let it in, day and night. Night air is not deadly. At any rate it is all we have to breathe during about one-half of our lives. Stop a minute between exercise numbers, if you are so resourceless as to take your exercise in the house, and walk around a little drinking in great deep lungfuls of the luscious oxygen. How luxurious simply to breathe, when the air is fresh and pure and cool and goes far out into the uttermost vesicles of the pulmonary organs. It makes one want to be immortal. It is like partaking of simple foods when one is hungry, or listening to the rendition of some grand song or poem in moments of inspiration.

We need to get back to first principles, back to nature, back to simpler, saner, and more straightforward ways of eating and living. O, if one could only sweep the shadows from the eyes of men and women and let them see broad daylight once!

HEALTH, brightest visitant from heaven,
Grant me with thee to rest!
For the short term by nature given,
Be thou my constant guest!

* * * *

Whatever sweets we hope to find
In Love's delightful snare;
Whatever good by heaven assign'd,
Whatever pause from care:
All flourish at thy smile divine;
The spring of loveliness is thine,
And every joy that warms our hearts
With thee approaches and departs.

— *Robert Bland.*

THE SNOWSTORM

ANNOUNCED by all the trumpets of the sky,
Arrives the snow; and, driving o'er the fields,
Seems nowhere to alight; the whited air
Hides hills and woods, the river, and the heaven,
And veils the farmhouse at the garden's end.
The sled and traveler stopped, the courier's feet
Delayed, all friends shut out, the housemates sit
Around the radiant fireplace, enclosed
In a tumultuous privacy of storm.
Come see the north wind's masonry.
Out of an unseen quarry, evermore
Furnished with tile, the fierce artificer
Curves his white bastions with projected roof
Round every windward stake, or tree, or door;
Speeding, the myriad-handed, his wild work
So fanciful, so savage; nought cares he
For number or proportion. Mockingly,
On coop or kennel he hangs Parian wreaths;
A swan-like form invests the hidden thorn;
Fills up the farmer's lane from wall to wall,
Maugre the farmer's sighs; and at the gate
A tapering turret overtops the work.
And when his hours are numbered, and the world
Is all his own, retiring as he were not,
Leaves, when the sun appears, astonished Art
To mimic in slow structures, stone by stone,
Built in an age, the mad wind's night-work,
The frolic architecture of the snow.

— *Ralph Waldo Emerson.*

THE SKIN AND ITS PREPARATION FOR WINTER

BY NEWTON EVANS, M. D.

THAT one's body is constantly surrounded by the causes of disease, in the form of disease-producing germs, is shown by the fact that examination of the outer layers of the skin always reveals these germs; and that if a surgical operation which involves a wounding of the skin is performed without thoroughly washing and removing the outer layers by soap and other means of cleansing, the wound is almost certain to be infected and to suppurate. And further, in a very few hours after death all the tissues of a human body are found to be swarming with bacteria which have entered all parts, having passed through the skin and from the cavities of the body, such as the stomach and intestines.

The skin, then, is a valuable means of protection, and when in health is an impenetrable barrier to the assaults of pathogenic germs. Another important function of the outer covering of the body is to act as an organ of excretion, a considerable amount of waste products being passed out from the body by the glands — the sweat glands and sebaceous or oil glands. On the body surface, there are said to be about two and one-half million sweat glands, and the combined surface of their actively secreting cells is equal to one thousand square yards.

But the most important function of the skin seems to be its work of regulating the temperature of the body. A balance is maintained between the heat produced by the muscles and other tissues in the process of oxidation, and the heat eliminated by the skin; and the temperature is so delicately controlled that it is practically constant in health. In some of the lower animals, as fishes, frogs, and other so-called cold-blooded animals, the temperature of the body is dependent upon the surrounding temperature, varying within wide limits. In very young children the heat-regulating mechanism is not well developed, so they are unable to endure much cold, the temperature of the body falling with that of the surrounding atmosphere much as in the cold-blooded animals. Another reason for this inability in children to resist cold is that the surface is so much greater as compared with the weight and volume of the body. The surface of the body increases in proportion to the square root of the volume. For example, a man weighing one hundred and fifty pounds will have only about three and one-fourth times as much skin surface as an infant weighing fifteen pounds, while, as readily seen, the weight is ten times greater.

The sweat glands are most important in controlling the loss of heat from the surface. The perspiration passes from the glands on to the surface, and as a rule evaporates without accumulating so as to become perceptible. However, on a very hot day or as the result of vigorous exercise, it is produced in such large quantities as to appear as drops of sweat. The evaporation of this fluid from the surface abstracts a very large amount of heat. The quantity of heat thus lost is under direct control of the nervous system, which regulates the amount of fluid produced by the sweat glands and thus controls the temperature of the body. The amount of sweat produced upon the surface within twenty-four hours varies within very wide limits. In cold weather the amount is very small, while in the sum-

mer months there is a large quantity. On an average it equals about two or three quarts.

In still another way is the amount of heat lost from the surface of the body controlled. When the blood vessels near the surface are dilated and contain much blood, more heat is lost. Alcohol when taken into the body has a remarkable effect on the blood vessels of the skin, producing a dilatation and feeling of warmth. This, however, is deleterious, as it serves to disperse a large amount of heat from the body, thus lowering the body temperature, and increasing the tendency to freeze in very cold weather.

The sweat glands, with the oil glands of the skin, are commonly called the pores. They are found on all parts of the skin surface with the exception of the palms of the hands and the soles of the feet, where there are no oil glands, but many sweat glands.

The sebaceous glands produce an oily material which covers the skin and has very important uses: First, it is impenetrable to germs of disease and prevents their passage into the skin from the outside. Second, it keeps the skin soft and pliable. Third, by keeping water away from the tissues of the skin, it prevents softening by soaking with water. This is clearly shown when one's hands are immersed in water for a long time. As a result the skin of the palms of the hands and fingers is watersoaked and softened and wrinkled, while the back of the hands remains impervious to the water. Fourth, in cold weather the air is prevented from coming into direct contact with the cells of the skin and drying them and producing cracks and fissures down through the outer layers, as is often seen in those who do not take proper care of the hands in winter.

In order to keep the glands of the skin, as well as the blood vessels and other elements in its structure, in good order, it must be properly cared for, and the most important factor in its care is the bath. Late fall and early winter is the time when epidemics of coughs and colds of the head and throat and chest appear, and in every public gathering one hears a disagreeable chorus of coughing. These colds may be prevented by careful attention to the skin. A thorough soap bath with warm water is necessary at certain intervals for cleanliness, and these intervals vary greatly in different individuals. Those who have very oily skins and very active sebaceous glands need frequent soap baths, while those with very dry skins can keep the skin clean without so often using soap on the covered portions of the body. But to keep the skin in a healthy condition, the blood vessels in good tone, and to prevent colds, the *daily cold bath* is the all-important thing. Colds are due to an unequal chilling of the body surface, as by a cold draft on the feet or the back of the neck. If the blood vessels have sufficient vigor and tone, an equalization may be maintained under adverse circumstances and colds prevented. This condition of the vascular system can be attained by a proper use of the cold bath. On arising every morning a cold plunge bath or spray should be taken, followed by vigorous friction with towel and hands. The room should be warm, and the water cold or cool (65° to 85°), depending on the vigor and state of health of the individual.

During the warm seasons the activity of the sweat glands is of the utmost importance to the health of the skin and body. In the winter season their function is largely in abeyance, a comparatively small amount of sweat

being produced. The oil glands of the skin are of the greatest importance in winter to keep the skin in good condition. Too much soap should not be used, and warm and hot baths should be taken only when necessary, as the soap dissolves the oil of the skin. However, it is well to precede a cold bath with a short hot bath without soap, especially in feeble persons.

Very young children should have the daily full bath, first with warm water, followed by cool (80°–90°). Great care must be taken to see that the room is always kept comfortably warm during the bath.

TOLSTOY

BY EDITH E. ADAMS

AMONG modern apostles of the gospel of simplicity none is so well known nor so far-reaching in influence as Count Leo Tolstoy. The whole world has heard his plea for a simpler life, and beheld his effort to practice the gospel he preaches, a spectacle which William Dean Howells regards as "the most impressive of the century."

The beauty of natural health and strength, and the happiness of a simple life spent with nature, "seeing, and holding converse with her," first powerfully attracted him when a young man in the army, on an expedition to the Caucasus, a land of wonderful scenery and primitive customs. In process of time, as his conviction deepened, he was led to forsake the palace for the fields, the aristocratic circle to which he was born, for the society of the Russian peasantry on his estate at Yasnaya Polyana. Among these he mingled on the equal footing of a common brotherhood, endeavoring by degrees to renounce all that they could not share with him on the same terms.

By permission of Physical Culture.

COUNT LEO TOLSTOY.

Abjuring all the modern luxuries common to men of his station, Count Tolstoy lives, as far as his personal habits are concerned, a life of severe simplicity. It is doubtless largely due to this fact that he is, at the age of seventy-five years, a man of tireless energy, full of the fire and vigor of youth, with a suppleness and activity that are the admiration and envy of a younger generation. The purity of his physical habits has enabled him to retain such mental vigor and clearness that he can at this advanced age continue his literary labors apparently without effort, and stir the thinking world with his vibrant uttterances.

Our illustration gives some idea of

his remarkably fine physique and powerful presence, showing also the picturesque simplicity of his garb, which is that of the *moujik*—a long blouse loosely belted with leather, adapted to all the requirements of comfort. In earlier years Tolstoy was threatened with consumption, from which dread disease he lost two of his brothers. He finally overcame this tendency, however, by living in the Steppes in a tent, and drinking kumiss in abundance.

From conviction as to both its physiological and ethical significance, the Count is a vegetarian. He firmly believes in the high nutritive value of man's original diet, and enjoys it accordingly. His two oldest daughters share his conviction, but the other members of his family are flesh consumers. Notwithstanding this, the Countess has, for the sake of her husband, made a special study of vegetarian dietetics, and has acquired such skill that, as she long ago remarked, she could, if necessary, "give dinners of grains, fruits, and vegetables for three hundred and sixty-five days in the year, and never duplicate one."

Though an abstainer from liquor and tobacco, the Count at one time was addicted to the vice of copious tea-drinking so prevalent in all classes of Russian society.

The tea is served to the women in cups with cream and to the men in glasses with lemon; and it was no uncommon thing for the Count to drink twelve or thirteen glasses at one sitting. This needless and harmful self-indulgence he has since renounced as not in harmony with his principles. His favorite beverage at the present time is "barley coffee" diluted with almond cream, an altogether wholesome and nourishing drink.

One who visited the Tolstoy household, arriving when the family with their numerous guests were at dinner, found the Count and his eldest daughter, Mascha, very simply and plainly dressed, sitting alone at the foot of the table, apparently eating nothing during several courses of the feast. At last a maid entered with a loaf of rye bread and a plate of pottage for each, and this constituted, on that occasion, the whole of their simple meal.

In a country like Russia, where "one is ever reminded of the fiat that he must eat and drink without the slightest reference to needs or else be regarded as morbidly unsociable," the Count's attitude in this respect is especially impressive. In the extreme simplicity of his diet, he is striking a blow at the idleness and sensuality that prevail among the upper classes, believing that it is best to attack first those vices which are the source of the others. One who is self-indulgent and gross in physical habits cannot successfully resist immorality. According to his view, whatever is unhealthful is immoral, since morality depends in great measure upon physical purity. In harmony with this view he believes in and practices vegetarianism as "the first step toward moral living," since flesh meat is not the proper food for human beings, "and serves only to stimulate animal passion, lust, luxury, and drunkenness."

But while Tolstoy's vegetarianism is based on the physiological foundation of pure and healthful living, it has also its ethical support. The painful mystery of the sufferings of the brute creation appeals to his sensitive and sympathetic soul, and makes him fear to take life needlessly in order to sustain life. His objection to the taking of animal life is not so much on account of the violence done to the animal, as on account of the violence that man does to

himself in overcoming his innate horror of slaughtering living creatures, and in crushing the instincts of sympathy and mercy implanted in the human breast by the Creator.

A hard bed and leather bolster are essential to Tolstoy's repose, anything softer and more luxurious only wearying him. On account of his strenuous open-air life, sleep comes easily to him, and he rises very early in the morning and takes a cold plunge in a bath situated at some distance from his dwelling, restoring circulation with vigorous gymnastic exercises. He then returns to his simple breakfast, usually consisting of oatmeal.

As a part of the gospel of simplicity Tolstoy proclaims the doctrine of labor. His ideas as to the dignity of labor and the degradation of idleness were stimulated by investigation made in Moscow with a view to starting philanthropic work there for the amelioration of some of its misery. Among the poor, working classes he found more happiness than he had expected. The only hopelessly useless class that he discovered were those who had belonged to the higher classes, and who, when losing their wealth, had retained their notions as to the degradation of labor, and their own relation to the working class. The social reformer was thereby led to abandon his philanthropic projects, and devote himself to the eradication of these false views of life. His theory is that one should not live by the labor of others, but by his own labor for the good of others; and this he has vigorously taught by voice, pen, and practice. This doctrine, also, has its physiological side; for physical labor is essential to physical health, mental clearness, and spiritual well-being.

Through long self-training in correct habits, abundance of physical exercise has become with Tolstoy so essential to mental activity that he finds himself good-for-nothing if he omits it even for a day; he can then neither read nor write, nor even listen attentively. Most of the time not devoted to literary work is spent in active exercise in the open air. His physical culture is all made to serve some useful purpose. In summer it takes the form of ploughing, mowing, felling trees, etc.; in the winter, of drawing water, chopping wood, and keeping his room in order. A part of his study is fitted with a cobbler's outfit, and here he occupies himself on rainy days, making footgear for himself and others. Thus, according to the light that is in him, this modern apostle endeavors to persuade men by his own example, as well as by his words, that a life of useful labor is more honorable than one of pampered idleness, and that "not to be ministered unto, but to minister," is the divine ideal.

This noble example to his sheep he gave—
That firste he wroghte, and afterwards he taughte; . . .
And Criste's law and His apostles, twelve
He taughte, but firste he folwed it himselve.
— *Chaucer.*

SIMPLICITY IN DIET

BY LENNA F. COOPER

IT is quite out of accord with our ideas of the perfect pair as they came from the Father's hand to imagine them sitting down to a modern table spread with luxuries and dainties which have required hours of worry and toil in their preparation. But what a dainty repast they must have had as they partook of the luscious fruit and the wholesome nuts gathered from the overhanging branches of "the trees of the Garden."

No doubt many a weary housewife wishes that people might return to the simplicity of such a diet.

It would hardly be practicable in these days to attempt to live off the "trees of the garden," owing to the fact that sufficiently nourishing varieties do not exist in all localities. Our first parents, on losing their garden home, undoubtedly found difficulty in securing sufficient food from the trees, being compelled to till the ground and eat of the herb of the field in order to supply the requisite nourishment.

It certainly was never intended by the Author of our bodies that we should put into them such mixtures and unwholesome articles as we find spread on our modern tables. That this practice is not only unnecessary, but detrimental to health, is illustrated over and over again in the lives and histories of mankind.

Simplicity in diet was practiced by all the ancient nations. The early Greeks and Romans lived upon fruits, nuts, acorns, and some vegetables, and used no beverage save the clear water of a near-by brook. For several centuries the diet of the Romans remained very simple, *pulmentum*, a porridge made of wheat or spelt, having become a national dish. To this were added such vegetables as peas, beans, lentils, cabbage, and onions.

About two hundred years before Christ, a professional cook was still a needless member of the household, except on occasions of feasts, when one was procured from the city market for the occasion. Probably it was from the feast, which followed their sacrifices, that they obtained the suggestion of a more luxurious living; also from a knowledge obtained, through their conquests, of the luxury of some of their neighbors.

During the days of the Empire the degeneracy of the people began to show itself in many respects, one of the most notable being that of the diet. Feasting became the main object in life. Dinners were usually served about three o'clock in the afternoon, but often lasted until the morning light broke upon the participants. Indeed, gluttony was so rank that in some cases the guests who had eaten until great discomfort was felt, retired to another room, called a *vomitorium*, to adopt measures for relieving the stomach of its burden,— only to be able to renew the excesses. There is little wonder that the downfall of such a nation should occur.

In Greece there was one city, at least, which was not contaminated by luxurious diet. Lycurgus, a governor of Sparta, wishing to abolish everything which tended toward effeminacy and degeneracy, arranged for public meals of a frugal and simple diet, and every one was compelled to dine thereon. Each person was required to furnish every month "a bushel of flour, eight measures of wine, five pounds of cheese

two and one-half pounds of figs, and a small sum of money for preparing and cooking the victuals."

Several of the Greek philosophers well understood the value of a simple diet. Pythagoras was a vegetarian, and endeavored to lead his people back to their primitive habits.

The ancient Persians offer, also, an example of a frugal diet. This story is told of Cyrus, who was then a prince of Persia, and visiting his grandfather, Astyages, King of Media. The boy of twelve was surrounded with all the delicacies and dainties of that country by his grandfather, with the hope of making him unwilling to return to his own country; but he was entirely unmoved by it all, and regarded the preparations with great indifference. Observing that his grandfather was much surprised at his conduct, he said to him, "The Persians, instead of going in such a roundabout way to appease their hunger, have a much shorter, to the same end; a little bread and cresses with them answer the purpose." He was accordingly allowed to dispose of his meats, which he distributed to the several officers who had shown him kindnesses.

In Persia the education of the children was considered an essential part of the government. Accordingly, they were all brought up after a uniform manner. The only food for children or young men was bread, cresses, and water, the design being to accustom them early to temperance and sobriety, "to strengthen the body and lay such a foundation for health as would enable them to undergo the hardships and fatigues of war to a good old age."

Not only did many of the ancients live upon a simple diet, but many peoples of our own times are doing so, also. The peasants of almost all the European nations live very simply.

The Italians subsist almost wholly upon boiled chestnuts and macaroni with tomato sauce; a handful of chestnuts sufficing for breakfast, and a bowl of macaroni with tomato sauce for dinner.

The hardy Irish peasants live on a diet of potatoes, oatmeal, and buttermilk.

The Russian people are quite frugal in their habits, those of Northern Russia living largely upon mushrooms, fungi of different varieties, potatoes, rice, and sunflower oil. Occasionally fish is added to the list, but more often boiled potatoes with mushroom dressing take the place of meat. Percy Scott Leggatt, in *Physical Culture*, tells of a woman who has lived seventy-two years on a diet of mushrooms, fungi, potato flour, sunflower seed, and brown whole-meal bread. She is still strong and active, daily carrying up hill and from house to house the heavy baskets of herbs which she sells.

The people of Southern Russia live upon rye bread, olive oil, vegetable soup, and sourcrout. As a people, the Russians are among the most hardy of the civilized nations of the day.

The attention of the world has been called of late years to a large part of the population of Russia by the exodus from that country of a great number of Jews on account of the recent persecutions there. A great many of them have settled in New York, where there are about five hundred thousand. These people are healthy, strong, and vigorous, which is proved by their longevity. According to the United States census, the Jew lives to the average age of fifty-seven and a third years, while the Christian lives only between thirty-three and thirty-four years. One of their own writers states

that this is due to their strict maintenance of the Laws of Health given them by Moses during their wanderings in the wilderness. These have been carefully handed down, and strictly adhered to by each succeeding generation.

During their forty years' stay in the wilderness the Jews learned many important lessons. In reality it was a school of preparation for their future national life. They had been in Egypt, living upon a very unwholesome diet, until their appetites were grossly perverted, and no doubt they imagined they could not get along without the "flesh-pots," the leeks, and the garlic of Egypt.

But God saw fit to put them upon a diet, simple, yet perfect, in that it supplied all the needs of the body. This one article of diet they subsisted upon for forty years, only a specified amount, an omer (nearly three quarts), being allotted each person a day; and at the end of this time there was not one sick person among them. Had they been permitted to choose their own food, it is not probable they would have selected or found a diet which would have produced such physical perfection as they attained, or that they would have used it in the proper quantity. Hence two important dietetic lessons were learned in the wilderness; viz., the value of a simple diet, and the importance of not over-loading the stomach.

Some of the aborigines of our own country afford examples of a simple yet healthful diet. The Indians of the Southwest are perforce vegetarians, owing to their living in a dry, barren country where game is not abundant. Most of the tribes of New Mexico and Arizona live upon preparations of wheat and corn, and such vegetables as beans, pumpkins, and melons. Two of the favorite dishes are *tortillas* and *pikami*.

Tortillas are made of corn flour and water. The ingredients are mixed, kneaded, patted, and formed into small cakes, then pulled and worked into large wafers, which are thrown upon a heated sheet of iron, tin, or flat stone, and turned from time to time until quite brown on both sides.

The pikami is made from corn flour, sugar, and a little squash blossom for coloring. This is put into an earthen dish, sealed with mud, and put into an oven, which is again sealed, and allowed to remain for several hours. When thus thoroughly cooked, it is really quite palatable and hygienic.

It is interesting to know that these people make their own flour, which is almost as fine as that made in a modern mill. They have an inclined, slightly concave stone called a metate, upon which they place their grain, and with another small and almost flat stone, they rub it in about the same manner that clothes are washed upon a board.

And these people are well content with their simple fare. A visitor at a mission school in the Yuma reservation once asked the matron how the children thrived upon their new diet, which consisted principally of corn-beef, coffee, white bread, beans, and corn bread. She replied that almost all of the children who attended the school became troubled with indigestion, water brash, and other troublesome symptoms. She further stated that the Indian parents attributed these annoyances to the use of meat, saying, "We cannot eat meat; it is not good for us; it is not good for our children."

The Kaffirs of South Africa are another class of aborigines who live upon an extremely simple diet, their fare being mealies and sometimes clabbered

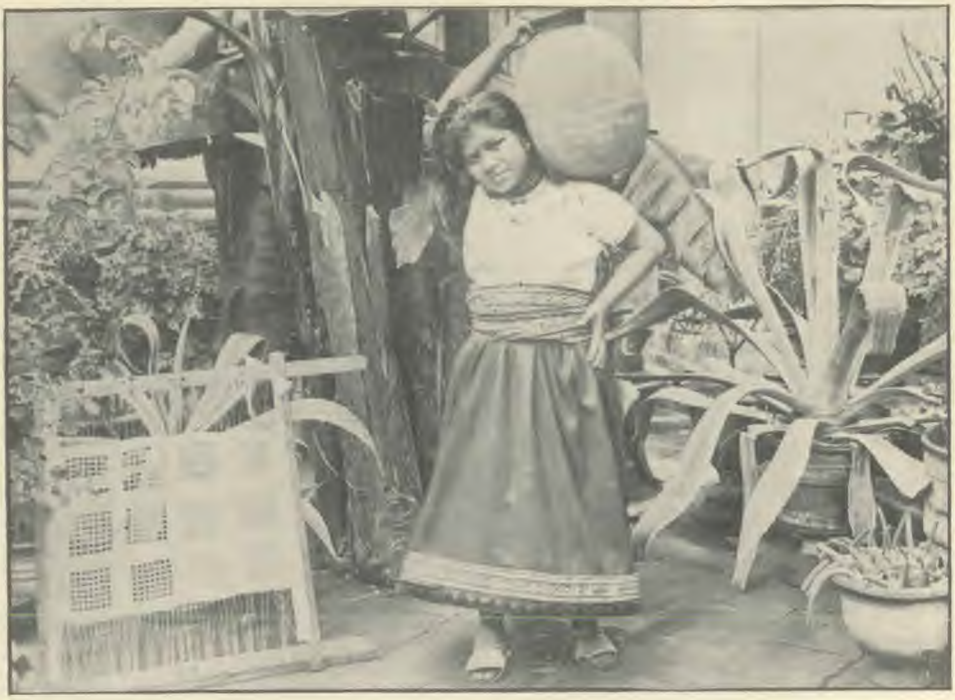
milk. The mealies are made from corn prepared much as is our hominy, then put into a log hollowed out at one end, and pounded well with a pestle. This preparation they cook in an iron kettle for a long time, about as we do beans. When the dish is ready, they surround the kettle, each one helping himself with a wooden spoon.

A number of these Kaffir young men are employed in Cape Town as jinriksha boys. They run all day long, pulling a weight of from one to three persons besides the vehicle; thus they do the work of an ordinary horse.

The Kaffir women are also strong. An American traveling in Cape Colony and having a telescope so heavy he could carry it only a few feet at a time, asked a native woman to help him with his burden. Putting the telescope upon her head she carried it about three miles without stopping once to rest. Besides this she carried a baby upon her back and some articles in her hand. Greater loads than this are sometimes carried.

Even in this age of multiplicity of dishes, there are no doubt many who from choice use only the simplest diet. That such is satisfying and conducive to good health is illustrated in the following instances: Three laboring men in Los Angeles have lived for three years on graham bread and fruit, with a little butter. They remain in perfect health, and are remarkably strong and enduring. The second, that of a woman who for six years has made all her meals of wheat products, granose and zwieback, ripe fruit of some sort, and nuts in some form to supply the necessary fat. One interesting point in this case is that she always has an appetite and relishes her food, with no longing for other articles. She enjoys excellent health, and is able to do an unusual amount of mental and physical labor daily, and continually with no vacations. However, we do not advise every one to limit himself to so few articles. The diet may be varied according to the season and to one's age and physical condition. Yet, were these very simple bills of fare the rule, how much time and energy would be spared the busy housewife, who is often the slave of the rolling-pin, and who has little time to enjoy the society of her family and friends, or to take care of her own health or take exercise in the open air, because of the insatiable longings of the stomach.

Plain food is quite enough for me.
Three courses are as good as ten.
If Nature can subsist on three,
Thank Heaven for three. Amen.
— *Oliver Wendell Holmes.*



WINTERING IN OLD MEXICO

BY J. W. ERKENBECK, M. D.

ALTHOUGH Mexico is geographically joined to the United States, it is very little known to the mass of the American people. Few realize that close to their own doors lies a country which is much more foreign to an American than any country of Europe. It has been said that if a person of fairly good geographical information were to be transported to almost any part of the great Mexican plateau — outside of the large cities — without any intimation as to where he was going, he would most likely conclude that he was in some part of the "Holy Land."

Much that is seen in Mexico to-day, — the architecture of the houses, the cooking utensils, the agricultural implements, the primitive mode of cultivating the soil,— traveled westward from Palestine to Grecia, Italy, Spain, and thence across the ocean to Mexico. Since Mexico has been standing still in the march of civilization, it differs little to-day from what it was four centuries ago. We might go back still further and say that Mexico is the Egypt of America. Its pyramids, ruined temples, buried cities, and ancient works for mining silver, are all interesting relics of a prehistoric age. Many are willing to travel around the world, spending large sums of money, in order to see what, if they only knew it, they might find by simply crossing their own borders, and visiting their next-door neighbor.

The predominance of the "picturesque" is particularly noted by all travelers in Mexican territory. "There is not" says Madame Calderon de la Barca,

"one human being or passing object to be seen that is not in itself a picture, or which would not form a good subject for the pencil. The Indian women with their plaited hair, and little children slung on their backs, their large straw hats and their petticoats of two colors; the long string of the *arrieros* with their loaded mules, and swarthy, wild-looking faces; the chance horseman who passes with his serape of many colors, his high ornamental saddle, Mexican hat, silver stirrups, and leather boots — all is picturesque." It is probably due to his love of the picturesque that the Mexican peasant, no matter how poor, always manages to secure a gorgeous *sombrero*, which is the crowning glory of his costume.

The extreme poverty of the Mexican laborer, due to the low rate of wages, does not mean in that country as it would in this, want and starvation. His simple wants are very easily supplied. In that mild climate he has no need of fuel, scarcely of a habitation, except as a sleeping place, and his clothing is scanty. A few dollars a year will provide him with his linen suit, and the blanket which he always carries; and his wife with one or two calico dresses. The remnants of the parents' cast-off clothing form the garments of the children, when they have any.

The small hut of the Mexican peasant is made, in the colder regions, of adobe — sun-dried brick — and in the warmer regions, of cane roofed with cornstalks or plantain leaves. It usually has but one opening, that which forms the entrance, and is entirely innocent of furniture, with the exception of the stones used for grinding corn, and a variety of earthen vessels. In the single room which constitutes their home, the whole family, father, mother, and several children, sleep on the

WATER CARRIER IN OLD MEXICO.

mats, untanned hides, or blankets which serve as their beds. Sometimes the older members of the family use spring beds made of bamboo poles closely woven, and supported upon saw-horses made for that purpose; but it is seldom that anything corresponding to the civilized idea of a bed can be found.

At about 5:30 A. M. the family arise, and the father goes direct to his work. The mother's chief household duty is the making of *tortillas*, the principal article of the Mexican diet. She takes the corn, which has been soaked over night in hot water and lime in order to soften the hulls, and grinds it in primitive fashion on a flat stone of volcanic origin, having a spongy appearance and with many sharp edges and crevices. The corn is rubbed back and forth over this with a stone roller, in a style sug-

GRINDING CORN FOR TORTILLAS.

gestive of a woman washing clothes. The result of this process is a kind of paste or dough, which is molded into flat cakes. These are slightly baked upon a stone griddle made hot over a fire in one corner of the room or enclosed in a circle of stones outside and in front of the hut. The cooking is usually done over glowing charcoal which is fanned to a blaze by fans constructed for that purpose. Although indispensable to the Mexican, tortillas are not as a rule well relished by the foreigner.

The morning meal, which is eaten about 7:30, consists of tortillas and frijoles, or boiled beans, another staple article of native diet. The children sit upon the ground around their mother, and are served in turn with a tortilla containing some of the beans made into a roll. This is often dipped into a fiery mixture of red or green peppers, condensed by cooking to a savage intensity. A young child will take more of this terrible compound at one meal than an average American could in a week. The result is chronic gastritis, with which most Mexicans are afflicted at a very early age. Among those who can afford it, milk and boiled eggs form part of the morning meal. For the midday meal, soup and a few coarse vegetables, and occasionally a little meat, are added to the staple articles;—tortillas and frijoles. An astonishing and interesting variety of dishes are concocted from the combination of vegetables, grease, and peppers. The husband's meals are usually packed in a basket and carried by his wife to the place where he is at work.

In the fields men may be seen plowing with the prehistoric wooden plow of the Orient — a crooked stick with an iron point, the Egyptian yoke being lashed with rawhide thongs to the horns of the oxen. The large two-wheeled ox-cart is also still in use. In the irrigation of the soil, by raising water from reservoirs or ditches into irrigating trenches, the same methods are em-

TORTILLERIA.

ployed in Mexico to-day as were in use five thousand years ago on the banks of the Nile. The Eastern way of cutting grain, with the hand sickle of the same type as that used by the Patriarchs, is still in vogue here. The grain is spread on the ground and threshed by the feet of mules or horses which are driven around in a ring; and the chaff is separated from the grain by the action of the wind. By this means the straw is cut as fine as if put through a feed cutter and needs no further preparation for use as fodder.

To the archeologist, Mexico — with its remains of ancient cities, strange idols, monumental memorials of former civilizations of the times and people of which there are no historic records — presents peculiar fascinations. Its yet unexplored parts furnish a rich field for discoveries. The museum of the city of Mexico contains the best collection of the remains of the Aztec people that has ever been gathered.

This country of mild and delightful climate is also of interest to the health-seeker, in search of a suitable place to spend the winter. Being partially in the torrid zone, we might naturally expect that it would be very hot all the year round. That it is not so, is due to the great altitude. Mexico is an immense tableland, nine-tenths of which have an average elevation of from five to seven thousand feet. Such an elevation in the latitude of New York would give to the country an Arctic character; but under the Tropic of Cancer it makes the climate that of perpetual spring. The days are comfortably warm and the nights cool.

There are usually a few slight frosts during December and January. It seldom rains or is cloudy from the beginning of November until the middle of June. The perpetual sunshine makes it a most desirable place for those who need the open-air treatment. Strong winds are very rare until within a few weeks of the rainy season, which begins about the middle of June.

While the coast lands of the republic are hot and unhealthful, the more elevated portions are claimed to be unsurpassed in salubrity. The extreme dryness and rarefaction of the air prevents the decay of animal substances, which never mold or putrefy, but spoil by drying up, and also hinders the propagation of disease germs.

To the northern tourist, bent on business, pleasure, or health-seeking, the greatest drawback to Mexican visitation is the lack of provision for his care or comfort. The Mexican buildings, even the hotels most frequented by foreigners, are without facilities for warming or cooking, in the American sense. The eating houses between El Paso and Mexico City are after the order of Chinese restaurants, and the hotels throughout the republic are not very satisfactory to the American. The cooking is largely in Mexican style, which is not altogether acceptable to the American palate, and this state of things is especially trying to the semi-invalid who in his weakened condition, finds it almost impossible to adapt himself to Mexican customs and habits. Such, however, need not be condemned to the eating of tortillas and frijoles, and living in adobe buildings with dirt floors, in order to enjoy the delightful and health-giving climate of this sunny land. In the city of Guadalajara, which is next in size and grandeur to Mexico City, is a branch of the famous Battle Creek Sanitarium; and here guests may enjoy the southern

SANITARIUM, GUADALAJARA, MEXICO.

sunshine and the clear, dry, salubrious atmosphere, without being cut off from the modern comforts and conveniences and suitable table service of their Northern civilization.

Guadalajara, which has a population of 100,000, is situated about half way between Mexico City and the Pacific Coast, and is the capital of the State of Jalisco. It has a most beautiful climate and surroundings.

The sanitarium building, which stands in the midst of a well-kept garden, is rectangular in form, consisting of two stories, and built around an open court. All the rooms open into a broad corridor surrounding the court, so that when not disposed to go outside, guests may enjoy the sunshine and air, entirely shut in from the outside world. The rooms are large, well-lighted, and ventilated, and furnished in modern style. The building is lighted with electricity, and each room has its open fireplace. The cuisine and the service is strictly American.

THE SIMPLE LIFE AT BROOK FARM

BY J. H. KELLOGG, M. D.

FOR thousands of years the human race has been wandering away from nature. There seems to be a recognition of this fact at the present time perhaps more than at any other period. All over the world, among intelligent people, there are to be found men who are thinking, talking, and writing about the necessity of returning to nature.

Man has acquired perverted tastes, pernicious and destructive habits, and has lost to a large degree the divinely implanted instincts which were given to guide him in the way of life. While the human race as a whole has advanced so far along the road of physical, mental, and moral degeneration toward race extinction, there still appear, now and then, splendid examples of noble manhood and womanhood, whose lives are an eloquent appeal in behalf of the divine order as the rule of human conduct. Splendid lessons of the advantages of living close to Nature may be learned from the experiences of these noble souls. A large volume would be required to present even in a very brief way the numerous examples of this kind which might be cited. We have room here for only bare mention of a few noble characters.

In 1841, George Ripley, an eminent New England clergyman, one of the most progressive men of this time, organized an interesting community that was popularly known as the Brook Farm, in West Roxbury about nine miles southwest of Boston. The central thought in this experiment was the return to Nature. During the five years of its existence, numerous notable people gathered at this spot, among whom were Chas. A. Dana, who, with George Ripley as editor-in-chief, brought to a successful completion that great monument of literary ability and industry, the "American Encyclopedia," Wendell Phillips, Emerson, Theodore Parker, Bronson Alcott, William A. Alcott, John S. Dwight, George William Curtis, John T. Codman, Nathaniel Hawthorne, Mrs. Sedgewick, Margaret Fuller, and many other equally notable persons who for longer or shorter periods were connected with this enterprise.

The interest which was felt by the public in the Brook Farm experiment

is clearly indicated by the fact that the visitors' register for one year bore the names of more than 4,000 persons. Naturalness in diet, dress, education, and, in fact, in all habits of life, was the keynote of the Brook Farm philosophy. The Brook Farm experiment failed, in part as the result of a calamitous fire which brought great financial embarrassment, there being no insurance; but the tide set in motion by the enthusiasm of these pioneers has not ceased going forward.

Many of those who spent a period of time at this delightful retreat adhered through life to the principles there embodied. Dr. Codman, who is still hale and hearty at the advanced age of seventy-five years, until recently pursuing his profession as a dentist in Boston, Mass., has adhered strictly to the vegetarian principles which he observed at the Brook Farm. Bronson Alcott, the Concord philosopher, a few years before his death stated to the writer that throughout his long life-time he had carefully adhered to the Brook Farm principles, abstaining strictly from all flesh meats. "Why," said Mr. Alcott, "if a man eats ox, he becomes oxified; if he eats pig, he becomes pigified," which quite agrees with the observations of Dr. Oliver Wendell Holmes in one of his delightful breakfast table chats, to the effect that if a man eats much pork he becomes swinish, not only in his nature, but in his appearance. The countenance acquires a swinish look. His hair and beard become bristly.

Miss Louisa M. Alcott, the famous daughter of Bronson Alcott, with the famous "Little Women," her sisters, of whom she wrote, was raised a vegetarian.

Dr. William A. Alcott, cousin of Bronson Alcott, who attained to considerable eminence in New England as a medical practitioner, was a most able advocate of the natural diet. He wrote several works on the subject, and created such a stir in New England that Carlyle, who was a smoker and a gourmand, and in consequence a terrible dyspeptic and a pessimist, felt called upon to start a literary crusade against what he termed Dr. Alcott's "potato gospel." Carlyle died a miserable victim of indigestion, but the "potato gospel" is still preached not only in New England, but in all parts of the civilized world. In London today there may be found more than a score of splendid vegetarian restaurants. Similar restaurants are to be found in Dublin, Belfast, Birmingham and almost every other large city in Great Britain.

Wendell Phillips, the most famous of all the Brook Farm Colonists, adhered very closely to a natural diet through his entire life. Two or three years before his death, Mr. Phillips said to the writer that for fifty years he had eaten no flesh; that he had occasionally tasted fish, but only when he found it difficult to obtain more wholesome food when absent from home on his extended lecture tours. Few men have accomplished single-handed more than did Mr. Phillips. Without being at the head of any great organization, before thirty years of age he was recognized as a great public leader, having obtained this position by the power of his eloquent appeals in behalf of human liberty, by which he perhaps accomplished more than any other man in the great battle which resulted in the abolition of slavery in the United States.

DRESS FOR THE HOUSEWIFE

BY LAURA LOVELAND FISK

THE dishevelled housewife, with faded calico wrapper much shrunken in skirt and out at elbow, apron torn and stained, shoes cracked and overrun, and hair half tumbling down, who answers our knock at the kitchen door on a week-day morning, is to many of us a familiar personage. We pity her, but more those who are about her daily. We are tempted to offer an apology for our early call. As a matter of habit with her, her excuses are readily forthcoming. "Really, I have had such a time this morning. Baby is cutting her teeth, and is so cross. I haven't had time even to comb my hair." But we whisper to ourselves that it was the same before there was a baby; it would have been better had she attempted no excuse.

If there is ever a time and a place for a woman to be *well dressed*, it is in her own home and in the morning hours. The slovenly habits into which so many housewives gradually fall, are studiously avoided by every woman of refined tastes. What pleasure can the husband derive from his breakfast if his wife by her appearance reminds him more of the women who go about begging than of the girl he once asked to become his wife? And what an example to set before her children!

"When one is dressed for his work, no occasion demands an apology," some one wrote, and very truly. When the housewife is properly gowned, no neighborly call, either received or given, or errand to the nearest shop, will demand of her an apology for her appearance.

The urgent duties of the housewife do not allow her many moments for making her morning toilet. If her dress consists of four pieces,— skirt, waist, belt, and collar,— and if in its adjustment seventeen pins of various sorts are required, the belt and collar and eleven out of the seventeen pins are quite sure to be left behind. It is not economy, if time and good taste be reckoned as economical factors, to select half-worn-out waists and skirts for morning wear. The time consumed in adjusting a separate waist and skirt, and in pinning in *correct* position a cast-off belt and collar, could be better utilized by the busy housewife in getting an early start with her morning work. Neither can it agree with our knowledge of hygiene to wear garments which are no longer considered fit for the street while preparing food. This is especially true if the garments be woolen.

Nothing can be more correct for the housewife than a clean, neatly fitting gingham or calico gown. The calico wrappers for sale at the dry goods stores meet the need after a fashion; but they are seldom well-fitting, and are very apt to shrink after being laundered. It is much better to purchase the material and have the dress made for the wearer. Calicoes may be found in many pretty prints nowadays, and a good piece will wear a long time. Before making up whatever material is used, the piece should be placed in salted water to "set" the color, after which it is washed in warm suds to shrink it, and then ironed. Should the material contain any of the green casts, alum instead of salt should be placed in the water to set the color.

An ideal morning dress is made in but one piece, that is to say, the waist and skirt and collar are all sewed to-

gether. A very simple and becoming gown is made with the waist quite full in front, very similar to a shirtwaist, and is fastened with four small buttons. The sleeves are not too long, and are finished with narrow open band cuffs which button neatly. The seam in the sleeve is left open three inches to admit of the sleeve being rolled up at pleasure. The skirt is full and has a few gathers near the front; it is sewed to the waist, and opens on the left hand front seam with a blind placket. The neck is finished with a straight band, three quarters of an inch wide. Over this a dainty turn-over collar may be basted.

In the construction of this dress, it must be borne in mind that absolute freedom of movement is necessary for the housewife. Her clothes must in no way interfere with her duties.

Over this dress is worn a large, checked gingham apron, made as shown in the cut. About five yards of gingham are required. The yoke and belt are edged with coarse, white rickrack braid. The cut shows a very convenient little pocket on the right side, below the waistline. The belt, which is an inch and a quarter wide, passes under the front widths, comes out at the underarm seams, where it is securely sewed, and fastens in the center of the back with two small buttons. This apron has a very pleasing effect if well made.

Another apron which will be found very convenient to pull on in the afternoon or during the supper hour to protect a good dress, is one made quite similar to that just described, and in addition has long full sleeves, finished with a narrow cuff, and the yoke is cut a little higher, to protect the dress about the neck. It should be made of lightweight material, that the wearer may suffer no discomfort from the additional clothing.

An extra clean white apron may be handy to put on in a hurry, should the doorbell ring.

With two dresses and several aprons, as described above, the housewife is well equipped for the morning hours, as well as for other emergencies which may arise later. And the thoughtful woman will be sure that her shoes are comfortable and in good repair, and that the other details of her toilet have received due attention.

SLEEPING ARRANGEMENTS FOR THE BABY IN WINTER

THE bed that will be found most comfortable for the baby and most convenient for the mother is a crib without rockers, one side of which can be let down so that the crib can be joined to the bed occupied by the mother or the nurse. A bolster the length of the crib will cover any unevenness between it and the large bed.

For the coverings provide one soft wool double baby blanket, one square yard of ordinary flannel, and a blanket of English serge, or, if this cannot be obtained, use very heavy flannel doubled. Bind all the coverings with silk flannel binding.

These coverings should not be made up on the bed, but arranged so that they can be used separately or together, according to the temperature of the room. The average young mother covers the baby up to his chin with the

sheet, double blanket, and spread, and is liable to find that in his discomfort the poor little fellow has squirmed about, the forehead and hands are damp, and the pillow, where the head has rested, is wet with perspiration.

A good thermometer should hang in the baby's sleeping room, and should be carefully studied in order that the bed coverings may be properly regulated. The following rules have been found excellent for regulating the covering on a baby sleeping in a house comfortably heated:—

At 70 degrees: A square of flannel around the feet, sheet and spread drawn up almost to the arms.

At 68 degrees: Same covering, with additional blanket of English serge across the feet.

At 66 degrees: Same covering as for 68 degrees, with additional single wool baby blanket.

At 60 or 58 degrees: Same covering as for 68 degrees, with double wool baby blanket; all the covering well drawn up to the neck.

These rules may not be suitable for all babies, but the mother or nurse can easily tell by feeling the baby's forehead and hands if he is too cool or overheated. At night the covering not in use should hang over the foot of the crib, where it can be easily reached and drawn over the baby if the temperature of the room makes it necessary.

The baby should be provided with

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IMBUED WITH THE SPIRIT OF THE SEASON.

a warm nightdress with high neck and long sleeves. As he is likely to throw his arms out from under the cover, he should also wear a little woolen sacque when the temperature of the room is below 68 degrees. When the air is not too cold, a window in the room should be left partially open at night. The baby needs fresh air as well as grown people. He can be protected from drafts by a screen placed before the window or around the crib.

LET EACH MAN, EACH WOMAN, WITH A HEART, SAY:

"I AM the voice of the voiceless,
Through me the dumb shall speak,
Till the deaf world's ear be made to hear
The wrongs of the wordless weak.

"From the street, from cage, from kennel
From stable and zoo the wail
Of my tortured kin proclaims the sin
Of the mighty against the frail.

"O, shame on the praying churchman
With his unstalled steed at the door,
Where the winters beat, with snow and sleet,
And the summer sun-rays pour.

"O, shame on the mothers of mortals
Who have not stopped to teach
Of the sorrow that lies in death's dumb eyes —
The sorrow that has no speech.

"The same force formed the sparrow
That fashioned man, the king;
The God of the whole gave a spark of soul
To furred and feathered thing.

"And I am my brother's keeper —
And I will fight his fight,
And speak the word for beast and bird
Till the world shall set things right."

— *Sel.*

Chautauqua School of Health

THE ELEMENTS OF FOOD

BY J. H. KELLOGG, M. D.

FOOD is the fountain which supplies the ever-wasting stream of life; the vehicle by means of which life and energy are conveyed to the living body. The material of the body is constantly being worn out and removed by the various vital processes; and it is necessary that a constant supply of renovating material should circulate through the body to make good this loss. Food is the medium through which the material for replenishing the worn and impaired tissues is supplied; and that is the best food by means of which this object may be the most readily and perfectly accomplished.

In a study of the body we find it needs several different kinds of elements. These are especially the following:—

1. First of all, we need material which may be quickly built into the body, and which may be as easily and quickly converted into heat and energy. This exists in the food in the form of sugar and starch, and in the body in the form of glycogen, a sort of animal starch. Glycogen is found chiefly in the liver and muscles.

2. There is also found in the body a considerable amount of substance from which heat and energy may be readily derived, existing in the form of fat, and which is stored up, often in large amounts, to be drawn upon when required by emergency. The fat of the body serves the same purpose as the coal in the tender of a locomotive, while the starch and sugar correspond more closely to the coal already in the furnace.

3. A third important class of substances found in the body are those which form an essential part of the muscles, nerves, glands, and all living cells. These are known by the general name of albumens, or proteids. These substances correspond to the iron, brass, and other materials out of which the locomotive is made.

4. Combined with the third class is a small, comparatively insignificant, yet essential class of substances, commonly called salts. These are represented by the ashes left when the animal body has been burned. These salts do not exist in the body as mineral substances, nor in the form in which they are found in the ashes of an animal, but in an organized or living form, the exact nature of which scientists have not been able to discover.

An examination of substances which are capable of maintaining life, or which may serve as food, shows that they contain all these various elements, which may be briefly enumerated as starch, albumen, fats, sugar, and salts.

Starch.— This, the most abundant of the food elements, is found in vegetables, grains, in most seeds, and in nearly all vegetable foods. It is also found in green fruits, but not in ripe fruits, and with a very few exceptions, is not to be found to any considerable extent in nuts. Grains contain starch in larger quantity than any other element. More than half their weight consists of starch. Every species of grain, and every vegetable containing this element, has its own particular variety of starch, but, in general, starch consists of little granules, each made up of several layers of a peculiar substance which is possessed of most remarkable properties, and undergoes the most interesting changes in its entrance into and sojourn in the body.

Sugar.— This remarkable food substance, found in nearly all fruits, is also found to some extent in vegetable foods. There are many different kinds of sugars. Sugar furnished by the sugar cane, the beet root, and the sap of the maple tree, is known as cane sugar. The sugar of fruits is fruit sugar, or levulose. A peculiar sugar produced in the sprouting or malting of grain is known as maltose. Beer is produced by the fermentation of this sugar. Another form of sugar, commonly known as glucose, is artificially made by treating starch with sulphuric acid. This process is employed on a large scale, at the present time, and produces a very cheap, but inferior kind of sugar, which cannot be safely substituted for the natural products of the vegetable kingdom.

Sugar, though very unlike starch in appearance, is almost identical with it in composition, and serves practically the same purpose in the body, since starch is, by the processes of digestion, made into sugar,— maltose.

A sweet substance found in milk is known as "milk sugar."

Dextrin.— Another substance, closely resembling both starch and sugar, is dextrin; it differs from starch in the fact that it is readily soluble in water, while starch is not.

(To be concluded.)

MARKETING FOR HEALTH

BY MRS. E. E. KELLOGG

To serve well its purpose, food must be both carefully selected and properly prepared. The best of food materials may be cooked in most unhealthful ways, but poor foodstuffs, though disguised to the taste through various devices of culinary art, cannot thereby be transformed into good, wholesome articles of diet. Right selection of food material lies at the very foundation of healthful living.

To make such choice of foodstuffs as shall properly supply the body stuffs for the maintenance of perfect health, is a matter of no small moment,— a matter which it is not wise to delegate to unskilled hired helpers, nor to depend for, too largely, upon the telephone service. The person responsible for providing the family food supplies needs to be equipped with a thorough knowledge of the dietetic values of each kind of food, and its relation to bodily needs, as also to understand the difference between the perfect and imperfect conditions of food substances; to be conversant with their market values; to be prepared to recognize, so as to discard, the adulterated article; and last but not least, should un-

derstand the tastes and needs of the members of the household, that provision may be made for each one's special wants. One not posted in all these particulars is likely not only to waste means in the purchase of needless, worthless, or too expensive food supplies, but also to provide a one-sided dietary.

The table opposite page 48, showing the composition of many foods in common use, will enable those unacquainted with their nutritive values to form an adequate idea of their adaptation to dietetic needs.

When practicable, it is wisest for the housekeeper to do her own marketing. Equipped with the requisite knowledge to make a proper selection of edibles, she thus has the opportunity of choice in securing goods of the very best quality,—a matter of economy both in money and health. Inferior foodstuffs, though the first cost may be less, are dearest in the end, both because of the waste occasioned, and because a perfect structure cannot be made out of poor building materials. Attending to her own table needs, the housekeeper knows just what substitute to provide when the first choice is unobtainable. If she is the wise woman we presume her to be, she will have practically arranged her menus for a week in advance, have examined her larder, and made a list of her actual and immediate needs, and thus be enabled to purchase her supplies in proper amounts.

The too common practice of living from "hand to mouth," that is, of leaving the planning for daily meals till the last minute before they must be prepared, is far from being economical or healthful. The usual result of such a procedure is that the bill of fare is composed of whatever can be easiest gotten together under the circumstances. Such meals may prevent starvation, but are not likely to conduce to the highest purpose of alimentation.

Another advantage to the housekeeper in doing her own marketing is that of the exercise and fresh air which it may be her good fortune to get, in addition to her supplies, on the way to and from the market.

It is seldom advisable to purchase from city street-hucksters. Their stock is likely to be of left-overs from overcrowded markets and in danger of becoming soon spoiled, if not already so. In towns and villages there are dealers who regularly visit their patrons bringing the best and freshest of supplies from their own produce.

It is usually an advantage to patronize the larger provision dealers, as the amount of business done necessitates the constant replenishing of their goods, thus insuring freshness and better quality.

It is poor policy to have to run out to the grocer's for every little need. If one has facilities for keeping food, it is the best plan to buy dry groceries in quantities sufficient to last at least a month. Perishable articles need to be supplied fresh two or three times a week. Of transient articles it is essential to purchase only when they are in season if one wishes to have them good, wholesome, and well-flavored. Fruits and vegetables put upon the northern market before their season are often plucked so unripe that the bruises incurred during transportation cause incipient decay, and render them totally unfit for food.

Green vegetables, to be wholesome, should be freshly gathered, crisp, and juicy; those which have lain long in the market are very questionable food. In Paris a law forbids a market-man to

offer for sale any green produce kept more than one day. The use of wilted and stale vegetables is frequently the cause of serious illness. Regarding other points of choice, good spinach is of a bright green color. Lettuce with the firm, solid heads is best. The dwarf celery with firm white stalks is considered superior. The best flavored tomatoes are usually those which are smoothest and heaviest. Fresh corn will have the cobs well filled, each grain being plump and juicy. The firmer, heavier heads of cabbage are usually the best in quality. Cauliflower when in good condition is of creamy white color with unwilted leaves.

Partially decayed, stale, and overripe fruits should not be purchased for foods. Berries which show a dry surface are likely to be fresh. Plumpness and freedom from decay are points to be noticed in the selection of larger fruits when seasonable. Fruits out of season may possess these qualifications and yet be unripe and insipid. In choosing bananas, when purchasing by the bunch, look at the thick end of the stem upon which they hang. If it be black, the fruit is likely to ripen rapidly and decay soon. If the stem be partially green, the ripening will be slow; if wholly green, it will be some time before the fruit will be suitable to use. The best bananas have thin skins. The smaller sized fruit is the sweeter.

All roots and tubers should be plump, free from decay, bruises, and disease, and with fresh, unshriveled skins. Sprouted vegetables are unfit for food, as are such as have begun to decay. Those which are smoothest and heaviest for their size are best. This is true also of squashes and pumpkins.

In the selection of eggs it is well to remember that when held between the eye and a strong light a fresh egg has a clear, semi-transparent appearance; the outline of the yolk can be distinctly traced; it is also heavier than the stale egg. By keeping, eggs become cloudy, and when decidedly stale, a distinct, dark, cloudlike appearance may be discerned opposite some portion of the shell.

Legumes should be examined for adulterants, particularly lentils, which are often mixed with the seed of a weed which is of the same color, but more plump in shape. The true lentil is round and quite flat. There are several varieties, but the brown German lentils are the more commonly kept in stock in this country. Dried peas for culinary use are obtainable in two forms: the split peas, which have had the tough envelope of the seed removed, and the green varieties or Scotch peas. These, as also beans of any of the almost numberless varieties obtainable, when of the best, will be perfect seeds, free from dirt.

The unground cereals may usually be obtained in good condition from first-class dealers. The finer mill products sometimes contain foreign substances. The quality of a brand of flour will depend upon the kind of grain from which it is prepared, and the perfection of the process by which it is cleansed and milled. It is not always possible to judge flour by its appearance, but in general, good flour will be sweet, dry, and free from any sour or musty smell or taste. Take up a handful, and if it falls light and elastic, it is pretty sure to be good. If it will retain the imprint of the fingers and falls in a compact mass, or is damp, clammy, or sticky to the touch, it is by no means the best. Graham flour is sometimes a compound of bran and white flour. Flours made from the entire grain may generally be distinguished from a spurious article by

taking a small quantity into the mouth and chewing it. Raw flour made from the entire grain has the same sweet, nutty flavor as is experienced in the chewing of a whole grain of wheat, and produces a goodly quantity of gum or gluten, while a spurious article tastes flat and insipid like starch, or has a bitter taste consequent upon the presence of impurities.

Good macaroni is yellowish grey in color, rough, elastic, and hard. When cooked, it increases to at least twice its bulk, and perfectly retains its shape.

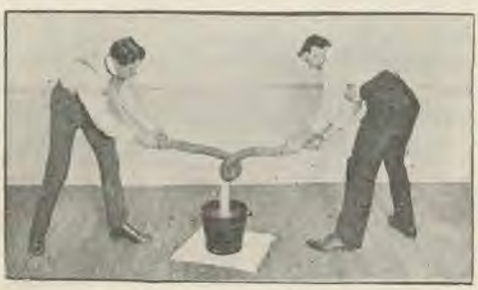
The most commonly adulterated articles found in the market are spices, tea, coffee, catsup, essences, extracts, jellies, honey, molasses, and baking powders, for most of which, fortunately, the hygienic cook will have little use.

THE HOT-BLANKET PACK

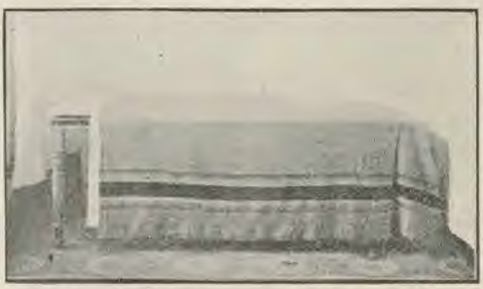
BY J. H. KELLOGG, M. D.

THE hot-blanket pack consists in the envelopment of the body in a woolen blanket wrung out of water as hot as can be endured by the patient without pain or injury.

To give the hot-blanket pack, one needs a couch or bed with a good mattress, a small hair or cotton pillow, one wide single woolen blanket, two double blankets, two or three towels, a basin of cold water, and a pailful of very hot water, and two or three bottles or rubber bags filled with hot water. The double blankets are spread upon a couch, as shown in the illustration. The patient is prepared, his head, face, and neck bathed in cold water, and a towel dipped in cold water is placed about his head. The single blanket is then saturated in hot water. Water at boiling temperature may be used if great care is exercised. After being wrung out as dry as possible, the blanket is spread upon the couch. The patient



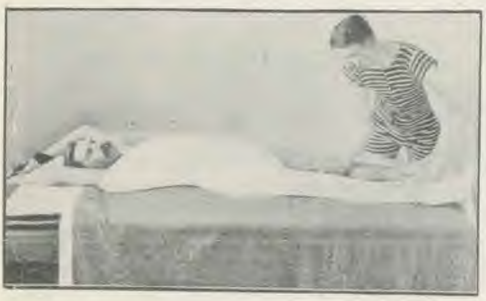
WRINGING THE BLANKET.



BED PREPARED FOR GIVING THE PACK.

lies down quickly and the blanket, while the heat is still as great as the skin will bear, is wrapped about him in the following manner: The patient raises both arms above his head, while the attendant draws one side of the blanket across the body, turning it well up under the arms and tucking it in closely all along the side of the body. From the hips down, the edge of the blanket is tucked snugly around the leg of the corresponding side, as shown in the illustration. The patient lowers his arms and holds them close by his side, while the other side of the blanket is passed over and tucked in. A fold is made in the blanket over each shoulder so as to make it fit the

neck closely, care being taken not to constrict the vessels. Hot water bags are then placed at the thighs, feet, and back of the patient, and the dry blankets are quickly drawn about the patient and tucked under, so as carefully to exclude the air. A large piece of rubber sheeting thrown over all is useful, as it prevents cooling by evaporation Care must be taken not to make the



Applying the Blanket.

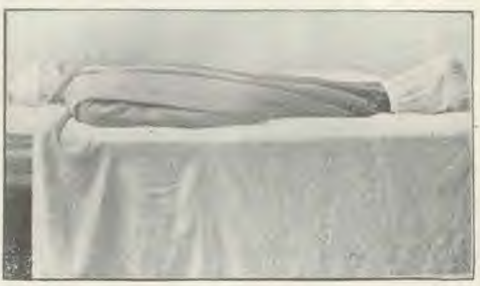
blanket so hot as to burn the patient, and it is necessary to wring it very dry, so that the procedure will be in fact a steam bath rather than a water bath. Care must also be taken to cool the head frequently during the hot-blanket pack to avoid congestion of the brain.

The duration of the pack should never be so great as to produce an injurious rise of temperature. This precaution should be especially borne in mind when the pack is employed in cases of fever, in which the surface is cold while the temperature is high. In such a case the application must always be brief, five to ten minutes, and should be followed immediately by cold friction.

The hot-blanket pack is an excellent means of combating severe internal pain which does not yield to the application of an ordinary fomentation. The hot-blanket pack is really a fomentation applied to the whole surface, and hence produces a larger effect than can be produced by a hot application to a smaller area. It is a very good substitute for the general hot bath.

The hot-blanket pack may render invaluable service in cases of shock, collapse, and whenever the general surface is cold and pallid, as it affords a quick means of dilating the vessels of the skin and so restoring the surface circulation.

In so-called malignant measles (sometimes called black measles) and in other fevers when the skin is cold while the temperature is high, a condition which sometimes occurs in diphtheria, typhoid, and other infectious fevers, the hot-blanket pack may often be the means of saving life by recalling the blood to the surface and thus relieving the intensely congested parts. When used for this purpose, as before remarked, the hot-blanket pack should be of short duration, five to ten minutes, and should be immediately followed by



Patient in Pack.

the cold towel rubbing or the cold mitten friction, so as to fix the blood in the skin, while at the same time reducing the temperature.

In acute congestion or inflammation of the kidneys such as frequently occurs in scarlet fever, sometimes also in diphtheria and other infectious fevers, the hot-blanket pack is the most serviceable of all known methods for combating internal congestion and aiding na-

ture in her struggles to overcome the disease-condition present. In these cases the hot-blanket pack may be used almost continuously for several hours, twenty-four hours or more if necessary, but the application must be interrupted at intervals not greater than twenty-five to thirty minutes, long enough to administer a vigorous cold mitten friction, great care being taken not to chill the patient. During such a continuous application, an ice bag must be kept over the heart to avoid the depressing effect of long-continued heat on the circulation. This precaution should always be taken whenever the hot-blanket pack is administered if the heart is known to be especially weak or excitable.

The hot-blanket pack is an excellent means of bringing out the delayed eruption in measles, in scarlet fever, and in other eruptive fevers. In these cases it is well to follow a short application of the hot-blanket pack by a more prolonged wet-sheet pack, the latter being continued until the sheet is well warmed, and finish by a rapid wet hand rub or cold towel rub.

EXERCISE AND HEALTH

ACTIVITY is essential for health. Stagnant water becomes foul, while the running stream remains pure and clear. The tissues of a person who neglects muscular exercise become filled with waste matter in consequence. Exercise stimulates the activity and vigor of every organ of the body. The energy of the heart and the activity of the lungs are increased four or five fold by exercise. Through the increased activity of the heart, the movement of blood through the body is hastened, and through the increased activity of the lungs the quantity of oxygen is increased to purify the blood and vitalize the tissues. Thus the tide of life rises higher. The activity of the liver, kidneys, skin, and all other eliminative organs is greatly increased, thus securing purity of blood and tissues.

As a direct result of deficient exercise, the body is predisposed to numerous diseases, especially rheumatism, indigestion, diabetes, obesity, neuralgia, insomnia, constipation, and premature old age.

Exercise may be classified as gentle, moderate, and violent. Gentle exercise is that which does not produce either fatigue or breathlessness. Moderate exercise produces fatigue, when sufficiently long continued, but not breathlessness. Violent exercise produces breathlessness, which is one form of fatigue; and if continued for any length of time, produces exhaustion.

Gentle exercise is adapted to invalids and very feeble persons. Violent exercise is permissible only to young persons and to adults who have been accustomed to vigorous exercise all their lives. Moderate exercise is the sort which is especially indicated for health in all classes. It must not be considered, however, that exercises are harmful that cause a person to breathe deep. Deep breathing is one of the most beneficial effects derived from exercise.

There is nothing better than physical labor for promoting muscular development and securing the advantages which come from exercise. But care should be taken continually to keep as nearly as possible in a correct poise. Ignorance, carelessness, or weariness, often leads a person to assume unhealthful positions while engaged in work, which,

in consequence of the irregular muscular development thereby induced, become fixed deformities.

For children, out-of-door play, light work, assisting in cultivating fruits, gardening, and similar occupations are desirable exercises. Elderly people require a considerable amount of exercise, but should be careful to avoid violent exercise of all kinds. They should especially be careful not to become greatly overtaxed or out of breath. The chest walls being rigid, the lungs cannot expand as in youth, and the heart may also be easily overworked. Elderly people who are accustomed to exercise do not so quickly experience a sensation of fatigue, because of diminished nervous sensibility. They are consequently very liable to overwork, not being aware of the fact until a day or two later, when symptoms of secondary fatigue appear. It is very important that elderly people should understand this fact, which applies to mental as well as physical work. An elderly man may be able to compete with a young man in exertion without apparent injury at the time, but will later suffer, while the young man will experience no injury, though at the time greatly exhausted.

A working man may perform work equivalent to lifting nine hundred tons a foot high, in a day. It is not probable, however, that so much work as this is required for the maintenance of health; but it has been calculated that at least one-sixth of this amount of labor should be done by the average man in order to maintain proper vigor and activity of lungs, heart, and of the various functions which depend upon the action of muscles. It must be borne in mind that the strength, health, and vigor of the internal muscles, those of the stomach and intestines as well as of the heart, depend upon the strength of the external muscles. When these are weak the internal muscles become weak also.

Women as a class suffer more than do men from lack of exercise.

Walking is a most useful form of exercise. Sedentary persons depending upon this means of exercise should walk four to eight miles a day, not leisurely, but at the rate of four or five miles an hour. Young persons may engage in various vigorous sports in which running is required without disadvantage. Such exercises develop the chest by exciting vigorous breathing movements. Running exercises are not to be recommended for adult women or for persons past middle age. Adults, unless from youth accustomed to running, should content themselves with a slower pace. After running exercises the pulse and respiration should return within a few minutes to the normal rate. When the pulse remains quick for half an hour or more after exercising, this fact is evidence that the exercise has been too violent. Swimming is the most valuable of all forms of exercise, but must not be overdone.

J. H. K.

THE BACTERIOLOGY OF COMMON LIFE

BY F. J. OTIS, M. D.

As many people entertain a wrong idea of germs, it is hoped by a series of articles to make this subject plain to our readers. It is proposed not only to describe the habits and nature of germs, but also to explain how to control the situation when undesirable germs are present.

The term *germ* is a general one, including more than animal or vegetable micro-organisms. It is used to designate particles from which life may emanate, even to the production of trees and plants. We often speak of the germ in wheat, meaning that portion from which life may spring.

Scientists usually term all minute life, micro-organisms. Micro-organisms are of two kinds, either animal or vegetable. The smallest forms of animal life are single-celled, and are classified as protozoa. The ameba is a single-celled little animal that exists in the slime of aquatic plants. Bacteria are the smallest forms of plant life. Novy defines them as single-celled microscopic plants.

There are protozoa, as well as bacteria, that grow in the blood of animals, producing disease. The sleeping sickness which has been referred to of late in the newspapers is caused by one variety of these little protozoan animals. The tsetse fly disease that destroys the cattle in South Africa is also caused by a little protozoan called the nagana. Malaria also is caused by a little protozoan that penetrates the red blood cell and develops there. At maturity it bursts the cell, setting free its poison in the plasma. The presence of the poison immediately causes the chill and fever.

A larger number of micro-organisms belong to the vegetable kingdom. These belong to the order of fungi. They vary in size greatly. Naming the smaller forms according to their size we would speak first of mold, then oidii, or non-fruiting mold, then yeasts, and lastly bacteria. Bacteria are often called germs.

Our first knowledge of these little plants was gained when Leewenhoek, in 1860, turned the lenses, that he made himself, onto a drop of water in which some hay or grass had been standing for a time. He was very much surprised at the amount of life in that little drop. The microscope has been improved and perfected so that now most of these plants are as readily recognized as are the trees and shrubbery of our forests.

Knowledge of the forms of these germs has led scientists to divide them into three kinds, according to their shape. Some are perfect spheres, called cocci; others are little rods, called bacilli. They remind one very much of a joint of bamboo. Still another form is called spirilla, so termed because when the little segments are not separated, they form perfect spirals or corkscrews. Since the character of germs has become known, they have been divided into two kinds,— those that produce disease, and those that do not; that is, pathogenic and non-pathogenic.

All plants are not so stationary as the oak. On the marsh or the pond may be seen small plants floating about in the water just as much at home in one place as in another. Many bacteria not only float in the water, but are provided with tiny whips called flagella, similar to the tails of pollywogs. By means of these flagella they go through the water at a marvelous rate of speed when we compare the distance covered to their size.

A microscopic plant that grows in colonies (called the *volvox*) may be seen with the aid of a handglass in water taken from the pond. It is a green spherule that goes revolving about. But bacteria are much smaller, so that the reading glass that shows the volvox will not reveal them. The motile varieties travel much faster. If the express train passed its length as quickly as the germs do, it would travel

three hundred miles an hour instead of sixty.

Germs, like all plants, require soil and moisture for their existence. Some of them not only prefer, but require, darkness. Often conditions are not favorable for their growth; as, for instance, when they become exposed to sunlight.

During the dry or cold season many plants go to seed. Others become dry, leaving bulbs that preserve their vitality until the next season. Germs dry up in the same way, but instead of becoming snags and logs, or brush and grass, they become dust. However, in order that they may live again, the bacterial cell gathers its essential parts into a little focus, and surrounds these portions with a very firm wall. These concentrated portions of the germ are called *spores*. If kept in a dry place for years, as corn is sometimes kept, and at the end of that time planted properly, they will develop, producing their kind, the same as corn or wheat.

In our next number this subject will be continued, considering the distribution and environment of bacteria.

PRACTICAL NURSING IN THE HOME

BY LENNA F. COOPER

It is not always possible in cases of illness in the home to obtain the services of a trained nurse from some institution; but it is possible for every mother and those entrusted with the care of others to be sufficiently trained to render most valuable service to the sick. Certainly it must be the duty of every mother to have this training.

Many women possess natural qualifications by which they readily adapt themselves to the surroundings of the sick room; but if these qualifications are lacking, they may be acquired by study and thoughtfulness.

A nurse should be kind, patient, always cheerful, tactful, and authoritative without seeming to be so; and above all, she must be calm and keep her presence of mind.

Her dress should be clean and dainty, some suitable wash material being preferable. In contagious or infectious diseases it is imperative that the nurse's dress should be of a washable fabric.

She must have an eye for the little things. Often a cob-web hanging from the ceiling, or a misplaced article, will give a sick person untold annoyance.

She must allow no whispering in or about the sick room. It gives the patient the idea that something very serious is the matter.

Keep all bottles and medical appliances out of sight. If necessary to have them in the room, it is well to have a small screen to hide them from view.

It is very important that the nurse should be able to take the patient's temperature. This is done by means of a clinical thermometer. Before using the thermometer, shake the mercury down to about 94 or 95 degrees, holding the bulb end down. Rinse the bulb in cold water and insert in the patient's mouth. Have him close the lips tightly and let it remain from three to five minutes. Remove the thermometer and note the exact reading — the number at which the mercury stands. The normal temperature of the body is 98.4°, but this may vary about a degree without any grave conditions existing. After

using the thermometer, dip it in alcohol or some disinfectant solution, as a 1 – 1,000 solution of corrosive sublimate. This solution if used should always be slightly colored with a little bluing, so that there will be no danger of mistaking it for water or medicine, as it is a deadly poison. Be sure to rinse it off in clean water before using again. See that the patient has taken nothing hot nor cold into the mouth for at least one half hour before taking the temperature.

If the patient is a child, or is delirious, or mentally deranged, the temperature should not be taken by mouth, as the patient may bite the thermometer and allow the poisonous contents of the bulb to be emptied into the mouth. In such cases the temperature may be taken either by axilla or groin, or by rectum.

When taking by axilla or groin, see that the patient has been well covered for some time previous. Place the thermometer, which has been well shaken down, in the axilla or groin, holding the arm or leg, as the case may be, well up against the body so that the thermometer will be in immediate contact with the skin. Let it remain for ten minutes. The axillary temperature is from one-tenth to three-tenths of a degree higher than by mouth.

To take the temperature by rectum, cover the bulb with oil or vaseline, and with the patient lying on the left side, insert slowly and gently, about an inch and a half, leaving it there about three minutes. The rectal temperature is from one-half degree to one degree higher than by mouth.

While the temperature is being taken, one may at the same time take the pulse and respiration. The pulse is counted by placing the first and second fingers lightly on the inside of the patient's wrist on the thumb side. Press gently and firmly, and you will soon feel the steady beat of the pulse. Count this by your watch, either for half a minute, doubling the result, or for a full minute. The normal pulse is about seventy-two beats per minute, except in children or very old people, in whom it s faster. It is best if possible to count the respiration without the knowledge of your patient, as one is not likely to breathe naturally if conscious of being watched. If the breathing is pronounced enough, you may count it by the rise and fall of the clothing over the chest; if not, lay the hand lightly upon he chest noting each rise and fall. Normal respiration is from 16 to 18 per minute.

The room itself is a matter of great importance. When one is building a home, a sick chamber should be planned for. It is not necessary that it should be used for this purpose alone, though that is well if the room can be spared. But if this is not done, when sickness comes, the best to be had must be chosen. The room ought to be a large airy one, on the sunny side of the house. It ought also to be as far from the kitchen as possible, as the odors from the cooking are often nauseating, and many times destroy the appetite of the patient.

The floor ought to be a hard wood polished floor, with dainty removable rugs here and there. The rugs should be put out in the sunshine for a while each day. If the floor is not polished, matting may be used, but it should be made in the form of a rug, so that it may be taken up frequently, sunned, and all dust removed from beneath it. No wool carpets fastened to the floor should be used in the sickroom. Let the room be plainly, yet daintily furnished; remove all bric-a-brac, heavy draperies, cushioned chairs, and other articles which tend to collect dust and form

a lodging place for germs. Let dainty wash curtains be provided for the windows, and clean linen for the dresser, table, and other furniture.

The walls of the room should be of some delicate tint restful to the eye. Avoid wall paper with large distinct figures which may become monotonous to the patient. An indispensable furnishing for the sick-room which should be in every home is an emergency cupboard or closet in which are kept all necessary articles for treatment in cases of illness or accident. If not convenient to have a cupboard, a dresser drawer or two may be set aside for the purpose. The following articles should always be kept there: a few rolls of cotton or linen bandages, made by tearing an old sheet into one inch or one and one-half inch strips, and rolling these tightly, securing the end with a pin; a box of safety pins of various sizes; a bolt, or at least several yards of cheesecloth, for compresses, packs, etc.; a roll of adhesive plaster, one inch wide; a package of court plaster; at least three hot water bags, one being a spine-bag, and two stomach bags, one of which should be a combination hot water bottle and fountain syringe with enema and douche tubes; an ice bag; vaseline or other lubricant, talcum powder, bicarbonate of soda for burns, a roll of absorbent cotton, bath and clinical thermometers, bath-towels and sheets, throat and chest packs, and two fomentation cloths made by cutting one-half of a single blanket into halves, or in other words quartering a single blanket. The blanket should be at least one-half wool.

CHAUTAUQUA SCHOOL OF HEALTH QUESTIONS

ELEMENTS OF FOOD

1. Name the food elements needed by the human body.
2. What are the uses of the carbohydrates?
3. In what foods are carbohydrates to be found?
4. What is the difference between emulsions and free fats?

GERMS

1. What are micro-organisms?
2. What is the cause of the sleeping sickness?
3. What is the cause of the chill in malaria?
4. Describe the appearance of cocci.

BLANKET PACK

1. Name the materials used in giving a hot-blanket pack.
2. How will you proceed in the folding of the hot blanket about the patient?
3. Mention some precautions necessary in giving pack?

MARKETING FOR HEALTH

1. Why not market by telephone?
2. Name three points of knowledge of food stuffs with which she who markets must be familiar.
3. Why are inferior food stuffs expensive?

EXERCISE

1. How does the lack of exercise affect the tissues?
2. Classify physical exercise.

NURSING

1. Mention qualifications of a good nurse.
2. While caring for contagious cases, what special attention should be given to the dress of the nurse?

Hundred Year Club

LOUIS CORNARO

"LIFE'S evening, wherein most behold
Their season of regrets and fears,
Became for thee an age of gold,
And gave thee all thy happiest years."

The means by which this illustrious Italian nobleman attained such a serene evening and golden sunset of life, was the exercise of the two virtues, self-restraint and temperance. His exemplification of the simple and temperate life as a means of freedom from all bodily ills and of maintaining perfect health to the full limit of life, is without a parallel in the annals of history.

Naturally of a delicate constitution and choleric temperament, Cornaro increased his disorders by early falling into grossly intemperate habits. The result of his excesses was such that by the time he reached his thirty-fifth year he was reduced to an apparently hopeless condition of infirmity, and brought face to face with death. Although tormented with sickness that made death desirable, he was sad at the thought of meeting it at so early an age.

It was then that the way of escape was pointed out to him. Since all his sickness was caused by his disorderly life, he might reasonably hope that it would all be removed by his taking the opposite course. Contrary methods produce contrary effects. A temperate life must surely be as efficacious for good as an intemperate one was capable of doing harm. Cornaro's reason being convinced, his resolution was at once taken: he would live, by coming into harmony with the dictates of nature and reason. The threescore years of happy useful life that followed were due to the courage and resolution which enabled him to adhere with unflinching perseverance to the simple, temperate manner of life he then adopted; he never swerved from it nor committed the slightest excess in any direction.

Cornaro devoted himself to careful study and various experiments with regard to the quantity and quality of his diet. He selected those simple foods which were best adapted to his constitution, and reduced the quantity to an amount that could be readily digested. About twelve ounces of food per day was found to be the amount that kept his body in the best condition, and this was all that he henceforth allowed himself, in summer or winter, and under all conditions. In a very short time after his reformation there was a marked change for the better in Cornaro's con-

dition, and at the end of one year he was completely delivered from all his physical infirmities. Diseases that had seemed too deeply rooted in his system ever to be eradicated, had entirely left him, and he was restored to perfect health.

Unlike many invalids who desire the restoration of health chiefly that they may again indulge in their former excesses with impunity, Cornaro was convinced that the way to get the most enjoyment out of life was to persist in his temperate course. So completely had reason triumphed over sensuality that he found this to be an easy and delightful duty. His simple food now afforded him far more enjoyment than his former gluttonous excesses had ever done. In time he came to relish bread more than he then had the most delicate viands; its exquisite taste would have made him fearful of incurring the vice of gluttony had he not been convinced that it was absolutely necessary to life. All the bitter fruits of intemperance disappeared out of his life. From a despairing invalid he became a singularly active and happy man. His choleric temper was changed to a mild sweetness of disposition that gained the affection of all who knew him.

Cornaro was careful to regulate his life and conform to nature's requirements in all other matters besides diet. He guarded against extremes of heat and cold and excessive fatigue; his sleep and rest were never allowed to be interfered with, and he avoided staying for any length of time in poorly ventilated places. He also maintained as far as possible the equilibrium of his mind, avoiding melancholy, hatred, and the other passions of the soul which powerfully affect the body. Being fond of architecture, he constructed, with special reference to the requirements of health, several villas in different beautiful localities. To these he was accustomed to retire at intervals for change and recreation.

Having by the perfect simplicity and regularity of his life removed all causes of sickness, Cornaro confidently expected a happy life of not less than a century. All other avenues to the approach of death being closed up, he was confident that nature, to whose laws he had strictly adhered, would gently loose the bond of life without pain or sickness, or even the accustomed degeneracy of old age. The event proved that his hopes were not unfounded, for he continued to the age of over one hundred years in the enjoyment of perfect health and in full possession of all his faculties.

In his 103d year, after more than sixty years of perfect health and undisturbed tranquility of spirits, Cornaro realized his expectations by passing peacefully away, "without pain or agony, like one who falls asleep." His wife, whose course of life had presumably been somewhat akin to his own, survived him and lived to almost as great an age, passing away at length "in such serenity of mind and ease of body that her friends were not aware that her spirit had taken its flight."

METAL will rust if not used, and the body will become diseased if not exercised. — *Exchange.*

THE way to gain a good reputation is to endeavor to be what you desire to appear. — *Socrates.*

. . By the Editor . .

HOLIDAY ILLS

THE day after Christmas is always a busy one for doctors.

Holiday gourmandizing is chiefly responsible for the numerous additions to the cemetery population which the holiday season always brings.

Why are the holidays (holy days) special occasions for unusual and extraordinary disregard for the laws of nature in relation to our bodies, which are as much the laws of God as are the ten commandments. Custom has led us far astray from nature and nature's God.

The most pressing need of the hour is a return to nature, to simplicity, to purity, to sweetness and cleanness in eating, drinking, and all that pertains to health as well as in that which pertains to morals.

The world needs to hear the gospel of physical righteousness,— a gospel which was dominant when the world was young and the race yet undegenerate, but which during the lapse of ages has been buried under the dust of error.

Civilization is not an unmixed good. In the great struggle for intellectual and religious freedom the physical man has been neglected, and has fallen into such degeneracy and decay that the mental and moral elements of the race have been dragged down with the physical.

What we eat and drink to-day is walking around and talking to-morrow. If we eat badly, we will walk weakly and talk badly, perhaps wickedly. Much of the vice and turpitude of the time is born at the dinner table.

Total depravity is not a condition of the race or man in general, but a condition which pertains to individuals in larger or lesser degree. An idiot, an imbecile, is totally depraved. A moral imbecile is totally depraved morally. There are all degrees of moral imbecility and of depravity, as well as of physical.

Depravity is the result of education, training, and heredity. Without doubt some are born with a hopeless tendency to depravity, to moral imbecility, the result of physical degeneracy.

Moral depravity begins with the yielding to exaggerated physical impulses, and the cultivation of habits which have a tendency to exaggerate animal appetites.

Eating for pleasure leads to the cultivation of luxurious tastes and the concentration of the attention upon the appetite as a source of gratification. Said a gourmand one day, " I like things which give my palate a twist." This man was a perverted sensualist. Palates were not made to be twisted. The function of the palate is to serve as a delicate indicator of quality and quantity of food, a monitor of nutrition, a promoter of digestion by reflex stimulation of the gastric glands, whereby the gastric juice is formed in preparation for the coming morsel.

To debase the palate to the position of a mere instrument of sensation to be played upon as one executes tunes upon a violin or a piano is a very gross form of sensualism. When one has fully persuaded himself that it is legitimate thus to employ his organs of taste, he very easily extends the privilege to his whole

body, and makes of all his senses mere instruments of pleasure; becomes, in short, a thoroughgoing sensualist.

The first element in moral reform is self-control. Said Paul, "I keep under my body." A little girl in Sunday school was asked the meaning of this text. She replied, "It means to keep the soul on top." It means to maintain intelligent control over all the voluntary functions of the body, to keep the will supreme, the emotions in abeyance, and above all, to place the will in harmony with the great Will which dominates the universe, to keep in tune with the Infinite One, and to bring every force and faculty into subjection to the divine order; in short, to live on the intellectual and spiritual plane rather than the animal. This is the highest of human attainments.

Christmas and New Year's are days when we should live high. High living and high thinking go together, but to live high means to live in harmony with high principles, noble ideals, to live in an atmosphere of purity, naturalness, simplicity, rightness. Such an order of life rules out corpses of every sort, no matter how delicately prepared or how daintily served. A corpse is a corpse whether laid out in a coffin or on a platter. A bone is a bone, and a bone covered with reeking flesh is just as hideous whether being gnawed by a snarling wolf or dissected with silver knife and fork by an epicure. A burial place is a cemetery whether it be a hole dug in the earth for a dead butcher, or the stomach of a man into which is swallowed the carcass of a pig which the butcher killed.

THE TONIC VALUE OF COLD AIR

JUST now thousands of people are migrating to warmer climates. This annual pilgrimage in search of protection from Jack Frost is based upon the mistaken notion that cold weather is unwholesome, that frosty air is dangerous. The truth is the very opposite. That there is a marked difference in mental and physical stamina between those nations who live in temperate climates and have the benefit of cold weather for several months annually, and those who live in regions which are perpetually warm, is a well-recognized fact. The world is practically ruled by a few sturdy races whose ancestors have for thousands of years annually wrestled with Jack Frost and have acquired sturdier frames and more enduring bodies as the result of their contest with the elements. Heat is enervating; cold is tonic, invigorating. The denser air of winter contains about one-seventh more oxygen than the air of midsummer. This is Nature's provision for the increased heat required by the body during the cold months; and a further natural provision is made for this necessity by the increased appetite, the augmented digestive vigor, and improved assimilative powers which come with cold weather.

The refreshing influence of a brisk walk on a cold, frosty morning, is due to the tonic effect of the cold air which comes in contact with the face and with the two thousand square feet of mucous membrane lining the lungs and air passages. At each breath the blood is bathed in the cool, tonic air which rushes into the expanding lungs. The vital fires of the body burn brighter, and their increased activity consumes the tissue rubbish which may have accumulated during warm weather or during days or hours of confinement in the stifling air of offices or unventilated sleeping rooms.

Most chronic diseases are due to the accumulation of the poisons resulting from tissue work. The body, as Bouchard has said, is a factory of poisons. These poisons cannot be disposed of without the influence of oxygen. The larger the amount of oxygen received into the body, the more perfectly the blood is purified, the more highly the tissues are vitalized, the

more efficiently the bodily functions are performed.

Do not run away from cold weather. Cultivate it, and utilize this great uplifting force by daily exercise in the open air. The sleeping room should have the window open at least a few inches, even during the very coldest and windiest weather. The body may be kept warm by an abundance of bed-covering, the head and ears being protected by a warm hood when necessary, and the arms and shoulders by a thick woolen jacket. One may thus enjoy during the hours of sleep all the advantages of prolonged exposure to the tonic influence of dense, highly oxygenated air. Each breath is a tonic which gives the body an uplift toward the higher plane of life. Sixteen such breaths every minute, a thousand every hour, exercise a marvelous influence for good.

Do not miss this opportunity by running away to some warm, mosquito-infested region, where you will not only lose the wholesome influence of cold air, but where you will run the risk of malarial infection with all its attendant dangers and inconveniences. Cold air is only dangerous when we too assiduously seek to dodge it. By gradual hardening of the body through systematic exercise out of doors, cold air is shorn of its terrors and becomes a mighty influence for good.

CHEWING REFORM

MR. HORACE FLETCHER is making great headway in converting the public to his views of chewing. Fletcherizing food is coming to be almost a fad in scientific circles. Fortunately, this is the kind of fad that cannot possibly do anybody any harm, and the more it is cultivated the better for everyone. Mr. Fletcher insists that we ought to chew our food at least four or five times as long as we are accustomed to do. Those who have followed his advice for a month have been wonderfully pleased with the results. An eminent United States Senator said to the writer the other day, when complimented upon his well-preserved appearance, "I expect never to be sick again. In fact, I am going to try to live forever. I have got hold of a new idea which is making a new man of me." On inquiry it appeared that he had recently had the good fortune to secure one of Mr. Fletcher's books, "What Sense?" and reading it, had become convinced of the importance of chewing. Having adopted the practice, he found himself wonderfully improved in vigor of mind and body.

Mr. Fletcher has succeeded in arousing so great an interest in buccal digestion in scientific circles that the most eminent physiologists in all civilized countries are giving their attention to the matter, and arrangements have been perfected for extensive experiments, reaching through a considerable period of time, in which the most eminent savants of various countries will participate, and which will have the advantage of government support. He has recently undergone experiments at Bridgeport, Conn., where he was placed in a large iron box for three or four days at a time, his food passed in to him, and he was made to engage in work of various sorts, and his weight and other factors carefully studied. The results have invariably shown that by his thorough chewing he is able to accomplish the same work which others accomplish, with half or even less than half the usual amount of food, sometimes even gaining weight during the experiment. These results are of the highest value, and show most conclusively the great importance of thorough mastication of food, a duty which is perhaps neglected more than any other.

Physiologists have long understood the importance of mastication, and have taught it theoretically, but apparently no one had made an actual practical applica-

tion of the principles involved until Mr. Fletcher took the matter in hand. The subject is one of vital importance, which no one can afford to neglect. Every morsel of food should be chewed until all the nutritive portion has become liquid. This alone should be swallowed, the waste matter being rejected. The result is an enormous reduction of the work required of the stomach and other digestive organs. The thorough digestion of food secures its complete absorption; thus none is wasted. There seems to be special economy in relation to the proteids, the most expensive and important element of foodstuffs.

Mr. Fletcher is not a strict vegetarian, but the tendency of his experiments and observations is to demonstrate that a flesh diet is altogether unnecessary, and not only unnecessary, but dangerous to health on account of the excess of proteids which it necessarily introduces into the system, the result of which is manifest in the great prevalence of rheumatism, gout, and other uric-acid disorders in flesh-eating countries.

The value of Mr. Fletcher's theories is fully recognized at the Battle Creek Sanitarium, where patients, physicians, and nurses are chewing after a fashion which would delight the heart of Gladstone if he were alive and cognizant of the fact, as thorough chewing was one of his hobbies. It is stated that Mr. Gladstone required his sons to execute at least forty movements of the jaws in masticating each morsel of food. An eminent English physiologist, writing recently upon the subject in the *British Medical Journal*, mentions an observation made upon a very old man who was remarkably well preserved. He gave him a bit of bread to eat and noted that he executed, in chewing it, one hundred and twenty movements of the jaws, thus giving ample time for that thorough preparation to enter the stomach, which is the best guarantee of good digestion.

The philanthropic spirit manifested by Mr. Fletcher in his researches, and especially his efforts to enlist the interest of scientific experts, entitle him to great credit as a public benefactor. The good results of his efforts cannot be estimated. Mr. Fletcher has written very charming books on social questions and questions pertaining to nutrition. No doubt nine-tenths of all gastric disorders would disappear if the sufferers could be induced to masticate their food with thoroughness. Mr. Fletcher believes that proper chewing furnishes a most important means not only for the physical preservation of the race, but also for social and moral redemption.

CULTIVATING SUNSHINE

MENTAL sunshine is almost as essential for our physical well-being as is the magic energy of the sun's rays. The sunlight is sometimes hidden by inpenetrable clouds, and during a part of every twenty-four hours the whole world is shrouded in the darkness of night; but mental and moral sunshine may be always present, for —

> "In ourselves the sunshine dwells;
> In ourselves the music swells."

A certain Eastern governor who in his youth had been a shepherd and whom good fortune had raised to a high position, prepared in his palace a room in which were displayed the simple garments and implements which belonged to his humble shepherd life. At regular intervals the governor retired to this room, and for an hour contemplated the mementos of the low estate from which good fortune had raised him, so that he might not become lifted up and haughty because of his preferment. It is said that the mental and moral discipline to which he thus subjected himself had so beneficial an effect upon his character that he became

greatly renowned for the equity and justice which characterized his official conduct. A sagacious writer has suggested that it is a wise plan for everyone to maintain a sort of memory room, or perhaps several such mental apartments, to which he may retire at will for such contemplation as will give him the mental or moral discipline which he may require.

One such room that everybody needs is a sunshine room, into which should be gathered the happiest and most felicitous recollections. Here on the walls of memory may be painted representations of the most delightful experiences which one has enjoyed, the most brilliant successes which one has achieved, the most remarkable deliverances from dangers or perplexities, the most striking instances of Providential care and leading. When the gloomy clouds of despair and despondency gather thick upon the mental horizon, one may retreat into his sunshine room, and by the steady contemplation of its memory-treasured glories, may dissipate the clouds and bask in the warmth and light of former days.

It is not always easy to turn away from the contemplation of the present griefs and sorrows of life, and forebodings in relation to those which the morrow seems to have in store for us, to dwell upon the memory pictures of the days gone by, but the power to do this may readily be increased by practice. A resolute effort in the right direction will accomplish wonders in putting despair and disappointment into the background and bringing to the foreground of our consciousness mental pictures which are radiant with the light of joy and hope and confidence. If there seems little in our own experience which affords food for hopeful and joyful thought, we may find help in recalling and considering the happy experiences of others.

"If thou art blest,
Then let the sunshine of thy gladness rest
On the dark edges of each cloud which lies,
Black in thy brother's skies.
If thou art sad,
Then be thou in thy brother's gladness glad."

URIC-ACID MALADIES.

THE present seems to be *the uric-acid age*. Dr. Haig, an eminent English physician connected with one of the great hospitals of the world's metropolis, after fifteen or twenty years' careful study of the matter, has arrived at the conclusion that a very large share of the chronic diseases to which human beings are subject, and some of the acute maladies, may be properly attributed to uric acid.

An eminent French physician has declared that uric acid is the worst of all the poisons to which civilized man is exposed.

Dr. Haig, of London, first, and later Professor Hall, of Manchester, England, have shown that the chief source of uric acid is meat eating. Beefsteak contains fourteen grains of uric acid to the pound; liver, nineteen grains; and sweetbreads, seventy grains. All meat eaters sooner or later become saturated with meat poison, or uric acid.

It may be truly affirmed that fully half the human race die of uric-acid poisoning. Dr. Haig asserts that a rational dietary, excluding uric acid, would lengthen the average of human life from forty or fifty years to twice this period at least.

The following is a list of the maladies now claimed by eminent medical authority to be due either directly or indirectly to uric acid: —

Gout.
Rheumatism.
Morbus cordis (inflammatory).
Headache, epilepsy, convulsions, chorea, hysteria, neurasthenia, nervousness.
Mental depression, excitement, mania, insanity.
Bodily depression, fatigue, lethargy.
Vertigo, syncope, insomnia.

Periodic paralysis, chronic paralysis.
Asthma.
Dyspepsia — dilated stomach.
Congestion of liver, glycosuria, diabetes.
Bright's disease, albuminuria, hemoglobinuria, dead hands, cerebral hemorrhage, cramps, dropsy, uremia.
Gravel and calculus.
Neuritis.
Retinitis.
Cerebral degenerations.
Spinal degenerations.

Local inflammation of all fibrous tissues, some of which are to be found in the —

Brain and meninges.
Nose, pharynx, larynx, trachea, bronchi, lungs, and pleura.
Stomach (gastralgia, gastritis, gastric ulcer), liver (jaundice, cirrhosis, and liver abscess), and peritoneum.
Ovaries, uterus, and pelvic fasciæ, uterine fibroma and other fibromata, epididymis, etc.
Fasciæ and fibrous tissues in neck, back, spinal cord, and lumbo-sacral region, hands, etc.
Other fibrous tissues in the body, as of skin (eczema and psoriasis fibromata).
Intestines, cecum, and appendix (flatulence, colic, enteritis, colitis, and appendicitis).
Muscles (myalgia).
Nerves (neuralgia).
Teeth coverings (periostitis).

Uric acid plus microbes acting together, as in —

Catarrh, influenza, phthisis, pneumonia, and malaria (its fever and sequelæ).
Glands, irritation and fibrosis of (not pyemic).

Skin diseases, as —

Atrophy, ulcerations.
Raynaud's disease.

Diseases of vessels —

Purpura, thrombosis.
Degeneration, atheroma, calcification.
Aneurism, morbus cordis (collemia acting with strain and resulting in dilatation), angina pectoris.

Diseases of blood —

Anemia, chlorosis.
Hemoglobinemia.
Leucocythemia.
Pernicious anemia.
Graves's disease.
Menorrhagia and uterine congestion, dysmenorrhea.
Piles, pruritus ani et vulvæ.

In the face of these overwhelming facts, can any intelligent man or woman uphold the use of flesh food, or of tea or coffee, which also flood the tissues with uric acid.

There have recently been established in England hospitals where patients can be provided with a diet free from uric acid. One of these is near London, under charge of Dr. A. Haig. Another is at Caterham, under charge of Dr. A. B. Olsen. The Battle Creek Sanitarium is the oldest institution in the world in which this idea has been a dominating feature, and it has done more than any other institution to promulgate the anti-uric-acid dietary and to promote natural habits in diet. At this institution and the numerous affiliated institutions located in different parts of the world a large number of excellent and satisfactory substitutes for meat are provided, so that the meat eater is easily weaned from his chops and roasts, and soon becomes accustomed to a wholesome, nourishing, and poison-free dietary.

The electric-light bath and other most efficient measures are used at these institutions for freeing the system of accumulated uric acid and allied poisons. It was by this means that King Edward was cured of his gout at Homburg, where he took Battle Creek Sanitarium electric-light baths. He was so much pleased that he at once had the bath installed in his palaces, Windsor and Buckingham.

Emperor William soon followed his illustrious uncle's example.

CHART OF FOOD ELEMENTS

Table showing the amount of the several classes of food elements in given weights of of various food substances as usually eaten, and the number of food units.

Food	Measure	Weight oz.	Proteid	Fat	Carbo.	Food Units per oz.
Granola	.5 pt.	4.2	15.	3.	75.	113.200
Granose	1. biscuit	.7	15.4	2.3	79.1	116.600
Zwieback	1. piece	1.1	13.6	2.	70.	103.700
Graham Crackers	2.	1.	9.8	13.6	70.	127.300
Whole Wheat Wafers	6.	2.5	9.8	13.6	70.	127.200
Rolls	3.	2.	11.7	1.2	80.	109.500
Graham Bread	1.	1.	9.5	1.4	53.3	76.900
Whole Wheat Bread	1.	1.	8.7	6.	64.	99.500
White Bread	1.	1.	5.3	.8	48.3	63.700
Nut Gravy Toast	1. piece	6.	4.5	4.	13.	31.300
Prune Toast	1. piece	6.	3.3	.3	42.1	53.100
Berry Toast	1. piece	6.	3.2	1.5	24.1	35 600
Cream Toast	1. piece	6.	5.4	7.4	15.4	43.900
Crystal Wheat	.5 pt.	7.	5.7	3.	29.5	49.100
Gluten Mush	.5 pt.	8.2	12.	.6	22.	43.400
Graham Mush	.5 pt.	7.	5.8	.9	35.8	51 100
Cornmeal Mush	.5 pt.	8.6	2.1	1.2	18.5	27.000
Wheatose	.5 pt.	7.	5.7	.8	29.5	43.500
Macaroni	.5 pt.	6.5	10.0	2.	75.	91.500
Rice, Boiled	.5 pt.	5.7	2.8	.1	24.4	31.800
Baked Beans	.5 pt.	7.3	6.9	2.5	19.6	38.100
String Beans (Canned)	.5 pt.	7.7	1.1	.1	3.8	6 100
Green Peas (Canned)	.5 pt.	8.2	3.6	.2	9.8	16.700
Green Corn (Canned)	.5 pt.	8.	3.8	1.2	19.	28 500
Asparagus (Cooked)	.5 pt.	7.4	2.1	3.3	2.2	13.800
Spinach (Cooked)	.5 pt.	6.	2.4	4.1	2.6	16.800
Potato (Boiled)	.5 pt.	7.	2.5	.1	20 9	27.400
Tomato (Fresh)	1. ave	8.	1.6	.3	2.5	5.800
Nut Gravy 5-6 Water)	.5 pt.	9.	2.7	4.4	1.6	16.800
Lettuce	.5 pt.	2.6	1.4	.3	2.2	5.200
Soup, tomato	.5 pt.	8.5	1.8	1.1	5.6	11 700
Soup, cream of pea	.5 pt.	8.5	2.6	2.7	5.7	17.000
Soup, vegetable	5 pt.	8.5	2.9	.....	.5	4.600
Malted Nuts	.5 pt.	3.8	23.7	27.6	43.9	153.300
Almond Cream ¾ water)	.5 pt.	7.8	5.2	13.7	4.3	47.100
Bromose	2. cakes	1.	19.6	24.	39.4	133 500
Malt Honey	.5 pt.	10.9	3.8	.....	14.9	77.700
Nuttolene	.5 pt.	6.4	12.1	19.4	9.7	167.900
Protose	.5 pt.	4.2	21.3	10.2	2.8	60.100
Stewed Nuttolene (½ water)	.5 pt.	9.	6.	9.7	4.8	38.600
Almonds (Shelled)	.5 pt.	5.	21.	54.9	17.3	189.600
Cream	5 pt.	8.5	2.7	26.7	2.8	75.000
Milk	.5 pt.	8.5	4.1	3.9	5.2	21.700
Butter	.5 pt.	7.4	.6	84.4	.6	217.600
Kumyss	.5 pt.	8.5	3.7	3.6	4.7	19.700
Cottage Cheese	.5 pt.	7.7	20.9	1.	4.3	37.400
Eggs	1.	1.5	14.	10.5	.....	47.000
Apples (Fresh)	1. ave.	6.	4.	.....	7.2	14.000
Apple (Sauce)	.5 pt.	8.1	2.	.8	37.2	47.000
Apricot (Sauce)	.5 pt.	9.5	1.9	1.3	48.8	61.300
Bananas	1. peeled	2.	1.9	.6	28.8	36.500
Berries (Fresh)	.5 pt.	3.7	1.1	1.4	15.	22.100
Cherries	.5 pt	9.2	1.1	.1	21.1	25.700
Dates	7. dates	2.	9.	.....	58.	77.900
Figs (Steamed)	.5 pt.	7.1	3.6	.....	45.	61.500
Grapes (Fresh)	1. bunch	5.	.6	.....	14.3	17.100
Lemon	1. peeled	2.	1.	.7	8.5	12.700
Orange	1. peeled	2.	.8	.2	11.6	14.600
Peach	1. peeled	3.	.7	.....	4.5	6.000
Pear (Canned)	.5 pt.	9.2	.3	.3	18.	21.500
Prune (Stewed ½ water)	.5 pt.	9.2	1.2	.....	22.5	27.216
Raisins (Stewed ½ water)	.5 pt.	9.2	1.2	.3	27.3	33.800
Strawberry	.5 pt.	9.2	1.1	.5	6.5	9.500
Whortleberry	.5 pt.	9.2	.8	.....	.5	9.800

. . . Question Box . . .

10,000. Heat.— C. M. C. C., Illinois: "1. A hyperpeptic notices that at times the heart misses a beat, more often occurring in the evening. Is this a forerunner of some other malady? 2. Please suggest a remedy. 3. The stomach becomes very sore if such coarse food as green corn is eaten. What should be done?"

Ans.— 1. The irregularity of the heart is doubtless due to indigestion. The remedy is to eat wholesome food, taking care to masticate it thoroughly before swallowing. It may be necessary to submit to a course of sanitarium treatment. Apply an icebag over the heart fifteen or twenty minutes twice daily.

2. Avoid coarse food. Apply a fomentation over the stomach once or twice daily, the wet girdle or heating compress being worn during the intervals.

10,001. Diet for Nervous Student.— T. E. J., Kentucky, would like a diet outlined for a nervous, emaciated student.

Ans.— Bromose, malted nuts, granuto, breakfast toast, malt honey, and nuts, care being taken to masticate them thoroughly.

10,002. Gastric Catarrh.— P. M., Ohio, asks (1) if gastric catarrh can be cured; (2) how.

Ans.— 1. Yes.

2. By careful attention to diet, avoiding all articles difficult of digestion and everything of an irritating character. A fomentation should be applied over the stomach twice a day for ten or fifteen minutes. The heating compress should be worn during the interval.

10,003. Flesh Food.— N. A. S. asks if we can recommend a flesh food to be used in connection with massage.

Ans.— No.

10,004. Wheat — Graham Bread — Rice — Beans — Cornstarch.— J. R. M., Oregon: "1. How long should wheat be boiled if soaked twenty-four hours and if not soaked at all? 2. Should Graham bread be baked over one and one-third hours? 3. Should wheat be cooked longer than other grains, such as cornmeal, rice, and barley. 4. Is rice constipating? 5. Should it be cooked in milk? 6. Are beans constipating? 7. Should soda be used in cooking them? 8. Is cornstarch good food?"

Ans.— 1. Two or three hours if soaked. Six or eight hours if not soaked.

2. The length of time bread should be baked depends upon the heat of the oven and the size of the loaf. The baking should be continued until a thick crust is formed, and until the central portion is dry enough when cold to crumble readily when rolled between the thumb and finger.

3. Unground wheat requires longer to cook than any other grain except rye. It must be cooked about the same length of time. This is because it has a thick, woody envelope which forms the bran.

4. Yes.

5. It may be cooked in milk for those who find milk a wholesome food. Milk is unwholesome for many persons — perhaps the majority.

6. No.

7. No.

8. Starch is a food element, but does not by itself constitute a food. It may be used in combination with other foods, especially those which are highly nitrogenous, such as beans, peas, lentils, milk, and nut preparations. Corn flour is better, however, as it contains all the elements necessary for nutrition.

10,005. Neurasthenia.— R. P. W., Missouri: "Will you give a hygienic treatment for neurasthenia?"

Ans.— An out-of-door life. Remain out of doors all the time if possible. Exposure to the sun as often and as much as possible. The cold bath followed by exercise to promote reaction every morning. Simple, hygienic diet. Conform to all the laws of health.

LITERARY NOTES

Mc Clure's Magazine for December, in harmony with the gentleness of the season, moderates a little its strenuous, battering-ram tone of the last few months. It is, in fact, decidedly Christmasy, with its beautiful illustrations — many in tint — and amiable fiction; and is all aglow with the spirit of truce-time.

The great bane of the American woman is "nerves," writes Helen West Cooke, M. D., in **Good Housekeeping.** By nerves, I mean particularly, nerve tension. As a class, we are apt to do everything at high pressure, and to use a great deal more nerve force than we need to, and when we rest we are apt not really to rest, but to keep up the tension even in sleep. This may seem strange, but the next time you lie down, notice how you are holding yourself up from the bed, and your head from the pillow. Just let go, relax, and observe the difference. You will be surprised to see how tense you were before. In the same way you will find that you are bracing yourself on the seat in a car or carriage, instead of giving yourself up to the motion and letting it rest you.

Notably attractive is the Christmas number of the **New England Magazine.** The cover, which forms a radical departure from the old style New England cover page, deserves especial mention. It shows a winter scene on Boston common, and is tasteful and artistic to a degree. The number is especially rich in illustrations, the most noteworthy being several reproductions of famous masterpieces depicting the birth of Christ.

The Popular Science Monthly for December contains the following articles: "Recent Theories in regard to the Determination of Sex," by Prof. T. H. Morgan; "The Academy of Science of St. Louis," by Prof. William Trelease; "The Tetrahedral Kites of Dr. Alexander Graham Bell," by Gilbert H. Grosvenor; "Hertzian Wave Wireless Telegraphy," by Dr. J. A. Fleming; "The Salmon and Salmon Streams of Alaska," by President David Starr Jordan; "The Storm Center in the Balkans," by Dr. Allan McLaughlin; "The Growth of Rural Population," by Frank T. Carlton; "Rear-Admiral G. W. Melville and Applied Science in Construction of the New Fleet," by the late Prof. R. H. Thurston.

A French physician, who believes in the sun-cure for most diseases, has had some houses built for his patients. The houses are made on a pivot, one wall being glass, so that by turning the house the patient may be in the sun all day.— *From "In the Trail of the Traveler," in Four-Track News for December.*

JUST ISSUED.

"Roger on Infectious Diseases." A Treatise on Infectious Diseases, their Etiology, Diagnosis and Treatment. By Dr. G. H. Roger, Professor Extraordinary in the Faculty of Medicine of Paris. Translated by M. S. Gabriel, M. D., New York. Octavo, 864 pages, 43 illustrations. Cloth, $5.75, net.

Whitman's Orthopedic Surgery. Second Edition. A Treatise on Orthopedic Surgery. By Royal Whitman, M. D., New York. Octavo, 843 pages, 507 illustrations, mostly original. Cloth, $5.50, net.

"Wathen's Histology," an Epitome of Histology. By John R. Wathen, M. D., Louisville, Ky., 12 mo. 229 pages, 114 illustrations. Cloth, $1 net. Lea's Series of Medical Epitomes with Questions.

Lea Brothers & Co., Publishers, Philadelphia 706-8-10 Sansom St.; New York, 111 Fifth Avenue.

NOW READY.— "Atlas and Epitome of External Diseases of the Eye." Second revised edition. By Dr. O. Haab, of Zurich. Edited with additions by G. E. DeSchweinitz, M. D., Professor of Ophthalmology, University of Pennsylvania. Ninety-eight colored illustrations on 48 lithographic plates, and 232 pages of text. Cloth, $3, net.

W. B. Saunders & Co., 925 Walnut St., Philadelphia.

The Fourth Revised edition of "Treatment of Fractures" with notes on a few common Dislocations. By Charles L. Scudder, M. D., Surgeon to the Massachusetts General Hospital, Boston. Handsome Octavo of 534 pages, with 688 original illustrations. Polished Buckram; price $5, half Morocco $6 net.

W. B. Saunders & Co., 925 Walnut St., Philadelphia.

GOOD HEALTH

A Journal of Hygiene

J. H. KELLOGG, M. D., EDITOR

Subscription Price, $1.00 a year
Single Copies 10 cents : : : :
PUBLISHED MONTHLY BY

GOOD HEALTH PUB. CO.

115 WASHINGTON AVE, N.

BATTLE CREEK. · · · · · MICHIGAN

A PRIZE OF $10, EACH, IS OFFERED FOR THE BEST ANSWERS TO THESE WANTS.

Want No. 1.

Plans for the best-arranged bathrooms independent of a city water-supply, with photograph or drawing.

Wanted by Feb. 1.

Want No. 2.

Short articles by professional women or other women whose occupation is sedentary, describing means and plans by which the necessary out-of-door life and exercise has been secured and health thus maintained.

Wanted by April 20.

Want No. 3.

A vegetarian menu consisting of new and wholesome dishes.

Wanted by April 20.

Want No. 4.

Illustrated articles showing how children may spend a summer vacation in the most profitable manner.

Wanted by May 20.

Wanted for Good Health for 1904
100 Photographs

Of boys and girls, youth, young men and women, who have been reared in harmony

with the natural method advocated by this journal.

Send with the photographs a brief description of the diet, habits, disposition, mental and moral traits, and characteristics of each.

These photographs should be received by March 1 or sooner, and if so desired will be returned to the sender.

ROYAL RECOGNITION.

ONE of the highest compliments ever paid to the Battle Creek Sanitarium and its methods is the fact that King Edward, Emperor William, and King Christian, as well as a number of other royal personages, have within the past two years had installed in their palaces facilities for administering Sanitarium treatments after methods which originated at the Battle Creek Sanitarium, including Dr. Kellogg's Electric-light Bath. King Edward has had this bath placed in both his Windsor and Buckingham Palaces. The following despatch has recently been published in the great American dailies:—

"LONDON, December 12.—The fact that King Edward gets through so much work and yet retains unimpaired his elasticity and vigor has been a source of wonder for a long time, even to members of the medical profession. The explanation of the mystery is offered at last. For a month His Majesty is said to have been taking electric-light baths.

"These scientific rejuvenators are installed at Windsor Castle and at Buckingham Palace. They are both of the double light variety, with a projector of 2,500 candle power, for use in local affections of the body. Inside the bath, in which a sitting posture is adopted, there are fifty-two electric lamps, which radiate any color desired. The light not only penetrates every part of the body, but has a sort of Turkish-bath effect. The lights are of colors which scientists say have curative effects on certain ailments."

DR. W. R. SIMMONS, Superintendent of the Portland Sanitarium, with his wife recently spent a few days at the Battle Creek Sanitarium. Dr. Simmons and the friends of the principles represented by the Battle Creek Sanitarium and its affiliated institutions in all parts of the world are to be congratulated on the wonderful success which has attended this newly organized institution, especially within the past two or three years, since Dr. Simmons has had charge of the work. Within this short time the institution has developed from the small beginning which was made some years ago into a splendid institution with a most magnificent location, well-equipped and organized, and patronized to the full extent of its facilities, with a strong corps of able physicians and nurses. In addition other institutions have been fostered and nursed into splendid development in Seattle, Tacoma, and other locations in the Northwest.

Inasmuch as a number of persons have at different times made representations to the public which gave the impression that they were in some way representatives of the Battle Creek Sanitarium, or of the Battle Creek system, it is proper that we should say for the benefit of the public that the Portland Sanitarium is the only medical institution located in Portland or its immediate vicinity which is recognized as in affiliation with the Battle Creek Sanitarium, and the only one in which the Battle Creek Sanitarium system of diet and treatment is properly represented.

"Journeys by Land and Sea, or Through Five Continents," by Pastor Geo. C. Tenney, Battle Creek Sanitarium.

This book is such an account of the five great continents of the world as could be written only by a cultivated Christian gentleman with eyes wide open to see the things of greatest moment and of greatest interest from the broad view which only such a man can hold. This book does not descend to the ordinary level of travel gossip with which most books of travel are filled, but picks out the points of greatest interest from a physical, mental, and moral standpoint, which are presented by the varied forms of civilization exhibited in the five great continents. The author has a happy literary style, and every page of his book is replete with interest and instruction. Few books could be found more suitable for a holiday gift. We bespeak for the work the wide circulation which it deserves.

REDUCED RATES TO POINTS SOUTH, SOUTHEAST, AND SOUTHWEST.

Winter tourist tickets will be sold *via* Queen & Crescent Roate and Southern Railway until April 30 at reduced rates for the round trip with stop-over privileges. Tickets good returning until May 31, 1904.

For rates, address W. C. Rinearson, G. P. A., Cincinnati, Ohio.

A NOVELTY IN RAILROAD EDUCATION.

THE novel project of running a palatial special train from Chicago to New Orleans and return, a distance of nearly 2,000 miles, for the sole benefit of competitors, was successfully carried out by the officials of the Illinois Central Railroad recently. Nearly 100 general passenger agents and members of their families were the guests of the Illinois Central during the trip, everything, including musical entertainments in the observation car, being provided by the company. Had anyone undertaken to purchase the service and entertainment provided, the cost could not have been far from $10,000. The train was, so to speak, an edition *de luxe*, the Pullman Company certifying that the new cars furnished were the finest ever manufactured by them, and the engineers and train crew were the most expert in the employ of the railroad company.

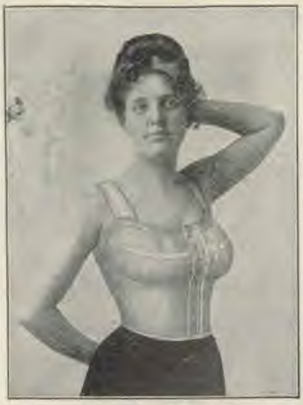
The novelty of the affair consists largely in the fact that a few years ago railroad companies strove to keep from competitors accurate knowledge of conditions along their lines of railroad. Excluding the complimentary feature, the main purpose of the Illinois Central expedition was to educate competing lines regarding the unexcelled transportation facilities possessed by that company, and the possibilities which lie in the development of the South. Although progressive men, the general passenger agents who were on the trip were amazed to learn that the Illinois Central now practically has a double track system all the way between Chicago and New Orleans, and a rock ballasted roadbed with few grades and curves, which is capable of accommodating an enormous volume of traffic. They were also surprised at the phenomenal commercial and industrial awakening which the South is experiencing, and they will spread the news regarding both facts for months to come.

In doing this they will be advertising the South most effectively and promoting travel there from every quarter of the country. Naturally the Illinois Central will get the benefit of this, for, in short, it has recruited a force of 100 live advertising agents from among the ranks of its active competitors. Under railroad methods in vogue prior to the era of "community of interests," such an undertaking would have been hailed as suicidal.

THREE TRAINS TO CALIFORNIA.

THE Overland Limited and two other fast trains leave Chicago for San Francisco every day *via* the Chicago, Milwaukee & St. Paul and Union Pacific line. They offer every convenience for a quick, comfortable, and inexpensive journey across the continent, and as they follow the overland route, are naturally preferred by the most experienced travelers. Complete information on request.

Robert C. Jones, Michigan passenger agent, 32 Campus Martius, Detroit, Mich.



SHORT WAIST

GOOD HEALTH

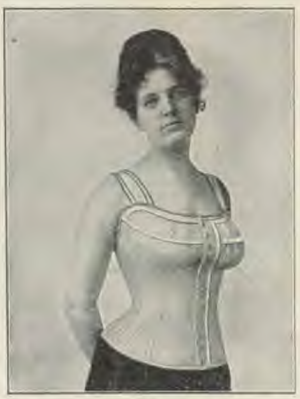
Adjustable . . . Waist

For Health, Comfort, Grace, and Economy outrivals its competitors

OUR prices may seem high when compared with the old style corset which of course can be purchased cheaper together with all the ills to which flesh is heir, but we sell an article that benefits and restores health, which if gained and retained is cheap at any cost. The waist is adjustable and can be made larger or smaller by adjusting the shoulder straps and oval elastic in either side. By making the former longer or shorter the length of the skirt may be regulated. We sell two qualities, a light weight jean twilled material and a heavier weight sateen. Drab and white jean, bust measure 30 to 38, price $1.25. White and drab sateen, bust measure 30 to 38, price $1.75; 40, $2; 42, $2.25. Black sateen 25c additional. No odd numbered sizes in either quality.

When sending in orders for waists take the bust, hip, and waist measures snugly over the undergarments. We have long and short waists. The latter ends at the waist-line and the former five inches below as per cut. When ordering state which is desired.

For a limited time we will combine one year's subscription to GOOD HEALTH with the jean waists for $1.60 and with the white and drab sateen, sizes 30 to 38, $2; 40, $2.25; 42, $2.50. Add 25c extra for black sateen.



LONG WAIST

DRESS DEPARTMENT

Good Health Pub. Company

BATTLE CREEK, - MICH.

Health Cocoa

Another Scientific Discovery
Quarter Pound Box FREE

The cocoa bean from which chocolate and cocoa are prepared contains a poison known as theo-bromin.

Physicians condemn ordinary cocoa and chocolate because their use tends to cause rheumatism, nervousness, and other disorders.

Haven't you found it hard to do without it? Don't deny yourself any longer.

Our chemists have recently discovered a way of removing the theo-bromin, so that you can now get cocoa that is perfectly healthful.

Health Cocoa is packed in two sizes:—

Half Pounds, 35 cents
Quarter Pounds, 20 cents

Battle Creek Sanitarium Co.
LTD.
Battle Creek, Mich.

CUT ALONG THIS LINE

Gentlemen:—

You will find my order enclosed for Five Dollar's worth (or more) of your foods. As I live in the United States, north of Tennessee and east of Nebraska, you agree to send me a quarter-pound box of Sanitas Health Cocoa **Free,** *and to* **Prepay Express** *on the shipment*

I understand that this coupon is void if it reaches you after Feb. 29, 1904.

Name .....

Street .....

City and State .....

TO OUR MAIL ORDER CUSTOMERS

We will send a quarter-pound box of cocoa free to every one whose order for five dollars worth of foods reaches us before March 1, 1904, if order is accompanied by the adjoining coupon.

We always pay express on consumers orders shipped to states north of Tennessee and east of Nebraska.

A BIG COMBI= NATION OFFER

$2.20 SAVED

Ten dollar's worth of Battle Creek Sanitarium foods and a Rapid Steam Cooker worth $5.70 ($15.70 worth in all) will be shipped Freight Paid to any point in the United States east of Colorado for $13.50 until March 1, 1904. This means a saving to you of $2.20 besides what freight on the cooker would amount to if it were shipped alone as it regularly sells f. o. b. Battle Creek.

Description of Cooker.—Diameter, 11 inches; height, 16 inches; capacity, 5 gallons; seamless nickel-plated copper boiler; aluminum cap and shelves.

The material used is the very best and absolutely rust proof.

TESTIMONIALS.

Battle Creek, Mich., Jan. 9, 1903.

ROTARY STEAM COOKER CO.,
Battle Creek, Mich.

Gentlemen:—The Steam Cooker was received and has been given a fair trial. I am pleased to say that I think it is the most convenient Steam Cooker I have ever used, and I can recommend it to any one who is desirous of purchasing any article of this sort.

Thanking you for your courtesy, I remain,

Very truly yours,
MRS. E. E. KELLOGG.

Battle Creek, Mich., Dec. 12, 1903.

ROTARY STEAM COOKER CO.,
Battle Creek, Mich.

Gentlemen:—I am pleased to say the Rapid Steam Cooker is more than the manufacturers, claim for it. I have used it in my kitchen and find it does the work satisfactory

Yours very truly.
H. BROADY.
Chef. B. C. Sanitarium.

If you are unacquainted with Battle Creek Sanitarium Foods write Dept. 54 for Descriptive printed matter.

CUT ALONG THIS LINE

Battle Creek Sanitarium Co.
LTD.
Battle Creek, Mich.

Gentlemen:—
I enclose $13.50 for the Rapid Steam Cooker advertised in January Good Health, also for $10 worth (or more) of Battle Creek Sanitarium Foods. I have deducted $2.20 from the list price of the goods ordered, according to the terms of your offer. As I live east of Colorado you agree to pre pay the freight.

I understand this price is conditional on my order reaching you before March 1, 1904.

Name.....
Street.....
City and State.....

DIRECTORY

Sanitariums

THE following institutions are conducted under the same general management as the Sanitarium at Battle Creek, Mich., which has long been known as the most thoroughly equipped sanitary establishment in the United States. The same rational and physiological principles relative to the treatment of diseases are recognized at these institutions as at the Battle Creek Sanitarium. Both medical and surgical cases are received at all of them.

BATTLE CREEK SANITARIUM, Battle Creek, Mich.
J. H. KELLOGG, M. D., Superintendent.

COLORADO SANITARIUM, Boulder, Colo.

ST. HELENA SANITARIUM, Sanitarium, Napa Co., Cal.

NEBRASKA SANITARIUM, College View, Lincoln, Neb.

PORTLAND SANITARIUM, Mt. Tabor, Ore.
W. R. SIMMONS, M. D., Superintendent.

NEW ENGLAND SANITARIUM, Melrose, Mass.
C. C. NICOLA, M. D., Superintendent.

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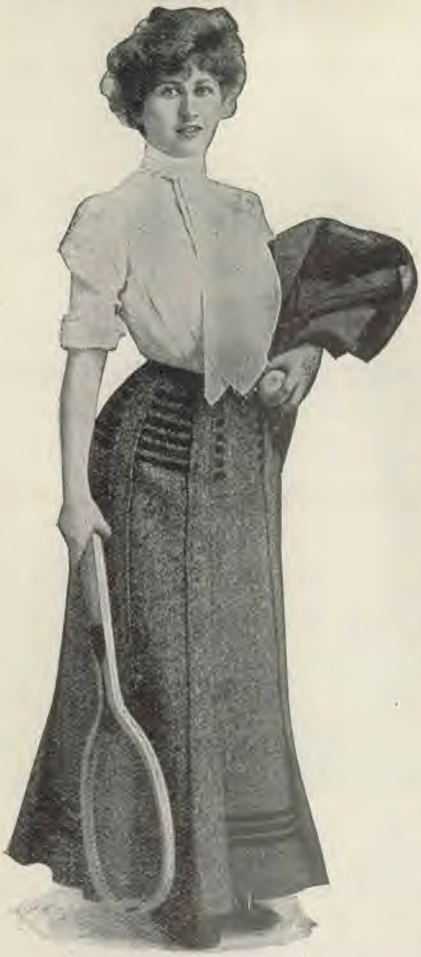

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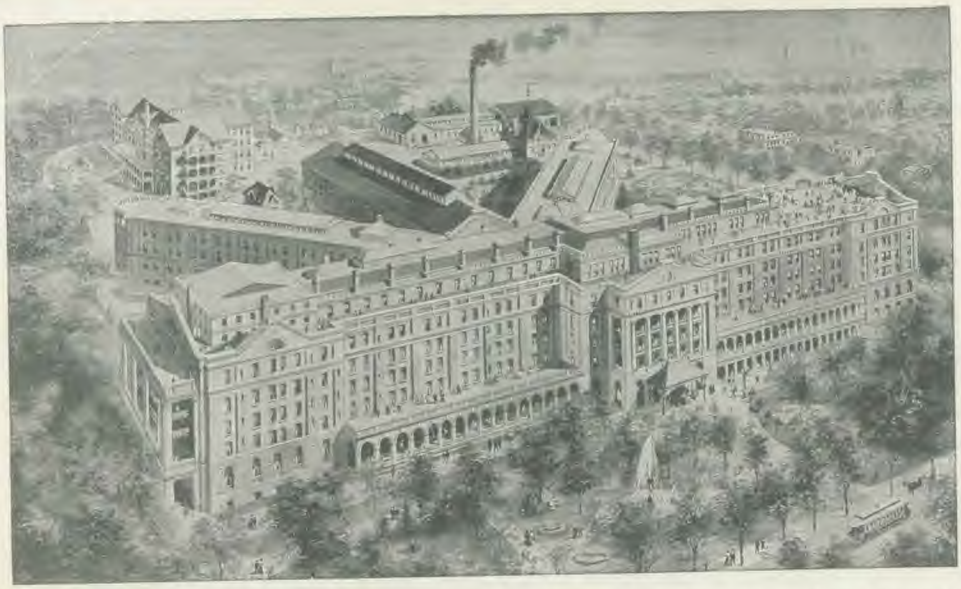

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