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Editorial.

MENS SANA IN CORPORE SANO.

VOL. XXXVII.

Edited by J. H. KELLOGG, M. D.

NO. 8.

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GOOD HEALTH

A Journal of Hygiene

VOL. XXXVII

AUGUST, 1902

NO. 8

DISEASE AND ITS PHYSIOLOGICAL TREATMENT.

BY J. H. KELLOGG, M. D.

DISEASE differs from health essentially in the fact that, in consequence of some wrongdoing on the part of the individual, the harmony of his bodily functions is disturbed. We often speak of disease germs, but it should be understood that germs of themselves are not capable of producing disease. It is only when the resistance of the body has been reduced by wrong habits, by the violation of divine law, by sin, that the body becomes a prey to so-called disease germs. Typhoid-fever germs are incapable of injuring a man whose stomach is sound, for the reason that the gastric juice of the stomach is capable of destroying, even digesting, typhoid-fever germs. The same is true of cholera germs or any other germs that attack the body through the stomach. Consumption germs can do the body no harm until after the bodily resistance has been reduced by sedentary habits, inhalation of bad air, impure blood through wrong eating, and similar digressions.

Disease does not differ from health, except in the fact that in a state of disease the body is working under unfavorable conditions, and consequently is not able to perform its work properly; whereas in health, the work of the body, being done under favorable conditions, is normally performed. Disease is not an entity, but a condition; it is not a thing, but a relation.

The healing process is always being carried forward in the body, even in health. When one has exercised until exhausted, he must be healed of his fatigue before he can be ready to undertake the task again. The digestion of a meal leaves the stomach in a state of congestion, from which it must be healed before it is ready to digest another meal. The body is being continually worn and damaged by its work; hence it must be continually healed. This healing process is carried on by the forces within the body. We say natural forces, as they are natural and common to all animals, but we must not forget that these natural forces are divine forces. They are the evidence of the intelligent, active presence of creative power. In disease, unusual and extraordinary injuries exist which are due to the failure of the defenses of the body. Germs produce poisons which paralyze and irritate the tissues, causing inflammation, congestion, pain, and other disturbances. The organs, overwhelmed with work, become crippled, and unable to perform their usual duties; so digestion fails, the action of the liver, the kidneys, and other excreting organs is diminished, poisons accumulate, every tissue is damaged, every function disturbed. General fever, nervous collapse, or exhaustion may be the result.

Disease is not to be successfully combated by fighting symptoms, but by the

removal of causes. A man whose head aches because of undigested food in his stomach, will not be relieved by an application to his head, but by removing the fermenting mass from the stomach. Headaches due to constipation must be cured by relieving the bowels of the poisonous matters accumulated there, by means of an enema or other suitable means. Weakness is not to be cured by the taking of a drug which will produce the sensation of strength,—an excitant, a stimulant,—but by increasing the ability of the body to store up energy from the food, and by the removal of the poisonous substances which paralyze the nerve centers, the primary source of energy in the body.

The true remedies for disease, or rather the true aids to recovery, are those measures which are essential to the maintenance of health, for the body in disease is essentially the same as the body in health. The body requires special assistance, but not different in kind from that which it receives in health. Life is maintained by means of the energy which is introduced into the body by means of food, water, air, light, and heat. The advantages of these agents are secured by the regulation of the diet, clothing, exercise, sleep, and the various habits of life.

Those means by which these natural forces may be made available in the treatment of disease are known as physiological remedies, and their use is termed physiological therapeutics, or the physiological treatment of disease. This is now a thoroughly developed and organized system, the principles of which may be grasped by any intelligent person, and utilized to a most useful extent in dealing with a great variety of common maladies. It is not our purpose to enter into a profound discussion of this subject, but a few practical hints in relation

to the use of physiological remedies may be of service.

Water is a physiological agent; a drug is an antiphysiological agent. Water acts upon the body, and the body reacts to it. A drug does not act upon the body; the body simply acts upon the drug to get rid of it. Cold water applied to any part of the skin causes it to contract, and thus stimulates an internal portion associated with that part. The portion of the skin overlying the stomach is so intimately associated with the stomach by the vasomotor nerves, that whatever happens to the skin over the stomach happens to the stomach; that is, as regards its circulation and nerve supply. When the stomach manifests sensibility, one of its peculiar sensations is hunger; and when it has lost its sensibility, there is no hunger,—the stomach is paralyzed, and the skin over it is also paralyzed.

Over the heart an area of the skin about as large as the two hands is associated with the heart. When we wish to slow the heart beat, we put an ice bag over this part of the skin; and when we wish the heart to beat faster, we remove the ice bag. Whatever is done to excite the skin over the heart, excites the heart also. The skin overlying the liver is associated with the liver; hence, if a cold application is put on this surface, it contracts the blood vessels of the liver; but if a hot application is made to the skin, it dilates the blood vessels. Therefore, if the liver is congested, the blood can be removed; and if the liver is diseased, healthy blood can be made to pass through it, and it will be healed, for it is the blood that heals.

When one feels drowsy, if he bathes his face in cold water, he will be aroused.

If a person has an internal congestion or inflammation, we may put him into a tubful of hot water, and the heat will

dilate the surface vessels, and will thus bring the blood into the skin in such quantities that the inflamed part will be drained of the surplus blood, and thus relieved.

Water is a wonderful thing, because it sets nature to work; it controls and modifies the natural healing power of the body. Cold applications over an inflamed organ, as the stomach, lungs, or liver, changed every twenty minutes, relieve the inflammation. When a cold application is made to the skin overlying an inflamed liver, that very instant the liver feels the stimulating thrill of the cold water, and the dilated vessels contract.

Here is a man whose heart is running away. Alcohol is given him to slow the heart. How long will it be before any of that alcohol reaches the heart?—It must be first taken into the stomach, absorbed, circulated, and distributed all over the body; it goes to the head and the heels and all the places between, and the heart gets only a little of it. But if we wish to slow the heart immediately, put a cold application over it, and that very instant the heart feels the influence of the application. Why?—Because the impulse travels over the nerves di-

rectly to the heart, and it goes at the rate of two hundred feet a second. So it requires only about one one-hundredth part of a second before the cold application begins to do its work.

Suppose a person faints away, and falls upon the floor; we have only to dash a little cold water upon the patient's face, and the heart begins to beat again, the chest expands, the eyes open, and the patient lives.

Every case in which an organ has ceased to do its work is in a certain sense a case of fainting. Here is a stomach that has fainted away at the descent of an enormous dinner; the poor stomach is unable to do its work. What is to be done? Shall we swallow pepsin, the digestive principle from a pig's stomach, or some stimulant? Better apply a hot fomentation over the stomach, followed by a short cold application and massage. The stomach is energized by the applications, and goes to work.

So it is with every bodily organ. If one knows where to apply the water, hot or cold, as the case may be, he can wake up any organ of the body. Water is a remedy that will revive a sluggish organ almost instantly. It is an almost universal remedy.

THE BOY AND THE BROOK.

SAID the boy to the brook that was rippling away,
 "Oh, little brook, pretty brook, will you not stay?
 Oh, stay with me! play with me, all the day long!
 And sing in my ears your sweet murmuring song."

Said the brook to the boy, as it hurried away,
 "Is it just for my music you ask me to stay?
 I was silent until from the hillside I gushed,
 Should I pause for an instant my song would be hushed."

—*Laura C. Richards, in St. Nicholas.*

OUR NATIVE TREES.

The Study of Nature as a Recreation.

BY H. S. WARREN.

RECREATION is of two kinds, stimulative and relaxative; each has its value, and may be illustrated by such pastimes as baseball and fishing. The Hon. Grover Cleveland has told us of the value of fishing as a relaxing recreation, and every American boy knows that, after a hard day's work or study, nothing will cure a headache quicker than a game of baseball. A man engaged in active physical employment would probably rather go fishing after a period of hard work than to play baseball or Rugby as a recreation; but the law student would undoubtedly choose the latter in preference to fishing. As an average diversion for all kinds of people, some branch of nature study gives an ideal means of recreation. The interest in the subject diverts the mind, while the long walk into the woods or along the shore in search of specimens or photographs, furnishes the desired physical exercise, and thus both the stimulative and the relaxative forms of recreation are happily and profitably combined.

"How shall I get my living and still have time to live?" asked Thoreau; and then he went and lived like a hermit in the woods near Walden pond. He professed to "never have found a companion that was so companionable as solitude;" a bold saying at which some readers will sneer and others grow angry, though there was never a studious, thoughtful man but in certain moods could say the same.

Humanity craves a close relation with nature. It is the animal instinct combined with the mental comprehension of an ideal life that calls us away from the artificial conditions of our urban existence, and sends us to the woods, the lakes, the mountains, or the sea. He who loves Nature and lives in close communion with her, will live more years of youthful-

ness and keen enjoyment than the money getter with his millions, who cannot tell an ash from a hickory, nor a cardinal from a tanager, and whose whole happiness is measured in stocks and bonds.

Long journeys into secluded parts of the country are not necessary to



ULMUS AMERICANA, WHITE ELM.

an appreciation of nature. It is the everyday glimpses that really influence our lives more than the extended contact of an annual vacation, and those who can steal but a few hours each week for a brief walk into the suburbs, need not be shut out from the benefits of such contact.

The best time to go into the woods is early in the morning, when the mind is not burdened with business interests. In the spring or mid-summer, four o'clock is none too early, and after sunrise is too late. At this time the sensation is similar to entering a grand old cathedral, though much more elevating and inspiring. Where the one is confined within dead walls, lighted through colored glass, and impregnated with stagnant air often burdened with incense, the other is free and open, though canopied with a leafy spray,



CARYA ALBA, SHAGBARK HICKORY.



QUERCUS PALUSTRIS, PIN OAK.

and screened by drooping verdure upheld by stately columns of elm, ash, or oak, each variously carved by Nature's hand and forming a vault of true Gothic design, lighted by the reflection from the rising sun, all impregnated with that vivifying fragrance exhaled from the whole grand structure, from the mossy carpet below to the leaf-thatched dome above, — Nature's own cathedral, more ancient than Canterbury, and where there is more evidence of the Divinity than was ever written in books. In place of a paid choir, the chant comes from the ovenbird, the anthem in alternating parts from the wood thrush, the towhee, the grossbeak, and the oriole, a tittering inappropriate little ditty from the wren, and a grand chorus of voices from many different species of avian songsters.

Among the various branches of nature, one of the most interesting and valuable studies is that of forestry, the science which treats of the care and preservation of our native trees and the areas which they naturally cover. Much of value may be secured during a short walk in the woods just beyond the suburbs, and incidentally the mind will be stimulated and the body invigorated.

If Nature is let alone, she will cover any portion of the earth, where vegetable life is possible, with the particular kind

made, irreparable injuries will inevitably follow.

It is a mistaken idea that forestry endeavors to preserve intact the virgin forests of the earth. The products of the woods form an important part of the resources of a country, and man is as much entitled to them as to the harvests of the fields. Forestry endeavors to point out the best way in which these resources may be secured without detriment to the subsequent crops, and without causing the ultimate destruction of

those forests. Until recent years lumbering has been conducted in a rather prodigal manner; but systematic forest management at the present time, shows good results wherever natural conditions are favorable, and as long as the laws of nature are regarded,—both in the money value of the timber and the indirect returns resulting from the maintenance of large tracts of forest land.

The most imposing tree, probably, in this section of the Upper Austral region, is the white elm. Looking away over the tops of the forests we see, here and there, an immense old relic with bare branches thrust above the surrounding verdure, majestic even in death. So well known as a shade tree in our city streets, we can readily imagine to what a great height it often aspires in the deep woods, where it frequently dies of old age in the topmost branches, while still retaining life in the smaller ones below. The elm shown in the accompanying



ACER SACCHARINUM, SUGAR MAPLE.

of vegetation best fitted to grow under the existing geological and climatic conditions, and she will cover with forests all portions of the earth where forests are best fitted to exist. Scientific research has taught us that real economy will permit certain tracts to remain covered with trees throughout all agricultural districts; for if from any cause a necessity exists in any country for the removal of its forests from extended areas, unless care be taken as to the manner in which such removals are



QUERCUS ALBA, WHITE OAK.

photograph is a typical specimen. Five feet above the ground it measures sixteen feet in circumference, and is one hundred and ten feet in height, by exact measurement. It is probably over two hundred years old.

The oaks are so well known and so eminently valuable for the quality of their timber that little need be said regarding them. Our most common varieties are the white and swamp white, red, chestnut, pin, or water oak, yellow, and burr oaks. The white oak is the most valuable for its timber, and the pin oak the most beautiful, with its pointed top and delicate foliage.

The genus *Hicoria* comprises some of our grandest trees, the shagbark, or shell-bark, hickory being the leader. This tree should be planted more commonly in our city streets, as in fact should all our native nut-bearing trees. The shagbark is very picturesque in its manner of growth, as are all members of the genus. Their tendency, even

when standing alone, is to grow high, and with heads that, instead of being round, are cylinder shaped to the very top, with only enough breaks and irregularities to add to the effect. This tendency is more marked in the hickories than in any other of the leaf-shedding trees of North America. They are well worthy of the name sometimes given them of "the artist's tree."

Nearly all will agree that the most beautiful and purely picturesque of our deciduous trees is the beech, "the queen of the woods," a most stately tree, large but short trunked, with widely spreading branches, and a delicate spray. The bark is a beautiful light gray, smooth and unbroken, tight fitting as a glove. When not crowded, it sends out its nearly horizontal or drooping branches as low as six feet from the ground, while the top often attains a height of eighty feet. The beech is a favorite tree of the red-



PLATANUS OCCIDENTALIS, BUTTONWOOD.

eyed vireo, that confidential little optimist who delights to hang his pendant nest in the lower branches, while he hunts his breakfast and warbles his cheerful song among the limbs above.

The hop-hornbean, or ironwood, might be mistaken for a young elm when identifying by the shape and construction of the leaf, except that the leaves

white, compact, and very strong, and would be highly valuable if the tree grew to larger size. It attains a height of only twenty or thirty feet. Another species of ironwood, sometimes called the water beech, attains a larger size in the South Atlantic States, but in the Northern States it is found only as a low shrub along streams and in swamps.



QUERCUS PRINUS, CHESTNUT OAK.

of the ironwood grade down in size, the largest being at the outer end with three or four smaller leaves on each branch, those next the main limb remaining quite small. In the elms the leaves are nearly of uniform size. The branches of the ironwood, too, have a different habit of growth, extending out on all sides of the trunk at an angle of about thirty degrees. The wood is



SASSAFRAS OFFICINALE, SASSAFRAS.

Of our five maples, the sugar maple is the most valuable both for its sap and wood, the red, or swamp, maple the most beautiful, the silver maple the most common and of least value except as a rapid-growing shade tree, and the little striped maple, or moorewood, the most rare. The black maple is a variety of the sugar maple, found chiefly along streams and in low river bottoms. It is

the red, or swamp, maple that is the first to show its autumn coloring, and it is one of the very earliest to blossom in the spring.

One of the oddest trees of our woods is the buttonwood. Being exceedingly susceptible to parasitic influence, its habit of growth appears loose and disorderly. Many of the leaves die early in the year, leaving those that remain, scattered sparsely about the branches. The extreme top is the only part of the tree that usually appears thrifty. The outer bark peels off each year, leaving the trunk mottled and blotched. They usually divide at the base into pairs or triplets, and sometimes attain an immense size, especially in the middle Atlantic States and along the Western rivers. The largest trunks are usually hollow. The wood is hard and compact, difficult to split and work, of a reddish-brown color.

The flowering dogwood, so well known for its blossoms, is more nearly a shrub than a tree, seldom growing higher than fifteen feet. What is usually called the blossom is not the true flower. These are greenish yellow, and grow in small, rounded bunches. These bunches are surrounded by four large, petal-like, white leaves, often tinged with pink. The appearance is that of a single large flower.

The basswood, or American linden, is a symmetrical tree of quick growth and beau-

tiful foliage—qualities which make it a valuable shade tree. The wood is white, soft, clear of knots, and is much used for woodenware and light paneling for carriages, though less esteemed than the tulip tree for these uses, owing to its liability to crack in bending.

The tulip tree, or whitewood, is comparatively common in the woods of southern Michigan. It is readily identified by the leaf, which has the appearance of being cut off across the apex, giving a square shape to the upper half. It is among the largest and most valuable of our North American trees, seventy to one hundred feet high, with a straight clear trunk dividing abruptly at the summit into coarse straggling branches. The wood is very widely and variously used. The thin sap-wood is almost white.

The sassafras seldom grows to a very large size, but is comparatively common in thickets of saplings, and is readily distinguished by its light-yellowish bark. When it does attain a mature size under favorable conditions, the bark of the trunk breaks up into large lozenge-shaped disks, the cracks between showing the red color of the inner bark. The trunk shown in the illustration is as large as it usually attains. It is the bark of the sassafras roots that is used most in commerce, though the bark of the trunk,



ACER DASYCARAUM, SILVER MAPLE.

and especially the light-yellow bark of the young twigs, has the same peculiar spicy flavor.

There are often places not far from our city where Nature still sits enthroned, as in primeval days, over a little reservation of native forest,—immense trees, tangled underbrush and vines, and recumbent moss-grown trunks. Here

she is found in all her wild glory, most alluring to the botanist, who may find within the protection of the dense surroundings the earliest specimens of *hepatica triloba*, the latest *gentiana serrata*, and a hundred rare things of midsummer; while the fine old trees tated nerve centers are thus artificially forest was in years long past.

HOT-WEATHER HYGIENE OF INFANCY AND CHILDHOOD.

BY KATE LINDSAY, M. D.

EVERY season has its special dangers and disorders, which are more prevalent at that season than at other times of the year. In winter, when life is largely spent indoors, air-borne germs are more prevalent; so, nasal catarrh, bronchitis, tonsillitis, pharyngitis, pneumonia, influenza, measles, whooping cough, scarlet fever, diphtheria, and other contagious disorders increase from the crowding together of children indoors, both at home and in schoolrooms. When the warm days come, the little ones get out into the sunshine, and the doors and windows are opened, and sunlight and fresh air are allowed to enter the home and schoolroom; so the children begin to lose the nagging coughs, and the mortality due to respiratory disorders becomes much less. But new dangers come on with the hot summer weather. The disease-producing germs which multiply in fermenting food and foul water, and which had been held in check by the low temperature, now begin to grow and multiply, and disorders of the digestive organs increase. Cholera infantum, cholera morbus, diarrhea, dysentery, and the various forms of digestive disorders increase the infantile mortality, until in some crowded parts in the tenement districts of the large cities, as high as eighty

per cent of the children under one year old die.

Insects contribute their part by infecting the food and drink of both young and old, as well as directly infecting the blood with disease germs by their bites. The common mosquito, house fly, and bedbug, all more or less increase summer disorders, by infecting food and drink, or the body by their bites, as well as depriving both old and young of proper rest.

The debilitating effects of the intense heat lessen the tone of the organs of the body, and decrease their power to resist disease. To lessen the infantile death rate in hot weather, it is needful that those having the care of children know how to provide them with pure air and food free from disease germs and any form of fermentation. This means that the food must be unspoiled, that it must be sterilized, and then kept in a clean, cold place, well covered, and never, even then, should fluid foods, such as milk, be kept more than twenty-four hours.

In the heated season, there is only one ideal food for infants under a year old; that is healthful mother's milk. This is free from germs, is safe from infection from any outside sources, and has just the proper proportion of each food ele-

ment to meet the demands of the infant organism for nutritive supplies, and it does not overtax the undeveloped digestive organs. No other food can be put together so as to be a perfect imitation of the natural infant food. The little one fed on artificial food is in danger everywhere. Dirty bottles, foul tubes, the unclean hands of the milkers, the barnyard dust, germ-laden insects, especially the house fly, all combine to infect the already imperfect food of the little one. Instead of a nourishing fluid suitable for building the tissues of the body, the nursing bottle often contains a virulent poison which takes the life of the poor innocent in a few short hours. Should it survive by reason of more than average vital resistive power, it will grow up with crippled digestive organs, entailing much suffering, and hampering in all its life work.

To feed an infant properly in hot weather, and keep all it eats and drinks germ free, requires more skill and care than to command an army. Heat, cold, and cleanliness are the main reliance; cleanliness to keep out infecting matter, heat to destroy what is already present, cold to keep the germs from increasing and multiplying. Where cows' milk is to be used, the cows should be clean, and the milker should have clean hands and clean clothes. Heating ever so thoroughly will never clean milk full of barnyard dirt and kept in dirty vessels. A foul bottle, nipple, or tube will often in hot weather prove as deadly to the little one as a dose of morphine or strychnine. Cholera infantum is, in almost all cases, due to unclean, infected milk. This deadly disorder often takes the life of the little one in a few short hours. A fly in the milk from which the baby is fed, may cause milk infection in a few hours, which will start a severe bowel complaint or a severe case

of typhoid fever. The wind may fill the milk vessels and the milk itself with all kinds of foul-infected matter, and the summer heat may start them growing very rapidly.

Sudden changes of temperature often prepare the way for disease microbes to work more rapidly. In the morning it may be cool, and the little ones run out barefooted in thin clothing, and become thoroughly chilled, thus setting up a catarrhal inflammation of the internal mucous surfaces. Food taken into the stomach at this time will readily ferment. Spoiled food means indigestion and diarrhea. The little one may, in the heat of the day, be swathed in flannel, and become overheated, its underwear wet with perspiration. It may be allowed to stay out in the chill damp evening, when the relaxed skin, poorly prepared to resist the sudden cooling of the surface, becomes cold and bloodless, and the same condition occurs. Catarrh of the mucous surfaces of the internal organs, also severe congestion of the lungs or some other important vital structures result. Keeping the surface of the little body properly warm in cold weather, by proper clothing and toning up the skin by cold bathing, and keeping it cool in the debilitating summer, will do much toward insuring freedom from disease.

All children, and especially the infant, need much more sleep than the adult. Infants from birth until six months old need from fifteen to twenty hours' sleep out of the twenty-four. Indigestion, heat, and insect bites, as well as lack of cleanliness and overheating from excess of bedding and clothing, often deprive the children of so much sleep that they become nervous and worn out for want of rest. This condition alone will often predispose to convulsions and other nervous disorders. When the baby has

spent a restless, fretful night, it has no nerve energy left to digest its food. Given to it at this time when every nerve in its body is calling for rest, its food is often swallowed ravenously and in great quantities. There are no digestive fluids in the stomach to take care of it, so it spoils, and a severe colic, convulsion, or inflammation of the stomach and bowels may follow.

It should be the aim of all having the care of children during the summer months, to try to surround them with such conditions as will insure plenty of rest. Should the infant or the young child be restless and fretful, find out the cause; then remove it at once. It may be that it is mosquitoes or other parasitic insects; if so, destroy those which are already in the room, and keep all the others out with screens. It may be the rough, hot flannel band or tight dress or the over amount of bedding that is to blame for the little one's discomfort. Take them all off, give it a cool bath, and put on some soft, light cotton or linen material. It may be that the room is close and unventilated, the air foul and stagnant; try to create a current, either by opening doors and windows, or should the room be so situated that this is impossible, move the little one to some other room, or even take it out of doors on the porch, where, in a crib protected by netting, it may sleep without suffering from the exhausting heat. Should the stomach or bowels be at fault, an enema, or rubbing the stomach and bowels gently with hot water, may relieve the pain by expelling the foul gases.

Often infants and young children suffer for want of water in hot weather. The writer has seen many a fretful infant sink into a quiet slumber after a drink of cold water, and when the water has given instead of the food at night,

to continue to sleep every night, instead of keeping father and mother walking the floor with it hour after hour. The soothing syrups which were the main dependence for stilling the little one's complaining, were thrown out of the window, and quiet and peace reigned where all was restlessness and nervous excitement before. The temper of the whole family was sweetened because the baby slept. The child who has quiet nerves, and who sleeps well, is likely to grow up sound in mind, and body, and morals.

The little one who has slept well wakes up with a smile, ready for a frolic; the poor little sufferer who is exhausted from want of sleep gets up in the morning a living exponent and object lesson of the doctrine of total depravity, laying the foundation for bodily diseases which may soon end its life, or if it grows up, to be at war with itself as well as mankind, ready to proclaim life a failure. To have the children avoid summer disorders, let them have plenty of sleep during the heated term. Take the little one tired with morning play, when the midday heat is wilting the grass and trees, into a cool place; give it a cool bath, and then put on it some clean, light, cool garments, and let it rest where it is quiet and screened from flies. It will take less time than to nurse it through a spell of sickness. It is always better and more economical to prevent disease than to try to cure it.

The cool bath is a very useful method of toning up the infantile system to withstand summer heat. It may be taken several times a day in very hot weather, and in its simplest form needs only a quart of water, a wash cloth, and towel. It will take but a few minutes to go over the little one's body and wipe it dry before putting on the loose gown in which it is to take its midday nap. A wash-

tub will make a good baby's bathtub and it will enjoy a frolic in the cool water after its hard play in the warm weather, and clean and cool, sleep away the hot summer midday, being strengthened and refreshed instead of debilitated by trying to exercise during the hot hours of the day.

As the digestive organs are most likely to become diseased in the summer, every child should be carefully watched, and the first symptoms of disorder of these organs treated at once. Most disorders of the alimentary canal begin with disturbance of the stomach and bowels, sickness at the stomach, vomiting, and purging. This shows that there are poisons and spoiled food in the digestive tract. Food should be stopped at once, and an effort made to remove these dangerous materials as soon as possible. Stop giving food, wash out the intestines by enemas and free water drinking. Sometimes a mild laxative will be needed to still further remove the waste. Water should be given freely either hot or cold, and boiled or distilled. A warm bath will sometimes give much relief by increasing surface circulation. When there are cramps and much pain, warm

fomentations often bring great relief. When the bowels are hot and sore, cool compresses will be grateful, relieve the congestion, and often stop the catarrhal discharge. In the warm weather, looseness of the bowels should never be neglected. It is a tradition among mothers and old nurses that a diarrhea is a useful accompaniment of teething. This tradition has led to the death of many children; the looseness of the bowels, being neglected, has soon developed into cholera infantum, dysentery, or some serious digestive disorder.

To sum up the whole subject of the care of children during the hot season: It means that unspoiled food suitable to their ages should be fed them, they should wear clothing suited to the temperature, and everything should be done to promote good sleep. That during the heat of the day and whenever they show evidence of languor or overheating, they should be cooled by the cold, cool, or tepid bath in some form, and put to rest in a cool, airy place where they can sleep. In other words use prevention rather than seek after cure for infantile summer disorders, and thus greatly lessen the summer juvenile death rate.

I THANK YOU.

THREE little words, nine letters wide;
And yet how much these words betide,
How much of thought or tenderness
This short "I thank you!" may express.

When spoken with a proud disdain,
'Twill chill the heart like frozen rain:
Or when indifference marks its tone,
Turns love's sweet impulse into stone.

Be not afraid, my little one,
As time goes on beneath the sun,
While marching in life's motley ranks,
For all our blessings to "give thanks."

To thank your God for life so fair,
For tender mercies great and rare,
For health and strength, for home and friends,
And loving care that never ends.

Then thank the ones whoe'er they be,
That do a kindness unto thee:
'Twill cost you little, pain you less,
This sweet "I thank you!" to express.

THE FARM AS A SUMMER RESORT.

BY ETHEL TERRY REEDER.

THESE long, hot days are the ones that the men and women at the desks and in the shops dread most of all the year. The office is hot, the street is hotter, nothing that one eats tastes right, and nothing that one wears is comfortable.

Those who have longer vacations and larger incomes have gone abroad or to the beach or at least taken a cottage at some lakeside resort. But what is there in the way of rest within the reach of the men and women who can leave their work for only three, two, or even one week? Where can the man of small income take his family for the restful change they all need? The farm is within the reach of almost every one.

Many of our cities which are most uncomfortable in summer, are far away from either mountain or seashore, but there is not a State in the Union but has its agricultural districts, its farms, its plantations, or its ranches, where the fields and pastures are green, where the air is fresh and free, and the life simple and pure.

Many of the whole-souled motherly women who preside over the households on these farms, would be glad to entertain small parties or families for a few days or weeks during the hot season, at a very moderate cost.

Not a few mothers of small children rob themselves of all the benefit of their brief summer respites from household cares, by working early and late for weeks before, to prepare an extra supply of pretty clothes for the children to wear during the outing; especially is this likely to be true if the family contemplates spending the time at some frequented summer resort.

In this the farm presents a great advantage; for there all the conventions can be laid aside, and only the simplest and most substantial of clothing is needed, either for children or grown-ups. Plain gowns of print or gingham, and broad-rimmed hats, in which the children can romp unmindful of their clothes, will add much to the pleasure of their outing, as well as detracting much from the trouble and expense of giving it to them.

In the cities our lives are all more



or less artificial and complicated. We are constantly coming in contact with pretense and make-believe, and those who have never tried it do not know how refreshing it is to body, mind, and soul, to lie down in the lap of our Mother Nature, forgetful of all care, and breathe in the real, the true, and the simple.

God made his fields and his forests as much for his human children as for the beasts and the birds. And when I say children, I mean the man and woman of forty as well as the child of four. It is here that He provides the surest

health and the highest education. It is here that one finds the truest wisdom and the broadest culture.

Do not those who spend many hours each day indoors, sin against their higher selves and the bodies God has given them, if in the summer when he is teaching his choicest lessons and bestowing his richest gifts in field and forest, they fail to improve every possible opportunity to go out and receive his bounty and learn the lessons he is teaching—lessons of peace and quiet and tranquillity, of faith and love and hope?



THE RELATION BETWEEN ALCOHOLIC MEDICATION AND DRUG ADDICTION.

BY DAVID PAULSON, M. D.

THE number of individuals who yearly become hopeless victims of the various forms of drug addiction, is increasing so rapidly that it will soon be a practical question whether the drug fiend is not ultimately to become as common as the drunkard now is.

Conservative estimates, based upon the observations of a large number of reliable persons, have placed the number of abject slaves of the morphine habit in one of our large cities at sixty thousand. The very fact that almost every issue of some of our popular magazines contains a number of alluring advertisements of various remedies or institutions purporting to cure drug habits, is of itself an indication that there are multitudes of victims to patronize them.

There are thousands of persons so ignorant of physiological law that they imagine they can eat the most unwholesome and unnatural foods, and indulge in almost any wrong habit of life, and then when outraged Nature utters emphatic protests against her wrongs, they may secure permanent relief by swallowing some magic powder or pill that will juggle away the unpleasant symptoms. Modern civilization is rapidly developing an enormous army of neurotics who do not possess the physical capacity for enduring the pains and hardships that are incident to life. This class intuitively seek any agent which affords them immediate relief from their present suffering, and each time the irritated nerve centers are thus artificially quieted it is creating the demand for a larger quantity. For this class of semi-invalids, the road which leads to hopeless drug slavery is so short that it does not take long to travel it.

It would be interesting as well as useful if we had the data at hand by which we could know to just what extent the unscientific and irrational use of alcohol as a medicine by the fathers and mothers of the present generation has been an active factor in producing the large number of neurotic individuals who are now so hopelessly dependent upon felicity-producing drugs.

Various enterprising patent-medicine firms, by persistent and extravagant advertising, and partially by taking advantage of that superstitious reverence which exists in the public mind for drugs put up under mysterious names, succeed, according to Dr. Jacobi, in annually disposing of two hundred million dollars' worth of nostrums, quack remedies, and other more or less harmful stimulants. A large share of the so-called stimulating and tonic properties of these remedies is due to the high percentage of cheap whisky which so many of them contain. These manufacturers are beginning to discover that the average invalid demands something more effective, and as no other agent furnishes such immediate relief as opium, and no drug produces such satisfactory exhilaration as cocaine, these drugs are rapidly finding their way into the patent-medicine bottle, and they undoubtedly assist the manufacturers very materially in securing reliable and convincing testimonials to the remarkable efficacy which their particular drug possesses in bringing immediate relief from pain and mental distress.

Unfortunately, many of the medical profession have been very slow to recognize that such a drug as alcohol, which is capable of producing an exhilaration

of spirits which is not the result of physiological activities, must be mischievous in its effects, particularly when used day after day by individuals who have strong neurotic tendencies. Chemical activity is no respecter of persons nor of conditions, therefore the persistent use of alcohol necessarily has the same effect upon the human organism when it is dispensed by the druggist as when it is obtained from the bartender. In either case there is created a morbid condition of the nervous system which constantly demands an increased amount of either this stimulant or of some other drug similar in its effects. The patient who has been using alcohol for its therapeutic effects, when he arrives at the stage where he can no longer secure from it its characteristic effects, will not be slow to discover that he can obtain the results very satisfactorily by merely substituting some form of opium for the alcohol.

Not only are the physiological effects of alcohol similar to opium, but clinical experience in dealing with the victims of drug habits shows that it is not diffi-

cult to temporarily deprive a morphine fiend of his accustomed drug if he is allowed to use liberal quantities of alcohol. When we take into consideration the enormous amount of alcohol that is annually consumed for medicinal purposes, it can readily be seen that the merest accident would suffice to discover to a number of these susceptible invalids that opium can produce the same characteristic effects as alcohol and in apparently a much more prompt and satisfactory manner. The fact that there are thousands who might be termed "medicinal alcoholics," who have not been so unfortunate as to learn this, neither lessens the force of the argument nor diminishes the danger that is lurking in the present extensive use of alcohol for therapeutic purposes.

It is certainly a hopeful sign of genuine progress that so many physicians are beginning to substitute for alcohol other drugs which are far more efficient and which do not possess the habit-forming tendencies which are so characteristic of such drugs as alcohol, opium, cocaine, and similar felicity-producers.

WHERE'S MOTHER?

BURSTING in from school or play,
This is what the children say;
Trooping, crowding, big and small,
On the threshold, in the hall —
Joining in the constant cry,
Ever as the days go by,
"Where's mother?"

From the weary bed of pain
This same question comes again;
From the boy with sparkling eyes
Bearing home his earliest prize;
From the bronzed and bearded son,
Perils past and honors won;
"Where's mother?"

Burdened with a lonely task,
One day we may vainly ask
For the comfort of her face,
For the rest of her embrace;
Let us love her while we may,
Well for us that we can say,
"Where's mother?"

Mother with untiring hands,
At the post of duty stands,
Patient, seeking not her own,
Anxious for the good alone
Of the children as they cry,
Ever as the days go by,
"Where's mother?"

THE VALUE OF RELAXATION.

BY H. B. FARNSWORTH, M. D.

IT is an old adage which tells us that "worry kills more men than does work."

We live in a strenuous age. The hurry and worry, the tireless, nervous endeavor which characterizes the daily round of every business man, does more to undermine the health and energy of body and brain than many more immediate physical evils.

Indeed, this constant nervous tension finds its way also into our social life, and the increasing nervous strain, lasting throughout our waking hours, to which we as a nation subject ourselves, has tended to break down our physical strength, and make us old before our time, shrunken in physical and mental strength far below our normal and rightful powers.

Regular periods of relaxation for the mind and the nervous system are as necessary to a man's well-being as are regular hours of physical rest.

The sooner we realize the importance of clearing all the cares and worries of business and private life from the mind, of sinking deep into the comforts of a large, roomy chair, or of stretching the body prone and relaxed upon a lounge or bed for a time at the end of the day's work, the sooner we will enjoy the sense of increased power, mental and physical, that comes from thus conserving our nervous and muscular energies.

Keep every thought of care and anxiety in its proper place. The man who habitually takes his work "to bed with him" is entering upon the road that has brought many an unfortunate to a state of total mental collapse.

That man is wisest who centers his social delights about his home, and reli-

giously excludes any of the thoughts and cares of the outside world that may tend to make his home life less free and tranquil.

Because one feels the necessity of centering all the energies on one's work during business hours, is no reason at all why he should allow the talk and the thought of the outside world to come into his home, and deprive him of that perfect rest of body and peace of mind that is absolutely essential to his well-being.

If he feels that during the day that is just over he has given every person with whom he has met, his best attention, that to every problem that has come up he has given his best thought, that any manual work he has undertaken was the best that he could accomplish under the prevailing circumstances, he can then be prepared to give himself entirely to the pleasures of his home or his outside social life, with a feeling of good cheer and kindness for the members of the household and those friends that his better life demands. Such a man gives pleasure as well as receiving it, and it is through giving that our powers develop, and we grow into a fuller realization of the pleasures attending a quiet and tranquil mind.

We know so little about absolute relaxation. Even those who speak of it and advocate it, do not put it into practice to its fullest extent.

By the term "relaxation" we are not to understand a state of indolence or indifference. Such a state of mind will only bring one around in a circle to increased worry and undue care.

One of the primary principles of psychology asserts that thoughts cannot be

dismissed from the mind by an effort of will. They must be supplanted and crowded out by introducing others.

We can imagine the worry-ridden man objecting to this with a "well, that's easy to advise, but not so easy to put into practice."

It is a very practical and an entirely possible idea, and can be put into practice by ordinary methodical and persistent effort.

After a man has done his best in his day's occupation, he should clear his mind of all further thought relating to it by finding pleasure in wholesome entertainment. An hour spent in renewing his acquaintance with a favorite author or in pleasant conversation with those who interest and please him gives him a renewal of energies, and his life will continue to be to him a source of pleasure. Or he may spend the evening at a concert or with such friends as find pleasure in music. In this way, by enlivening his spare hours with the company of his family or his friends, he is quickly made over anew, ready for further efforts on the following day at his regular occupation. Neither mental nor manual work is regarded by such a man as drudgery; he takes up each new problem and each new task that the day brings with all the energies of which his body and mind are capable.

One needs physical as well as mental relaxation. It is a good practice at the end of the day's labors to lie prone on the back and give one's self up to simply resting. Every muscle in the body should be at rest. Such a method brings to a man not only rest but self-reliance. He schools himself to keep out of the mind those affairs of the day that might come in to arouse new thoughts and perplexing questions. He has a time for all things, and realizes the necessity of this time for gaining strength that will en-

able him to grapple with the important questions of life in a more able manner at another time.

Such a man is not so indiscreet as to take up any measure that he cannot bring to a successful termination. He feels his own limitations; he understands his own powers and capabilities more accurately, and he is led to look about him for all that is good and true and noble in life which will help him to grow "from his dead self to higher things."

When one realizes that within his own body he carries a wonderful Presence, and that his body is a temple in which this presence abides, he feels less of the restless fever of personal ambition and personal gain. He feels that his little world is not the center of the universe. Not his own ambition, but his duty to this higher impulse from within commands that his every effort shall be his best. Bending every energy to every task, at the end of the day he rests content, but not satisfied, with the results achieved.

He knows that no amount of further worry or thought can bring about a change, and with perfect repose and confidence that he has the daily guidance of this higher good which he desires to see in his work, he goes about his tasks cheerfully, scorning to feel concern for that which is not within his control.

Prof. William James, in an article entitled "The Gospel of Relaxation," published in *Scribner's Magazine*, April, 1899, speaks thus of the good which is gained by a due recognition and appropriation of a divine aid in our work-a-day life.

"Worry means always and invariably inhibition of associations and a loss of efficient power. Of course the sovereign cure for worry is religious faith, and this, of course, you know. The turbu-

lent billows of the fretful surface leave the deep parts of the ocean undisturbed, and to him who has a hold on the vaster and more important realities, the hourly vicissitudes of his personal destiny seem relatively insignificant things. The really religious person is accordingly unshaken and full of equanimity, and calmly ready for any duty that the day may bring forth."

These are sound words and good. The lesson is a hard one for some of us to learn, but one which all of us can profitably put into practice. Not one worry should be given to that which we know is past redemption. In this way, realizing at all times the mistakes that we make and the improvements of which we are capable, we strive daily for a better life, with more power for better work than that which we brought forth yesterday.

Those who know the effect of proper relaxation in the case of a person engaged day after day in arduous mental work, appreciate its importance.

Professor James, in the article previously quoted, advises every student to bend his energies completely to his studies while he is at them. "Prepare

yourself in the subject so well that it shall always be on tap. Then in the classroom trust to your spontaneity, and fling away all further care. . . . Especially at periods when there are many successive days of examinations impending. One ounce of good nervous tone in an examination is worth many pounds of anxious study for it in advance."

Instead of staying up late of nights and striving in every possible way to cram the head full of facts and notes which have been taken down throughout the term, it is far better for the student to fling aside his books, and go out for a long walk with some pleasant company; not embarrassing the digestion by nervous excitement over the ordeal which he sees confronting him.

The after life of this student will be self-poised and rightly balanced. He does not rely on cramming into his head the knowledge that is necessary to carry him through some special stress, but serene and calm under the knowledge of his own abilities and limitations, he pursues his way steadily. In his daily life he grows from strength to strength,—a pleasure to himself, and an inspiration to those with whom he associates.

"Four things a man must learn to do
If he would make his record true:
To think without confusion clearly;
To love his fellow men sincerely;
To act from honest motives purely;
To trust in God and heaven securely."

HOUSEKEEPING AS IT SHOULD BE.

BY MRS. E. E. KELLOGG.

MISTRESS EVE in her beautiful garden home lived untroubled and untrammelled with the cares of housekeeping. Nature was her cook and maid-of-all-work. The morning breezes did her sweeping and dusting, the dews of heaven daily freshened the flower-bedded sward which doubtless served for both carpet and couch, while the new-born sun, moon, and stars furnished light and heat "without money and without price."

The peopling of the earth necessitated the construction of some sort of dwellings for family seclusion and shelter. Just what the first houses were like is unknown. It is conjectured that they may have been fashioned by binding together the tops of young and supple trees, thus forming the framework of an arch-shaped bower, rendered more substantial and serviceable by intertwining with twigs or stems, or by covering with the skins of animals.

Under the varying conditions of different ages and localities, tents, wigwams, huts, cabins, structures built of mud, sod, brick, logs, bark, stone, and numerous other materials, of various sizes and diverse styles of architecture, have supplied the need of dwellings for mankind, and brought into requisition those occupations in the management of the domestic affairs of the household which we are wont to call housekeeping. This term is a most comprehensive one. Among some races of people it includes the making as well as the care of the dwelling; as, the setting up of the tent or construction of the wigwam; the collecting of fuel, the grinding of grain, and the preparation of other raw food materials, in addition to its cook-

ing; the weaving of cloth for bedding and clothing and coverings of various sorts; in short, the home production and manufacture of all or nearly all material things needed by the household.

Much labor of a similar character came within the province of the housekeeper of our own land scarcely more than a half century ago. Conditions have changed, however, with the increase of commerce, and the generally accepted idea of the model housekeeper in this twentieth century is one who takes entire charge of the house and its furnishings, attends to the purchasing, and, if need be, to the making of necessary articles, as well as their preservation and repair; looks after the details indispensable for the physical well-being and comfort of the household in relation to food, clothing, warmth, sleep, etc.; endeavoring to maintain throughout her domain everywhere the conditions essential for the health and happiness of the inmates of the home. In short, it is the keeping, in its broadest sense, of both the house and the household, and, whether the labor devolves as it so generally does upon one member of the family, or is a charge assumed by one, assisted by a retinue of helpers, the fact remains the same, that it is one of the most weighty and responsible positions in life's great field of action.

For the faithful and efficient performance of its duties, it demands of woman superior ability, judgment, and knowledge, and the possession of such qualities as neatness, orderliness, punctuality, diligence, tact. The successful housekeeper must be a good financier, planner, supervisor, caterer, cook; she must be systematic, tasteful, economical, a woman

of broad ideas, yet understanding details. She must know how to do everything in her line and be able if necessary to teach others, not merely the routine duties, but the principles which underlie them, with the reasons why certain ways are better than others.

In the thirty-first chapter of Proverbs, the wise man in his exquisite picture of a perfect woman, lays much stress upon her qualifications as a good housekeeper. Her deftness and skill in useful handicraft are apparent, as we read, "She seeketh wool and flax and worketh willingly with her hands," for the purpose doubtless of providing material for garments for her household, which, farther along in the chapter, we ascertain are all so well clothed that "she is not afraid of the snow" for them. That she is thorough and capable alike, we may infer from the fact that since she wrought "willingly" she must have enjoyed her task, and as every one knows, there is no pleasure in the doing of careless and slipshod work. We catch a glimpse of her energetic, prompt, and thrifty ways, as we read, "She riseth also while it is yet night, and giveth meat to her household, and their tasks to her maidens." That she exercises a wise economy and is prudent in her management we learn since "she looketh well to the ways of her household," and that "she eateth not the bread of idleness" indicates that she is diligent and industrious.

"Strength and dignity are her clothing." What a wonderful portrayal of true womanliness! We know her duties will be performed with faithfulness; for honor is one of the attributes of her character. She realizes that the trust imposed upon her is no sinecure. She considers that she holds in her keeping the key to much of the success in life of those who make up her household, that the health and character of those in

her charge is in a great measure dependent upon the cleanliness of their surroundings, the wholesomeness of their food, together with many other conditions belonging to her special province as housekeeper; she feels that household labor done with thought and conscience is a grand and noble calling, so with firmness of purpose and dignity of bearing, girded with strength sought anew each morning from the source of all strength, she cheerfully and willingly takes up the day's tasks, performing even the most trivial in the best possible manner, remembering that "he that is faithful in that which is least is faithful also in much."

In these days when so many new avenues are opening for women, there is a tendency to belittle the plain and homely tasks of everyday domestic life, and to look with seeming aversion upon what is generally termed *housework*. This distaste for domestic duties no doubt arises from a feeling that they are mere drudgery, needing only physical exertion, and to be associated with weariness and tiresome routine. It is true there are prosaic details in connection with household labor, but there are such necessarily connected with any line of work. When we look beyond the narrow confines of mere manual effort, it appears plain that no sphere of usefulness is larger or more productive of praiseworthy results than the doing of those things within the domestic realm which minister to the needs of the household, promoting the peace, comfort, and physical prosperity of each individual, thus aiding him to develop his powers to the utmost, and helping him make the most of life.

Lack of knowing how to do it well, makes labor distasteful and wearisome. Much of the dislike of household tasks would vanish, were women to make a

study of the best ways of doing work, applying scientific principles to each process, thus making of every department of housework what in reality it should be, both an art and a science. Says James Freeman Clarke, "The least thing thoroughly well done becomes artistic. Anything complete, rounded, full, exact, gives pleasure; anything slovenly, slipshod, unfinished, is discouraging." This is as true of sweeping, dusting, bed making, and other household operations as of any other course of action. Great enthusiasm is generally manifested in learning at the cooking school the method of concocting some new and delectable or dainty dish; but this eagerness rarely extends to a desire to obtain the knowledge of how to do such a common thing as cleaning the cooking utensils in the best and most skillful way. Washing dishes is considered a menial task, so simple in character that one needs no instruction for its proper performance; yet it is the doing of these commonplace duties in the nicest and most perfect way that makes of household labor a philosophic study replete with interest, "a joy and a song" to the worker.

The road to success in other occupations lies along years of study and training. Housekeeping which comprises more than a dozen differing occupations, is undertaken with no study and but little training. The sequence can be readily foreseen. Not knowing well how to carry on any one of the various occupations, the work in all departments is more or less bunglingly done, with the result of discouragement to the worker and distaste for the work.

We are instructed, "Whatsoever thy hand findeth to do, do it with thy might." Does not this as certainly pertain to the work needing to be done in the kitchen, the laundry, the cellar, as to any other

line of the world's work? To do with one's might, that is, to do with ability, necessitates the keeping as close as possible to a perfect standard. It must mean a progress, a constant working toward that which is highest and best of its kind, whether that be the scouring of tinware or the editing of a newspaper.

To qualify for business is essential for good housekeeping. This is a point becoming more universally conceded with each year. Many of the colleges where young women are educated have introduced into their curriculum either complete courses in domestic science, or studies pertaining thereto. The time is past when an education can be looked upon as unnecessary for the woman whose work in life is largely devoted to the care and maintenance of a home. The requirements of her profession demand a knowledge of the scientific principles which govern the processes, chemical and mechanical, in constant daily use; an understanding of physiological laws; of house sanitation— heating, ventilating, plumbing, disinfection, and cleanliness— food combinations, preservation, and preparation; methods and details of practical work in all departments; economical buying and using, as well as household art. There is, in fact, scarcely a branch of knowledge which may not be made to contribute valuable aid in the care of the house, and the health and comfort of its inmates. Let proficiency in knowledge and skill, commensurate with the interests at stake, be acquired by those who assume the direction of the home, thus securing for themselves a perfect control of the machinery in their charge, and making plain the wonderful possibilities within their reach; then the higher purposes of life in the home will dominate over the common feeling that domestic duties are petty and degrading. Housekeep-

ing, rightly conducted, will be recognized as the great and important factor which it should be in the physical, intellectual, and moral advancement of the race. Work in the household will be chosen as a profession rather than accepted

because it is the only thing available. Progress will be the housekeeper's constant motto, and her standard will be the perfection of individual health and character; the product of her work, the best-developed men and women.

GLIMPSES OF THE JAPANESE AT HOME.

BY SOPHIA B. BRUNSON, M. D.

JAPAN has been brought so prominently before the world in the last fifty years, that it is needless to enter into a discussion of her history. It is well known that for three hundred years she was a sealed country, and that in 1853 Commodore Perry, with his strong gunboats, broke the bars that bound her ports, and the nations of the earth rushed in, to gaze, to wonder, to instruct, and then to admire, and at last to sit at her feet and learn much that she had to teach them, of art, of beauty, and of culture.

To-day, Japan ranks as one of the foremost powers of the Orient.

This article, however, is more particularly concerned with those manners and customs of the Japanese which bear directly on health and hygiene.

When a Japanese woman becomes a mother, instead of being allowed the much-needed rest and quiet, she begins receiving visitors almost immediately. The friends come in a stream to offer their congratulations, and she has to sit for long hours upon the mats which cover the floor in lieu of carpets, or upon the bed, which consists of a thick quilt spread upon the floor, and bow down again and again, making polite speeches to every newcomer. The baby is handled and passed around from one to another to be admired, until its wonderful, inherited Japanese patience be-

comes exhausted. This continues until all the friends of the family have paid their respects. If they have a wide circle of acquaintances, it is several days or weeks before the mother and child are relieved from this strain.

Then begins a healthful life for the little one. He is strapped upon the back of a nurse or an older sister or brother, from which perch he sees the beautiful, sunshiny world, if it happens to be summer; if winter, he lives an outdoor life, just the same. The snow or rain falls upon his little bald head; for he wears neither bonnet nor shoes, and it is a common thing, even in the coldest weather, to see Japanese children playing hopscotch or battledore with their infant brothers or sisters upon their backs, tucked away under their outer coats. The children seem to thrive and become quite hardy under this treatment.

The mothers nurse their children until they are two or three years old — cow's milk was not used at all in Japan until the advent of the foreigners into the sunrise kingdom, and as a consequence, young children are often fed upon the most indigestible diet, which causes them to suffer from gastric and other disorders. Upon one occasion the writer called upon a woman who had a sick child of two or three years of age. She said that the child's digestion was disordered. She was then feeding the little



TRANSPANTING RICE.

one upon large pieces of raw fish, *sembi* (a hard rice cake), and hard-boiled rice. The child was washing down the repast with wine from a cup which the mother frequently held to her lips.

In Japan the houses are usually one or two stories high, built of wood and frequently charred on the outside to preserve the wood. The outer wall is made of panels, which in the daytime are slidden into a receptacle, and leave the room open to the street. That is if it happens to be a shop or place of public resort. If a private home, paper screens are frequently drawn between the occupants and the outside world. There is no furniture in the room, excepting one or two *dias*, or tiny low tables, and the *hibachi*, or fire box. This last is a brazier, containing a few live coals, at which the members of the family warm their fingers in winter, and light their tiny pipes all the year round.

The floors are covered with thick straw mats, upon which they sit in the daytime and sleep during the night.

The children are not rendered ill natured and cross by constantly being reminded to "let things alone;" for there is nothing within their reach which they can injure or destroy, and they can tumble over the soft straw floor without bruises or bumps.

The Japanese eat but little meat, excepting fish, which are caught in great abundance off their coasts. Mrs. Isabella Bird, the noted traveler, when making a tour in the interior of the empire, sent her guide out to buy some meat for her supper. He soon returned bringing a fat hen. Just as he was making ready to slaughter the fowl, the old woman from whom he had obtained it, made her appearance upon the scene. She returned to him the money which he had paid for the chicken, and with tears in her eyes besought him not to take its life, but to give it back to her, as she could not bear to have it killed. Mrs. Bird hearing the commotion and her entreaties, gave the man permission to restore the fowl to the old woman,

who received it thankfully, and went home rejoicing that she had saved her pet from the awful fate of being killed, cooked, and eaten. Her own conscience at the same time had been spared what, to her, would have been the reproach of selling life for gain.

The diet of the Japanese consists principally of rice, pickles, vegetables, and fruit. Food is served in little bowls, and dexterously shoveled into the mouth with *hashi*, or chopsticks.

Rice is planted in the water and very carefully transplanted and cultivated by the peasantry, who derive most of their revenue from this industry.

The rice is cooked in large earthenware or iron bowls, in antique brick or clay ovens.

The Japanese are a cleanly people. Tokio has eight hundred public baths, at which three hundred thousand persons bathe every day at a cost of one cent for each hot bath. Besides this the better classes have their own private baths in their houses. It is true that the bath houses open upon the streets, and one can look in and see men and women bathing in the same large tank; or if not in the same tank, the partition is only a few feet high. Certain it is that they have no tradition of the fig-leaf apron, and do not in the least object to dispensing with this adornment, when for purposes of cleanliness or convenience. However, they consider such exposures as are made by our Occidental belles to enhance their attractions in the ball-room, as highly immodest and improper. The Japanese women are certainly superior to our own, in that they never pinch their feet nor compress their waists. The writer records with pleasure that the instrument of torture and disease known among so-called highly civilized Christian nations as the corset, is practically unknown among them.

Hence the waists of the little girls are allowed to develop normally, and are not forced into molds which are the inventions of the fashion mongers, who model the "latest and most approved female figures." How long will such atrocities continue to be perpetrated upon innocent and defenseless little girls by foolish mothers, themselves the victims and blind slaves of the fashion god?

The sewerage system of Japan is poor, and their lack of attention to general hygiene in the country, as well as in the cities, often produces an inviting soil for the cholera bacillus. From 1878 to 1891 there were six cholera epidemics in Japan, which killed over 313,000 people. There have been a number since. During my stay in Japan, there was one epidemic which swept away large numbers of natives. The foreign population did not dread the disease, for they boiled and filtered all the water which they drank, and were careful about their food. In the city in which we lived for a while there were about three hundred deaths daily from the plague. The road which led to the Temple of the Ancestors, where the burial rites were held, was thronged with funeral processions. Nearly all day we would hear the weird requiem for some departed soul being chanted by the priests. The bodies were cremated, and the ashes deposited in the cemetery. It was glorious autumn weather, and in the evening I would often pause on the brow of the hill, and look down upon the quiet city where the awful scourge was doing its deadly work. When the sun was setting, the bay shone like a great iridescent jewel, in its setting of azure hills, rising range on range, growing fainter and fainter in the distance like a fading memory. Above me rose the mountains, where little temples and shrines were peeping out from bowers of maple



PREPARING DINNER.

groves, glowing red in autumn splendor. Above the peaceful groves, red as altars of sacrifice, rose the pearly smoke from down in a gorge between two mountains. I knew that it came from the crematory, where the bodies of the cholera victims were being incinerated, and I would turn sadly away, thinking that after all the beautiful earth is but a charnel house, a vast altar upon which man, the victim, gives up his life, often needlessly long before his time, because he does not understand Mother Nature, and conform to her laws.

In Japan, in every department we see medievalism and progress side by side. You can go into drug stores, and see deer horns, snake and frog skins, to be triturated and used as medicine, to-

gether with other paraphernalia of ignorance and superstition. Next door perhaps will be a well-equipped modern hospital, with graduate nurses and physicians from the college of medicine connected with the Imperial University of Tokio. This college matriculates from two hundred and fifty to three hundred medical students, and is sending out all over the empire, as well-trained physicians as are graduated from American colleges.

In medicine, as in other lines, Japan is coming to the front. Already we see in our text-books, names of Japanese men who have made themselves famous in the medical world by the work which they have wrought for humanity, through their scientific research.



THE NECESSARY UTENSILS.

FRUIT CANNING.

BY LULU TEACHOUT BURDEN.

FRUIT canning is often quite a wearisome task because it is undertaken during the heat of the day, or, possibly, on a very warm day. If convenient, secure fruit suitable for canning on days when the housework is not so heavy. It is also a good plan to put fruit up in small quantities rather than to overtax one's energies by trying to can a large amount at one time.

The fruit should be strictly fresh. It becomes soft and overripe if kept too long, hence it is better not to buy in such large quantities.

Underripe fruit should be chosen in preference to that which is overripe.

Utensils Which Facilitate the Work.

Before commencing the work the requisite utensils and dishes should be at hand and in perfect order. The things needed are jars enough to hold the quantity of fruit which is to be canned, a large sauce pan, the funnel, plate, measuring cup, a cup (either granite or china) for dipping, and a dish pan, with plenty of hot water, towels,

and holders. Any good can wrench is convenient to have, as it makes the work easier. Pint jars are best for small families, but a quart jar is none too large for a family of six or eight. Thus the fruit may be used before one tires of it. In purchasing the jars they should be looked over carefully to see that there are no defects and that the covers fit perfectly. The rubbers should be new unless they are of a good material, and can be perfectly sterilized.

Why Canned Fruits Spoil.

Absolute cleanliness, which includes thorough sterilization, must be observed if good results are expected. There are constantly floating about in the air a great variety of bacteria. These minute plant organizers are responsible for all forms of decay and decomposition. Therefore the prime essentials in canning fruit are, first, to destroy by thorough cooking, all of these organisms which may already be in the fruit, and, second, to seal it so effectually that others are excluded.

The Process of Canning.

Different fruits are canned in practically the same way. All fruits should be lightly cooked, that they may retain their natural flavor. In filling the jars it is wise to let them overflow, for, as the liquid cools, it will condense, leaving a space at the top of the jar.

It is a good plan to put the jars and their tops into cold water and bring it slowly to the boiling point, allowing them to stand in this boiling water until ready for use. This not only insures thorough sterilization, but the slow heating tempers the jars.

Whether the fruit is cooked in the jars and then sealed, or cooked in a kettle and then put into the jars, it should be sealed while boiling hot. Invert the jars as soon as the covers are securely fastened, to discover leaks if there should be any. When this is done, the can may be laid down on the side, thus evenly distributing the fruit through the jar if there is a tendency for its gathering at the top. Leave it in this position until cool, turning or rolling it occasionally. If laid upon a folded towel, it will not

roll about. The covers may be retightened the next morning, if screw tops are used.

Currants and Raspberries.

To each full quart of large red raspberries allow half a pint of currant juice and enough sugar to sweeten (half a pound is a good proportion). Put the berries into the porcelain-lined kettle, and pour over them the currant juice, after the sugar has been sprinkled on. Bring slowly to the boiling point; skim, and put into the cans.

Plums.

Wash any kind of plum, and stick carefully with a pin to prevent the skin from cracking. Put the fruit in alternate layers with the sugar in a porcelain-lined kettle, and let stand an hour or two. Bring slowly to a boil, and, after skimming, put into the jars. Where sugar is used, allow half a pound to every pound of plums. There is quite a little juice to plums and all small fruits, and for this reason many prefer this method of canning plums to that of dropping into a boiling syrup.

Canning Vegetables.

It is better to cook these in the cans. The jars need the most careful sterilization. Corn must be freshly gathered, cut from the cob as soon as possible, packed in the jars, the rubbers adjusted, and the tops put on loosely. Stand the jars in a washboiler, the bottom of which

has been protected with a rack or strips of wood. Surround them partly with cold water, cover the boiler, bring





FILLING THE CANS.

to the boiling point, and boil continuously for four hours. Lift them from the boiler, one jar at a time, and screw the covers down firmly at once.

To Can Asparagus.

Wash the asparagus, tie it together in bunches, and stand it upright in a large kettle of boiling water, and boil ten minutes. Put into the jars with the heads up; fill the jars with cold water, adjust the rubbers, and cook one hour and a half. Seal at once on taking from the boiler.

Peas.

Use the very young peas. Shell them. Pack into the jars, fill with cold water,

adjust the rubbers, and put the tops on loosely. Surround with cold water, bring to the boiling point, and continue boiling for three hours. String beans, beets, small turnips, and carrots may be put up in the same way, allowing an hour and a half for each to cook. Young Lima beans need three hours and a half for cooking.

Tomatoes.

Tomatoes are quite easily canned, and they also keep well. For salad purposes, select small round tomatoes. Scald by dipping in boiling water once or twice, using a wire basket for the purpose. Remove the skins, and bring slowly to a boil. Add a little salt, and fill the jar at once, sealing tightly.

DEFECTIVE SPEECH IN CHILDREN.

THE following article by Dr. Charles Fleetfoot, Jr., which appeared in a recent number of *The American Mother*, is eminently timely and educational:—

“Recognition of a defect is the first step toward its cure. Children are often misjudged and supposed to be stupid or willful when they are afflicted with some physical infirmity. The child may be myopic (nearsighted), or suffering from an astigmatism, and because he cannot see clearly what is on the blackboard, and amuses himself with what is close at hand, he is called perverse, and scolded for being inattentive. Or perhaps his hearing is defective, and because he does not hear distinctly, his answers are irrelevant, and he is supposed to be stupid.

“But perhaps no class of unfortunates has been as little regarded as has been those who stammer. Few people have given time and study to the subject, and much that has been written or said is erroneous or contradictory; yet it is possible that few defective children suffer more mentally than the stammerer or stutterer. These two words are sometimes used as synonymous, but in reality there is a difference.

“Stammering is defined as inability to control the organs of speech, while stuttering is a spasmodic inability to vocalize certain sounds, especially the explosive consonants. Stammering is due to deficient will power, and stuttering to defective respiration or vocalization. Stammering may be manifested in singing or declaiming as well as in talking, while stuttering is manifested only in talking. Speech is the response of the vocal apparatus to the will, which has determined to give expression to ideas which have originated in the brain. As long as all these act harmoniously,—that is,

the brain, the will, and the vocal apparatus,—we have fluent speech. But if there is any defect in any one of these, it will manifest itself in some form of imperfect speech.

“If, then, the vocal organs are perfect and the intellect clear, the cause of stammering must lie somewhere in the agent that connects the two.

“The infant has manifested his feelings in cries, and even as a child has been able to speak with no more than the ordinary appearances of immature effort. It is only in his later years that he has manifested the hesitation that we call stammering; as long as his mental power was but little developed and his desire for expression was not excessive, he did not hesitate; but when, by growth and observation, his brain became more active, he grew more anxious to give expression to his thoughts and feelings, and the nerve impulse flew to his vocal organs faster than they were able to respond, and he found himself with these organs tightly closed and refusing to yield to the efforts which he put forth, with many facial contortions and a strong exhibition of desire, but without an audible result.

“This peculiarity occurring several times, the attention of the child and of his friends is attracted to it. The centering of thought upon it conduces to its more frequent recurrence, and before long, a habit is formed.

If he can gain control of his organs under all circumstances, the stammering is cured. He is thus master, not mastered. But how to gain this control is the great problem.

“The difficulty with the stutterer is not so serious or so hard to remedy. If the vocal organs are strengthened and

the methods of breathing or vocalizing corrected, the road to success is not long. Stuttering may be converted into stammering. That is the physical condition which may, through worry, become a mental one.

"The amusing contortions and ineffectual repetition of sounds of the stutterer have often been made the subject of ridicule, and by their public exhibition, the sorrowful defect has been perpetuated. More than one stutterer has become so through his imitation of some other unfortunate sufferer with this affliction.

"More than ordinary care should be taken of one of these unfortunate children. He should never be teased, tickled, unduly excited in any way, shamed, or placed in avoidable embarrassing positions. His health should be especially guarded, and every care taken to strengthen his nervous system. He should live with those who speak correctly and articulate clearly, so that he will have only good models to imitate. As he approaches adolescence, he should be guarded from personal bad habits by cold baths, proper exercise, and simple fare. By such regimen he will in all probability outgrow his inherited tendency, and become perfect in speech. Remember that he does not inherit stammering, but simply such a nervous condition that stammering may be acquired with more readiness.

"A general weakened condition of the nervous system may be accompanied by stammering. In these cases, the cure will be found in those hygienic agencies which bring health.

"Stammering may result from a severe fright, the shock of which has unbalanced the nervous system. To subdue the excitement and to allow time for the nerves to gain their equilibrium, are important remedial agencies.

"Stammering, as well as stuttering, may be connected with a wrong method of breathing, but this readily yields to gymnastic treatment. And if there is no other cause, stammering disappears with it.

"There is a form of stammering which may be called mental. Ideas are so rapidly formed that the individual is not able to keep pace with them. In his attempts to execute them, he perhaps begins a second word before he has completed the first. He leaves one sentence half finished to pass to the next one, or he flies from one topic to another in the most hasty and illogical manner.

"This form of defect needs strict mental discipline. The subject should be compelled to complete his words, his sentences, and his undertakings, until he forms a more coherent method of thought and conduct. To insist on these requirements and not to nag or irritate will require skill, patience, sympathy, and an ability to secure the co-operation of the subject himself.

"The child who tends to stutter or stammer should secure abundant sleep at regular and suitable times. He should not sit up late at night and lie in bed late in the morning; for the early hours of night are the best for restful sleep.

"If he becomes restless and irritable during the day, he should be encouraged to take a nap, or at least to keep quiet for a time, and rest. A quiet mind and a well-nourished and rested body will conduce to the prevention or the cure of this defect.

"For the child approaching adolescence great judgment and skill are needed to secure a healthful condition of mind and morals.

"The subject of diet is one not to be ignored. Here can be cultivated the habit of self-control. The stammerer should be taught to eat with calmness,

and a due regard for the conventionalities. To wait quietly while others are served first is a good lesson in command of self; and to refrain from indigestible and highly seasoned foods is not only helpful from the health point of view, but will necessitate the care of the will in refusing things that are attractive to the taste, but hurtful to the health.

"Tea and coffee should never be used by the stammerer. They are nerve poisons, and their use tends to lessen nerve vigor, and consequently to weaken will power.

"Tonic baths are valuable, and a cheerful spirit essential. The stammerer is apt to be despondent at times, and this despondency may increase as he realizes more and more his affliction. He needs encouragement; to be told over and over that he can succeed; that he can get control of his vocal organs. He needs the wise sympathy that makes him realize that his friends are helping him, but that they will not coddle him because of his infirmity.

"The possibility of his failure should never be admitted, but the child must be taught to willingly co-operate with those who are endeavoring to regulate his life in the way to produce the best results. He must follow a rigid discipline, and he should follow it willingly. Remembering that the trouble is mental, he should be influenced to put himself into the mental attitude which will work toward his cure.

"With the baby learning to talk, great pains should be taken to present to him always correct models for imitation. His charming hesitations or inaccuracies should not be repeated in his hear-

ing, and he should never be addressed in baby talk; for this tends to induce the habit of improper or defective speech. Incorrect speech should be corrected as far as possible, or at least not intensified by receiving continual notice. Very often a slight defect will become a serious one by too much attention; whereas, if not apparently observed, and good models always presented for imitation, it will gradually drop out of sight.

"Teach the young child to say over the letters of the alphabet correctly. With the child that is older, little exercises in recitation may be given in order to gain control of the vocal apparatus. Teach him some simple rhyme, and have him repeat it after you; or tell him a story in a natural tone and manner, and ask him to tell it over again to you.

"Stammering is not only an affliction to the sufferer, and an annoyance to his friends, but will be a serious drawback to his success in future life. He feels his own failing, he cannot forget that he stammers; he loses ambition because he has lost courage. One of the first elements of success in overcoming a habit of stammering is to believe in the possibility of a cure. There must be undaunted faith, strong self-reliance, unconquerable determination to govern the whole life by the rules of temperance and morality, and a serene and quiet spirit that meets life without nervousness.

"Self-cure is difficult, but not impossible. It is better, however, to have the constant encouragement of wise friends, or to go to an establishment where the treatment is scientific and under the direction of a competent physician."

The Use of Stimulants.

DR. A. P. GRINNELL, of Burlington, Vt., in the *Journal of Medicine and Science*, in speaking of the use of stimulants, is responsible for the following remarks:—

“The so-called temperance reformer knows but little of the subject he attempts to discuss. The man who talks the most, who appears most in public print, who is most responsible for the legislative enactments regarding the sale of stimulants or narcotics, who announces the use and abuse of all things which he cannot use himself, has the most rudimentary knowledge of the actual effects of these drugs or the evils they are likely to produce.

“Few people are aware of the enormous consumption of narcotics or stimulating drugs. With the development of pharmaceutical science and the consequent improvement and facility in preparing drugs and alkaloids, the market has grown accordingly. More widespread knowledge concerning the effects and special uses of opium, cocaine, quinine, and cannabis indica has further stimulated the demand for these drugs, until to-day the American people are confronted by a problem which is only equaled in magnitude by its terrible and appalling aspects.

“If you should ask any one of your neighbors, ‘What stimulant do you take?’ and that person were an advocate of what, in Vermont, is called prohibition, which means the prohibition of alcohol, he would probably say, ‘Nothing.’ But analyze his or her daily life; consider tea, coffee, tobacco, opium, cocaine, quinine, or any of the various table condiments, like tomato sauce or some of the special brands of catsup, the patent medicines called tonics and blood purifiers, and you will find that there are very few who can say that he does not

take some one of the list, and would miss it if he did not. What is a stimulant to one, however, may not be to another; consequently, there is a great variation in the character and amount of the stimulants used.

“One of the most noted post-prandial speakers this world ever produced, never took anything with dinner but a glass of champagne; without it, he felt lost; with it, he would recall anything he ever heard in his life—and we waited for the morning paper to know what he said the night before. Another man, whose utterances have a world-wide reputation, who has made speeches in France, England, and Germany which electrified his hearers and reflected credit upon us as a people, told me that his speeches were always prepared or delivered under the influence of black tea, and he ate nothing for some time before he was going to speak. Another man, who was largely responsible for the prohibitory law, as it is called in Vermont, came to me for treatment. I told him under no circumstances to take acids. He said, ‘Do you mean to tell me that I can’t eat pickles?’ I told him certainly; that he had a disease of the kidneys and bladder which made the use of acids impossible. He said, ‘I have pickles three times a day, made out of everything that it is possible to make pickles from; and I can’t get along without pickles.’

“Let me tell you a little incident in regard to one of the most noted temperance lecturers that ever appeared in Vermont State. He was a temperance man, and did a great deal of good. His wife said to me once, ‘Isn’t it possible to stop my husband from drinking so much coffee? The coffee pot is limited to four cups; he takes three of them every meal.’ And yet this man would not be guilty of taking alcoholic stimulants. Another man, a public temperance speaker, told

me that it was impossible for him to lecture upon temperance unless he was under the influence of compound tincture of gentian.

"Sooner or later the reformers of the world must consider calmly and intelligently the drug evil. The deleterious influence upon the individual, of all forms of drug addiction, and the consequent effect on society and all relations of mankind, make its consideration, in its sociological and criminal aspects, of paramount importance.

The Tasting Habit.

Many a woman comes to the dinner-table after the careful preparation of an excellent meal, tired, dyspeptic, and without appetite. This condition is unfortunate, for it arises from overwork, anxiety, or extra haste in making ready the meal when crying and petulant children are needing attention and the inexorable whistle requires the prompt return of the husband to the shop.

But many a woman aggravates this nervous and dyspeptic condition by constant "tasting" while doing the morning work. If she is frying doughnuts, a couple of hot ones are very likely to be eaten while finishing her work. There is mince-pie meat to be tasted, and as one passes through the pantry, an attractive bit of pastry or a mouthful of pudding may follow the breakfast at short intervals.

Fruit and a bit of spice or other dainty may go the same way. Such food keeps the stomach in a state of constant irritation, does not well nourish the individual, and destroys the appetite for the well-cooked and hearty meal which should be regularly eaten.

A woman whose occupation changes from that of housewife to a less healthful place in the store or shop, very often wonders at her improved appetite and gain in flesh. The simple reason is that under the new conditions she is obliged to be more regular in her meals, and does not so regularly continue the tasting habit.

It is said that grocers and grocers' clerks are apt to form a similar custom, and suffer from it. One successful man tells how his first boss cured him of the habit.

"What did he do?" was asked.

"Well," said the grocer, with a slight chuckle, "when I was a lad, my first position was with a wholesale grocer. The morning I started in, the boss said to me: 'You see a lot of nice things around here—raisins, fruit, crackers, cinnamon, etc.—don't you? Now I want you to eat all you feel like eating. Understand?'

"Being a most innocent and unsuspecting youth, I followed his directions literally. I didn't do a thing to those raisins. I also dipped into the coffee and sugar, and polished off about half a pound of crackers.

"The next day I stayed at home with mother. When I appeared again, and was greeted with a knowing wink from the boss, I tumbled to his scheme. It was successful, for I never cared to taste of the dainties I saw around after that."—*The Healthy Home*.

In ourselves the sunshine dwells,
In ourselves the music swells;
Everywhere the heart awake
Finds what pleasure it can make.
Everywhere the light and shade
By the gazer's eye is made.

EDITORIAL.

PREVENTIVE TREATMENT OF GALLSTONES.

A QUESTION constantly asked the physician who has assisted a patient through an attack of biliary colic is, "Doctor, what can I do to prevent another attack?" Here are a few suggestions which the writer has found beneficial in these cases.

Of course if the patient has a number of calculi left in his gall bladder, he is not likely to find any peace until the cargo is unloaded; but if the calculus which has been expelled leaves no concretions behind it, the suggestions made, if carefully followed, will probably prove effectual in preventing a recurrence of the attack. It might also be remarked incidentally, that many cases mistaken for gallstones are really cases of infectious jaundice without gallstones. The suggestions made are especially beneficial in cases of this sort.

1. *Wear loose clothing.* Gallstones occur most frequently in women, and tight lacing has been shown to be one of the causes, by obstructing the outflow of bile from the liver and gall bladder.

2. Avoid the use of coarse foods and the excessive use of fats, and sugar; especially avoid the use of cheese, game, and meats possessing a *hautgoût*. The investigations of Dujardin-Beaumetz and others have shown that dilatation of the stomach exists in a considerable proportion of all cases of infectious jaundice and of gallstones, and both of these conditions are secondary to chronic gastrointestinal catarrh, which is always aggravated by the use of such articles of food as have been above interdicted. The patient should also observe care in the regularity of meals. He should take two meals a day, and should take pains to masticate the food very thoroughly, without taking much drink at mealtimes. Especially avoid the use of ice water, iced tea, ice cream, and ices of all sorts. Alcoholics must be forbidden, as also the use of pepper,

mustard, spices, and all condiments, except the moderate use of salt. Pickles, fried foods, pastry, and meats, particularly pork, must be absolutely forbidden.

3. Water as a drink should be taken freely at other times than at meals. From two to four pints of water should be taken each day. In case inconvenience results in taking so much water by the stomach, a pint or two of water may be taken by the bowels and retained. If slowly introduced at the temperature of the body, no inconvenience is experienced by taking water in this way.

4. Great pains should be taken to keep the bowels regulated by abundant exercise, the free use of fruits, cold water drinking before breakfast, massage of the abdomen, horseback riding, and such other methods as are found to be beneficial. A large enema, or coloclyster, should be used in cases in which chronic constipation exists, and which does not yield to simple hygienic measures. Saline cathartics, and in fact, all sorts of laxatives, must be avoided, as these substances irritate the gastrointestinal tract, and so encourage the disease.

5. Abundance of out-of-door exercise is of great value in these cases, by promoting the elimination of bile, and through encouraging the respiratory movements, assisting in digestion, and overcoming the tendency to stagnation of blood in the portal circulation. Deep breathing is one of the best means of aiding digestion and unloading the liver and portal system. It should be practiced many times daily, ten or fifteen minutes each time. Pains should be taken to expand the whole chest, and especially to contract the diaphragm in such a way as to swell out the abdomen, thus giving the liver a hard squeeze between the diaphragm and the abdominal muscles.

6. Another measure of very great value, but so simple that it is likely to be neglected,

is the employment of fomentations over the liver, followed by the moist abdominal bandage. The fomentation should be applied at night for ten or fifteen minutes. It should cover the region of the liver and stomach, and should be followed by a moist abdominal bandage consisting of a towel wrung out of cold water, dry enough so it

will not drip, then applied about the body and at once covered with many thick, warm wrappings so as to maintain the moisture and heat. This "heating compress" should be retained overnight. In the morning, when it is taken off, the parts should be rubbed with cold water, and a dry woolen bandage applied, to be worn during the day.

A FEW FACTS AGAINST FLESH EATING.

THOSE who are interested in the promulgation of the principles of dietic reform cordially welcome every new fact bearing on this important question. A most interesting observation has been recently made by Burian and Schur, two eminent German investigators. These scientists, in experiments upon animals, have found that in men the liver destroys only about one half of the uric acid circulating in the blood, whether derived from external sources, as a meat diet, or generated within the body by ordinary tissue changes. This is due to the fact that in man the liver and the kidneys receive equal quantities of blood. In carnivorous animals, however, as the dog and the cat, the liver is much more active, receiving a much larger blood supply in proportion to that received by the kidneys. The liver of the carnivorous animal is, in fact, able to destroy proportionally ten to fifteen times as much uric acid as the liver of man. This makes it possible for carnivorous animals to subsist upon a diet containing a large amount of uric acid. Even vegetable-eating animals, like the rabbit, have livers more active in the destruction of uric acid than that of man. The rabbit's liver was shown to be capable of destroying three times as much uric acid as the human liver.

These facts clearly indicate that the human constitution is not physiologically adapted to a flesh dietary; and it is readily apparent that a slight increase in the amount of uric acid normally circulating in the blood might, in the human organism, result in mischievous consequences, though capable of producing no effect in an animal bet-

ter prepared to protect itself against the action of this poison. Uric acid is eliminated with very great difficulty because of its insolubility. When present in the blood in considerable quantity, it not infrequently happens that uric-acid crystals and concretions formed by the aggregation of crystals are formed in the kidneys, resulting in gravel, which may even lead to the destruction of life. A dog might introduce into its blood a considerable amount of uric acid by a large meal of meat without injury, because all but a very small part, one thirtieth, of the quantity received, would be quickly destroyed by the liver, so that only an infinitesimal amount of extra work will be required of the kidneys, the organs which are the least prepared to deal with uric acid, and which are most likely to suffer from its influence. Man, however, eating the same pound of beefsteak containing 49.0 grains of uric acid, sufficient to form a good-sized calculus, would throw upon his kidneys an enormous amount of extra work, since half the entire amount of uric acid absorbed must be eliminated by these delicate organs.

Here is an interesting fact for the consideration of meat eaters, and especially for those who have been led astray by the unscientific statements of Dr. Salisbury and others of his school, who recommend an exclusive meat diet as a remedy for Bright's disease and various other chronic maladies, a recommendation which hundreds of people have followed to their great detriment, notwithstanding the appearance in some cases of slight temporary advantage.

NEW SCIENTIFIC FACTS SUPPORTING A NONFLESH REGIMEN.

ONE of the arguments which has been constantly urged in favor of a flesh dietary, is that vegetable foods are imperfectly assimilated, leaving behind a larger residue than flesh foods. It may well be questioned whether this statement, if true, would involve any objection to a nonflesh dietary; for it is essential that the alimentary mass should have a certain bulk in order to stimulate proper peristaltic activity. However, so much has been made of this point, it is of interest to note that recent observations show that the statement is untrue, and that its seeming basis was the result of inaccurate observation.

Max Rubnér, who is recognized as one of the very highest living authorities on questions of diet, has recently published the results of a series of carefully conducted observations (*Zeitschrift für Biologie*) for the purpose of determining the comparative amount of waste in different food substances. The subject of the experiment was placed upon an exclusive diet consisting of the following substances: meat, bread, milk, potatoes, graham bread. The experiments show that the potato was the most perfectly assimilated of all. Flesh was found near the end of the list, the only substance containing a larger amount of waste material being graham bread, or bran bread, as it was called by the investigator. The relative proportion of nutrient material absorbed from these several foods is shown in the accompanying table:—

Potato	92.1%
Milk	89.8%
Bread	82.1%
Flesh	76.8%
Graham bread	73.5%

From the foregoing, it appears that more than nine tenths of the potato is digested and absorbed, while little more than three fourths of the flesh food is utilized. It should be explained, however, that in these experiments the investigator took into account a factor which has heretofore been overlooked; namely, the waste which occurs through the kidneys. Meat contains a large amount of watery matter, which, although it is absorbed, cannot be utilized. This manifests itself in the urine in the form of urea, uric acid, and other excretory substances. When these are taken into account, meat is found to be one of the most wasteful of foods, far inferior to ordinary bread. Besides, it imposes upon the body the task of absorbing, circulating, and removing through the kidneys, a large amount of unusable and more or less poisonous excretory substances.

These observations of Rubner thoroughly explode another one of the few quasi scientific objections which have been brought against the nonflesh regimen. The practice of flesh-eating is so strongly entrenched in long-established custom, it is by no means easy to secure recognition of the claims of the natural regimen which was the diet of primitive man, and which has been shown by the experience of hundreds, and even thousands, to be capable of sustaining life and health in their highest development, in modern as well as in ancient times. It is interesting to note that throughout the civilized world there is an increasing number of intelligent men and women who are giving careful thought to this question, and who are being led to change their dietetic habits and to bring them into harmony with the natural and with the divine order.



THE RECOVERY OF TOLSTOI.

IN spite of the false prognostications of his enemies, Tolstoi still lives, having recovered from the grave illness which recently threatened his life. Soon after the announcement of his sickness, American newspapers published the statement that Tolstoi had lost his health because of confining himself to a nonflesh dietary; that through the advice of his physicians he had returned to a flesh diet, hoping that he might thereby be benefited. We have good authority, however, for knowing that this statement is false. A letter from his son addressed to the editor some weeks ago, states that the venerable author still adheres to his simple, natural bill of fare, which consists chiefly of fruits and nuts; and his recovery without resort to the stimulating flesh dietary so generally believed to be essential for human sustenance, and especially for the nourishment of those

who are not in good health, is a triumph for the principles of diet reform.

Tolstoi belongs to a class of men of whom each generation produces a few, but only a very small number, who are willing to stem the tide of public opinion on any account, no matter what, whenever loyalty to principle commands them so to do. Tolstoi, in the generations to come, will ever stand forth as a most conspicuous figure among the heroes of the nineteenth and twentieth centuries, having taken the most advanced stand on social reform, moral reform, political reform, and diet reform. All truth is physiological. Whatever is out of harmony with the natural laws of our being must sooner or later be discarded. The physiological, that is, the natural, basis is the only sound and safe one for religion, sociology, and political economy, as well as dietetics.

The Heredity of Intemperance.

A superintendent of a hospital in Bern, Switzerland, has found by careful observation that fifty per cent of all children whose parents use intoxicating liquors habitually, have unsound constitutions, while ninety-four per cent of the children are inebriated or unhealthy. Whisky-using fathers often boast that whisky has done them no harm, constitutionally, after many years' use. An investigation of these cases has shown that generally the ill effects of whisky drinking are very apparent in the children of such parents. The oldest daughter of one such father was a healthy young woman; the second, a young man, was extremely nervous and excitable; the third, a young lady, was epileptic and an invalid from her birth.

How Governor Tanner Became a Vegetarian.

When Mr. Tanner was governor of Illinois a few years ago, some question arose which aroused suspicion concerning the dairy supplies of the executive mansion. The result was an investigation of the cows of the dairy farm near Springfield which furnished the governor's family with butter and milk. The cows were found to be suffering with unmistakable tuberculosis in a very virulent form. Governor Tanner witnessed the slaughter and examination of these animals, and as he saw the fine-looking animals killed, and the terrible condition of their viscera exposed as the bodies of the animals were opened, notwithstanding their healthy external appearance, he exclaimed: "This settles it; I quit eating meat."



ANSWERS TO CORRESPONDENTS.

Freedom Waist.—R. H. P., Colorado, would like particulars regarding the freedom waist. "1. Can it be boned, and if so, are the places for the bones indicated on the pattern? 2. Is the waist laced at the back? 3. Is the pattern cut to measure? 4. What is the price of pattern?"

Ans.—1. A description of the freedom waist can be obtained from the circular, for which address Good Health, Sanitary Supply Department, Battle Creek, Mich. Bones can be introduced into this waist, but are not desirable.

2. The waist is not laced, but is made to fit the wearer.

3. Yes.

4. Prices will be furnished by Good Health Pub. Co., on application for circular.

Heartburn during Pregnancy — White Sediment in the Urine — Children's Going Barefooted.—Mrs. C. O. R., Maine: "1. What will relieve heartburn during pregnancy? 2. What is the cause of a white sediment in the urine of a boy fifteen years old? He does not use tobacco. 3. Can you give a remedy for it? 4. Is it healthful for little children to go barefooted?"

Ans.—1. A dry dietary, well chewed, especially a diet of fruits and granose biscuit or zwieback.

2. The child is perhaps feverish, or has rickets, and is eating too much meat.

3. He should lead an out-of-door life, and take a cold bath every morning, followed by vigorous rubbing. He should adopt a strictly hygienic dietary, rejecting meats of all kinds, animal fats, and perhaps also cow's milk, making the diet consist of breads, zwieback, granose, malted nuts, malt honey, protose, and other nut preparations.

4. Yes.

Stomach Trouble.—F. E. H., Missouri: "At birth of first child, six years ago, had nurse's colic. This has recurred at different times since, generally without any cause. Has come on after eating watermelon and meat lunches late at night. Diet is that usually provided at first-class hotels, but meats, tea, and coffee are used sparingly. Water is taken freely at meals. After the pain is relieved there is a hardness in the stomach. Please advise."

Ans.—Your difficulty will doubtless disappear by proper regulation of the diet. Avoid the use of greasy foods, meat suppers, etc. Eat nothing after 3 P. M., and drink very little if any during meals. Apply a fomentation over the stomach, night and morning, and wear a moist abdominal bandage at night. Cool bathing in the morning, followed by vigorous rubbing, will prove beneficial. Live out of doors as much as possible.

Linen Underwear—Price List of Health Foods—Scrofula.—C. V. M., Nebraska: "1. Do you advise the use of linen underwear for winter, in this climate? 2. Please give price list of health foods. 3. When health foods are used, should any medicine be taken, when the blood is scrofulous?"

Ans.—1. Yes; a suit of woolen underclothes should be worn over the linen in cold weather.

2. Address Battle Creek Sanitarium Food Co., Battle Creek, Mich.

3. The blood is never scrofulous. If it were, medicine would not be likely to do it any good. The only way to improve the blood is by getting new and better blood through the use of wholesome food. Cold bathing and plenty of out-of-door exercise may be employed with advantage.

Hydrochloric Acid—Cough—Best Climate for One Suffering from Hyperpepsia and Throat Trouble.—G. H., Indiana: "1. What causes an excess of hydrochloric acid in hyperpepsia? 2. What is the cause of a cough in the morning, when not at night? 3. What climate would be best for one suffering from hyperpepsia and throat trouble?"

Ans.—1. Irritation of the stomach glands.

2. The cause may be chronic bronchial catarrh, or simply chronic irritation and congestion of the throat due to chronic pharyngitis, or mouth breathing from nasal obstruction.

3. Any climate which admits of an outdoor life.

Abnormal Appetite—Cocoa—Condensed Milk—Craving for Acid.—M. A. P., Massachusetts: "1. What is the cause of an abnormal appetite? 2. Is cocoa of an unwholesome nature? 3. Why is condensed milk more objectionable than ordinary dairy milk? 4. Is a small quantity of cane sugar in tart apple sauce harmful? 5. After eating baker's bread, I have a craving for acid. Is lemon juice the best acid to use?"

Ans.—1. An abnormal appetite may be the result of habit or a diseased condition of the stomach.

2. It contains a toxic principle.

3. Because of the large amount of cane sugar contained in it.

4. Most people with sound digestion can digest a moderate amount of cane sugar. People who have slow digestions and various other forms of gastric trouble must avoid the use of cane sugar.

5. Lemon juice is a wholesome acid.

Boils.—E. M. C., Florida: "Why are people who come here from the North, troubled with boils? Give cure."

Ans.—Probably because of lowered resistance on account of the warmer climate. The use of the cool bath twice a day will probably correct the difficulty, care being taken to regulate the diet in accordance with hygienic rules.

Chronic Cold in the Head.—J. B., Illinois, asks for a remedy for chronic cold in the head.

Ans.—Chronic nasal catarrh is not simply a local disease. It is an indication of a general lowering of vital resistance. The dietary should be corrected, discarding the use of meats and animal fats, and all unwholesome foods. Live out of doors as much as possible. The daily cold bath should be taken on rising in the morning. The nasal cavity should be cleansed by the use of antiseptic vapors with a vaporizer of some sort. The Pocket Vaporizer and the Perfection Vaporizer are useful for this purpose.

Flour from Dextrinized Wheat.—E. G. S., California: "1. Is there any objection to the use of flour made from dextrinized or toasted wheat, if eaten dry with nuts and fruit? 2. Is it as good as zwieback?"

Ans.—1. No.

2. From a nutritive standpoint, no. Good zwieback, however, would probably be more palatable.

Talking through the Nose.—R. W., Iowa: "1. How can the habit of talking through the nose be overcome?"

Ans.—Of course, no one talks through the nose. The peculiar style of talking to which this term has been applied, is due to obstruction of the nostrils, so that it is really talking without the nose instead of through the nose. It is not merely a habit; it is an embarrassment, generally due to disease. The remedy is to be found in removing the obstruction from the nose. The obstruction may consist of polypi or other growths, or a mere thickening of the mucous membrane. A good specialist should be consulted.

Dryness of Mouth and Tongue at Night — Emaciation.—Subscriber, Ohio: "I suffer from dryness of mouth and tongue at night, and am daily becoming weaker and more emaciated. What is the cause?"

Ans.—The cause may be sleeping with the mouth open or a feverish condition. Mouth breathing is almost always due to nasal obstruction. See answer to R. W., Iowa. If due to fever at night there is perhaps ground for suspicion that some chronic disease, as tuberculosis of the lungs, may be getting a foothold.

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COMPOSED of ozoniferous essences, vegetable antiseptics and benzo-boracic acid, Listerine is readily miscible with water in any proportion, and is the ideal individual prophylactic. A teaspoonful of Listerine in a tumbler of water makes a refreshing and delightfully fragrant mouth wash. Used at the morning toilet it effectively removes all agglutinated mucus which may have accumulated during the hours of rest.

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Cause of the Body's Tasting Salty.—Mrs. E. C., New York: "1. Why should one's body taste salty shortly after bathing? 2. What is the cure for it?"

Ans.—1. Perhaps from perspiration.

2. The perspiration is naturally of a salty taste because of the elimination of salt through the skin.

Bronchitis — Eyes — Tapeworm — Remedy to Purify the Blood — Loss of Appetite.

—J. C., Tennessee: "1. Please prescribe treatment for a boy fifteen years old, who has bronchial trouble. 2. One eye is crooked and is becoming more so. Sight is defective. Would an operation prove beneficial in strengthening it and restoring the sight? 3. How long would it require? 4. Is there a remedy for tapeworm which does not imply long fasting? 5. What remedy would you prescribe for purifying the blood? 6. When signs of chronic rheumatism and gout are apparent, how may they be overcome? 7. Is wormwood tea of any benefit in restoring appetite?"

Ans.—1. An out-of-door life, daily cool bathing followed by vigorous rubbing, and a thoroughly hygienic dietary.

2. Probably yes. A good oculist should be consulted.

3. The case should be under the care of a specialist for a few weeks.

4. Yes. It is not ordinarily necessary to fast for more than twenty-four hours.

5. Copious water drinking, a diet of fruits and grains, and an abundance of outdoor exercise.

6. By a correct diet, active exercise out of doors, a warm bath every night before retiring, and a cold bath on rising in the morning.

7. Bitter substances are artificial stimulants to the appetite, but the effect is only temporary. For real improvement in appetite, a healthy demand for food must be created by cold bathing and vigorous muscular exercise, taken daily.

Heartburn — Wind Colic — Bleeding Piles — Dentifrice.

—Subscriber, Colorado: "1. I am troubled with heartburn. Could it be caused by my eating stewed and ripe peaches, apples, bananas, and apricots? If so, what fruits may I eat? 2. If a last meal is taken at 2 P. M. am troubled with wind colic about five or six hours afterward. What is the cause? 3. Name a reliable dentifrice."

Ans.—1. The use of fruits does not of itself cause heartburn. This symptom is sometimes the result of wrong combinations, especially the use of fruits with vegetables.

2. You are probably suffering from fecal retention; that is, the colon is probably dilated so that the bowels are never thoroughly evacuated. The cool sitz bath should be employed for ten or fifteen

minutes, at a temperature of 75° to 80°, before breakfast. The graduated enema and the cold morning bath, with careful regulation of the diet, avoiding mushes and vegetables, especially making free use of granose, malted nuts, and other nut preparations, ought to afford relief. The use of the moist abdominal bandage at night is also a useful measure.

3. Antiseptic Dentifrice. Address Sanitarium Supply Co., Battle Creek, Mich.

Tomatoes.—H. C. K., Ind. "1. Can a hyperperptic eat ripe tomatoes either raw or cooked? 2. Do they contain acid? 3. Can they be eaten in combination with fruits or vegetables?"

Ans.—1. Yes, when the stomach is not irritable.

2. Yes, in a moderate amount.

3. Tomatoes agree best with fruits and grains.

Cold on the Lungs — Wheezing — Hoarseness.

—M. M. S., New Jersey: "Took severe cold on lungs and after three months a wheezing and soreness still remain. Soreness extends throughout the chest. There is a slight expectoration. Please advise."

Ans.—You are probably suffering from chronic catarrh of the bronchial tubes. A daily cold bath on rising in the morning, and the chest pack worn during the night, with a dry pack during the day, will doubtless afford relief.

Food Value of Peas — Roasted Peanuts — Quaker Oats.

—N. E. S., Oregon: "1. What is the food value of peas? 2. Are they hard to digest? 3. Can a person with a weak stomach eat them? 4. If roasted peanuts are indigestible, why do you recommend them as a food? They appear among your nut foods. 5. Mushes are unfit for food, you say, and yet you send a package of Quaker Rolled Oats in your Family Box. What value do you put upon it?"

Ans.—1. Dried peas have a nutritive value of about 86 per cent.

2. Yes, when taken with the hulls. Cooked peas passed through a collander to remove the hulls are easily digestible.

3. Yes, in the form of a purée with the hulls removed.

4. We do not recommend roasted peanuts. Roasted nuts are not used in the preparation of any foods used at the Battle Creek Sanitarium or sold by the Sanitas Nut Food Company.

5. Quaker Oats are excellent when thoroughly cooked. After the mush has become cold, cut in slices, and bake in the oven until slightly browned. Oatmeal also makes excellent breakfast crisps combined with wheat flour, making into thin cakes, and baking until browned.

Specks before the Eyes—Brown Spots around the Edge of Hair—Dull Ache in Right Side—Swelling of the Joints—Weak Stomach—Catarrh—Turkish Bath Cabinet—Frequency of Baths—Diet.—Mrs. M. C., Washington: "Specks float before patient's eyes, and brown spots appear on forehead around hair. At times there is a dull ache in right side. Finger and toe joints swell. Weak stomach, and catarrh in head. 1. Would you advise the use of the Turkish-bath cabinet? 2. What treatments could be taken at home that would be beneficial? 3. What diet would you prescribe?"

Ans.—The hot-air bath, the vapor bath, or the hot-water bath, employed at night two or three times a week, may prove useful.

2. In addition a cold bath should be taken every morning, followed by massage.

3. A thoroughly hygienic dietary, excluding meats, animal fats, pickles, and indigestibles of all sorts, also tea and coffee. Take but two meals a day.

Teeth—Gum Chewing—Graham and Whole-Wheat Flour.—J. T. J., Wisconsin: "1. Why should teeth wear away and leave the filling prominent? 2. Why should acid make one's teeth sore? 3. What do you think of gum chewing? 4. What is the difference between graham and whole-wheat flour?"

Ans.—1. Because of general decay of the system, with lowered vital resistance. Premature decay of the teeth indicates weak constitution.

2. Because the acid excites the nerves of the teeth, probably reflexly.

3. It is an unwholesome practice.

4. Graham flour represents the entire wheat, while whole-wheat flour does not, the external envelope of the wheat being excluded.

Painful Urination.—J. A. D., Maine, is troubled with scalding pain when urinating. Kindly prescribe.

Ans.—The urine is probably excessively acid. Drink two quarts of water daily. Avoid meats of ail sorts. A prolonged sitz bath at 95° F., followed by a short cold bath, will probably be found helpful. A hot foot bath should be taken with the sitz bath.

Pain in Region of the Heart—Phosphoric Acid.—C. M. R., Illinois: "1. What is the cause of a dull pain around the heart when lying on the left side? 2. Will diluted phosphoric acid eliminate uric acid from the blood, prevent a hardening of the veins, and thus prolong life? 3. Will fifteen or eighteen drops of diluted phosphoric acid, taken in a glass of water after each meal, injure the teeth, stomach, or other organs?"



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Ans.—1. The pain is probably in the intercostal nerves which are between the ribs, rather than in the heart, and is very likely due to pressure on the sensitive nerve trunks.

2. No.

3. Probably no serious injury would result; but there would be no particular benefit.

Neuralgia—Constipation.—S. H. J., Nebraska: "1. What is the most effective treatment for neuralgia? 2. Prescribe treatment for an obstinate case of constipation."

Ans.—1. The cause, which may vary in different cases, must be removed. Hot applications generally afford temporary relief.

2. Constipation is not always easy to relieve. It sometimes very obstinately resists every measure brought to bear. One of the following means is most effective: A diet of fruits, coarse bread, and nuts. A large handful of pecan nuts or hickory nuts taken after each meal is an excellent remedy; also granose flakes, granose biscuit, and toasted wheat flakes, malted nuts, and other nut products, are effective dietetic measures. A large heaping tablespoonful of wheat bran softened with hot water is effective in some cases. The use of the abdominal bandage worn during the night, the morning cool bath, the cold sitz bath for ten or fifteen minutes, rubbing the bowels at the same time, with the cool enema taken before or after breakfast, are valuable measures. Massage of the bowels, manual Swedish movements, and electricity are required in some cases.

Peanut Butter—Almonds—Exerciser.—A reader, Ohio: "1. Please give recipe for making peanut butter; also for different ways of using almonds when finely ground. 2. Do you recommend the use of the exerciser for muscular development?"

Ans.—1. Blanch the peanuts, cook at a low temperature, and grind into a thick paste. Address the Sanitas Nut Food Company, Battle Creek, Mich., for recipes for using nuts.

2. The exerciser is good. Walking and the ordinary manual movements are as good or better.

Painful Urination.—J. A. D., Maine, is troubled with scalding pain when urinating. Kindly prescribe.

Ans.—The urine is probably excessively acid. Drink two quarts of water daily. Avoid meats of all sorts. A prolonged sitz bath at 95° F., followed by a short cold bath, will probably be found helpful. A hot foot bath taken with the sitz bath will be found very helpful.

NOTES

from the
Literary Editor's Desk

"Trying to live up to somebody else's standard is really the root of most social trouble, and when it is abandoned, hospitality has a chance, writes Alice Katharine Fallows in **Good Housekeeping** for June.

"The world is rather conventional, and society is even more so, but hospitality is the antidote."

"It is worth acquiring, oh brides of June,—this art of hospitality. Go to that friend who has a welcome for you on a sudy Monday as well as a leisure Saturday afternoon, and if you learn her secret and practice it, not only will you be a little center of joy for your whole circle, but your fame as hostess will go abroad among your friends and beyond them."

The same number of this magazine also gives the following excellent advice:—

"The mother with a baby whose chief diet is milk, cannot be too careful about knowing where

the supply comes from. An excellent plan is to consult the family physician. If he cannot aid with advice, go to the chemist of the board of health; he is pretty sure to know about the milk supply."

England and Russia are the two great nations upon whom the eyes of the world are turned at present, and England and Russia will be the two subjects of the C. L. S. C. course for next year. **The Chautauquan** will publish a fine series of studies by Professor R. A. Ogg, of the University of Indiana, entitled "Saxon and Slav." The first part of the series will take up England's expansion, and the second part Russia's national development. In connection with the Russian section the third book of the course studied will be Miss Hapgood's delightful "Survey of Russian Literature," and *The Chautauquan* will publish throughout the nine months of the reading year, "A Reading Journey through Russia." Special studies in the English language will also form a feature of *The Chautauquan* readings, and the fourth book of the year, "The Great World's Farm," will be taken up in the spring.

Advice to Wool Wearers

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BATTLE CREEK SANITARIUM,
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In the July-September number of the *Forum*, A. Maurice Law speaks thus under Foreign Affairs: "The last half of the last three months has witnessed many important international events. The world has taken part in the preparation for the coronation of two kings. It has seen a new republic come into being. It has seen France pass safely through the throes of a national election. . . . It has seen the only war waged under modern conditions, and with modern implements brought to a close."

The July *Success* opens with an article of considerable importance and timeliness, in view of the fact that the American shipping combine is one of the great questions agitating both sides of the Atlantic. This article is entitled "The American Merchant Marine as a Career," and its author is Clement A. Griscom, Jr., manager of the American Line. *Success* published the article because it had been asked for information on a career in our merchant marine by hundreds of American and Canadian young men. Mr. Griscom outlines the full details of the life, and plainly tells just what a man must do and must be to gain a foothold in that calling.

Dr. James Robb Church, the distinguished surgeon of the Rough Riders, now assistant surgeon in the United States army, went to Martinique on the relief steamer "Dixie." Dr. Church has unusual powers of observation and description, and he has used them to the best advantage in an article which appears in the July *Scribner's*, giving his vivid, personal impressions of the greatest disaster of modern times. Dr. Church summarizes in this brief article the salient features of the appalling devastation, and adds many personal touches.

Professor John M. Tyler, in *Good Housekeeping*, says: "In primitive times it was the duty of certain women to keep a fire burning in some sheltered spot in the community, and never to allow it to go out; for in those days it was an exceedingly difficult matter to rekindle a fire. It was a very simple and humble duty, but the welfare of the community depended upon the fidelity with which it was performed. The temples and service of Vesta may have had their origin in this humble work. A wiser generation may yet rear temples in honor of the cook, the priestess of family health and morals. The health and welfare of the community are in her hands."

There is a cruelty and indifference to suffering, often to a shocking degree, among the Filipinos, says James LeRoy in the July **Atlantic**. This is due to an ever-present fatalism, which the little real religious teaching the people has received has built upon rather than sought to eliminate, and to the absolute lack of an appeal to, or of an attempt to educate, higher feelings.

The **Literary Digest** for June 28 has an article on the "Personal Influence of Edward VII," in which the following concerning the king's policy is quoted: "He is evidently determined to keep clearly before the popular mind the close connection between the crown and Parliament, and he is taking a much more active personal interest in the military matters."

Africa—dark, degraded, despoiled, yet with tremendous opportunities and possibilities for good as well as for evil—forms the subject of many fascinating descriptions and stirring appeals in the June number of the **Missionary Review of the World**. Willis R. Hotchkiss, who so stirred the immense gathering of students in Toronto, writes of "Africa, Old and New," and describes his thrilling experiences among the savage tribes and in the deadly climate.

The twenty-eighth volume of **The Arena** begins with the July issue of that standard review. The number opens with a symposium entitled "Why I Am Opposed to Imperialism," the contributors being George McA. Miller, Ph.D.; Prof. Thomas E. Will, A. M.; Bolton Hall, and Ernest Crosby. This stern rebuke of the present course of our government is followed by a brief paper on the interoceanic canal project. The writer is Edward Berwick, who presents the Pacific Coast producer's view, and makes a strong plea for the adoption of the Nicaragua route.

"The skin is a good servant, but it rightfully refuses to do all the work of elimination that should fall upon liver and kidneys, lungs and muscles."

HEART HUSBANDRY.

I planted scorn: it died in the garden mold.

I planted love: it bore a flower of gold.

I planted doubt: it withered, lacking root.

I planted faith: it ripened precious fruit.

Ida Whipple Benham, in the August Lippincott.

IT'S BEANS NOW!



Beans have always been held in high favor as a strength-forming food, but on account of ignorance as to the proper manner of preparing them, full fifty per cent of the people, and even a larger percentage of those of sedentary lives, cannot eat them without distress. This distress, such as fermentation, flatulence, etc., is caused wholly by the hulls, or skins, of the beans, composed of cellulose, which *cannot be digested*.

Sanitas Hulless Beans

Are prepared by an original process of removing the hulls, yet preserving all the valuable nutrient properties of beans. In this form they can be cooked in less than half the time required to cook ordinary beans, and by actual test are one third more valuable in assimilable strength-producing elements, easily digestible by all, causing no distress or disturbance. Purées and soups can be made from Sanitas Hulless Beans in one hour.

Each carton contains nutriment equal to that of two and a half pounds of best beefsteak and one and three-fourths pounds of bread.

Sanitas Hulless Beans

In cartons, 15 cents at your grocer's. Seven bean recipes printed on carton. If your grocer has not secured stock yet, send us his name and address, and write to us saying you would like to try Sanitas Hulless Beans, and we will see to it that your grocer is supplied.

Sanitas Nut Food Co., Ltd.,
BATTLE CREEK, MICH.

PUBLISHERS' DEPARTMENT.

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.

303 West Main Street

Battle Creek - - Michigan

NEW ENGLAND SANITARIUM.

THE readers of GOOD HEALTH in the East will no doubt be interested in the change of location of the New England Sanitarium, which has been located at South Lancaster, Mass. The new location is within a few miles of Boston, in the midst of Middlesex Fells and a large part of 3,500 acres which has been reserved by the State on account of its great natural beauty.

The property which has been secured for the Sanitarium is known as the Longwood Hotel. The grounds, which contain forty-one acres, border on

a beautiful lake which gives opportunity for bathing and boating; they are also filled with beautiful macadam drives, tennis grounds, and golf links.

Address, New England Sanitarium, Melrose, Mass.

LIFE BOAT.

THE August number of the *Life Boat* will be a special temperance number. It will contain stirring articles, written especially for it by prominent temperance workers. It will be filled from cover to cover with facts concerning the real causes of intemperance, and helpful suggestions as to how a drunkard may co-operate physically so as to secure a complete deliverance from the terrible bondage of drink.

The readers of GOOD HEALTH are asked to send the names and addresses of every victim of the liquor habit within the range of their acquaintance, inclosing a two-cent stamp for each name, and each one will receive a copy of this *Life Boat*. Address The Life Boat, 28 Thirty-Third Place, Chicago, Ill.

Send 25 cts. and the names and addresses of ten good farmers for a year's subscription to the **FARMER'S CALL** QUINCY, ILL.
16 or more pages WEEKLY. Established 1880. Complete in all its departments. JOHN M. STAHL, Editor and proprietor. This offer good for new subscribers only. Stamps taken. Sample copy mailed free. Agents wanted. Pay liberal.

YOU SHOULD BE PARTICULAR

About the flour you use. Flour enters more largely into the diet of the people than any other single article of food.

SEAL OF MINNESOTA FLOUR

Is made from wheat grown in the "Big Woods" region of Minnesota. For ages the soil in this region has been enriched by decaying leaves and vegetable matter. The flour made from this wheat is, therefore, particularly **rich in gluten, phosphates, and the health-giving, and life-sustaining qualities** now so generally sought after.

It is guaranteed to be **absolutely pure** and **free from all adulteration.**

We want you to be particular about your flour. We want you to use a flour that is always **uniform in quality, always pure and wholesome, always guaranteed to make perfect bread** with ordinary care.

We want you to use

SEAL OF MINNESOTA FLOUR

Ask your grocer for it. If he does not keep it, write us, and we shall see that you are supplied.

NEW PRAGUE FLOURING MILL COMPANY, NEW PRAGUE, MINN.

THE managers of the Battle Creek Sanitarium have on hand a few photographs representing the laying of the corner stone of the new Sanitarium building, which took place May 11.

These photographs are of two sizes, mounted on cards 10½ x 13½ and 10½ x 22 inches. Any one desiring these pictures can get them by sending the price, 50 cents and \$1, respectively, to the Battle Creek Sanitarium, Battle Creek, Mich.

KNIGHTS PYTHIAS BIENNIAL MEETING.

FOR this gathering in San Francisco in August next, excursion tickets will be sold via the Chicago, Milwaukee & St. Paul Ry., from Chicago to San Francisco or Los Angeles, for \$50 for the round trip with final return limit September 30.

The "Chicago, Milwaukee & St. Paul" railway is the Short Line between Chicago and Omaha. Two through trains daily in each direction, with the best sleeping-car and dining-car service, and all regular travelers know and appreciate the merits of the Chicago, Milwaukee & St. Paul Railway's Short Line between the East and the West.

Time tables, maps, and information furnished on application to Robt. C. Jones, Michigan Passenger Agent, 32 Campus Martius, Detroit, Mich.

AN APPEAL FOR AIR TO THE SEXTON OF THE OLD BRICK MEETINGHOUSE.

BY A. GASPER.

O SEXTON of the meetinghouse, who sweeps
And dusts, or is supposed to! and makes fires,
And lights the gas, and sometimes leaves a screw
loose,

In which case it smells awful—worse than lamp
oil;

And rings the bell, and tolls it when men die,
To the grief of surviving partners, and sweeps
paths:

And for the services gets one hundred dollars per
annum,

Which them that think dear, let them try it;
Getting up before starlight in all weathers, and
Kindling fires when the weather is as cold
As zero, and like as not green wood for kindling;

I wouldn't be hired to do it for no sum—
But, O Sexton, there is one commodity

That is more than gold, that don't cost nothing,
Worth more than anything except the soul of man;
I mean pure air, Sexton, I mean pure air!

O it is plenty out of doors, so plenty it don't
know

What on earth to do with itself, but flies about
Scattering leaves and blowing off men's hats;
In short, it's just "free as air" outdoors.

But, O Sexton, in our church it's as scarce as piety,



In one operation on your kitchen stove,
**It Filters,
Purifies,
Sterilizes,
Destroys
the Germs
of Disease**

and removes them, eliminates the poisonous gases, and aerates the water automatically.

Hon. Wm. A. Stone, Governor of Pennsylvania, writes:—

"I take pleasure in recommending your Sanitary Still to anyone who wants pure and palatable water. The Still is simple and easy to operate."

The Sanitary Still is used in the White House. The Battle Creek Sanitarium Supply Department recommends and sells the Sanitary Still. Highest award at the Paris Exposition. Only Still recognized by the U. S. Government. Six styles: \$10.00 up. Send for catalogue and testimonials.

THE CUPRIGRAPH CO.,
156 N. Green St., Chicago, Ill.

OUR SPECIALTIES.

ELASTIC STOCKINGS



FOR THE RELIEF AND CURE OF

**Varicose Veins,
Sprains, Etc.**

ABDOMINAL AND OBESITY

BELTS



ARTIFICIAL LIMBS, DEFORMITY APPARATUS,
TRUSSES, ETC.

Correspondence solicited.

SHARP & SMITH,

92 Wabash Ave.

CHICAGO.

Two doors north of Washington St.

*Corn: AMERICA'S GIFT
TO THE WORLD*

Sanitas Toasted Corn Flakes

INDIAN CORN, America's gift to the world, converted into a new ready-to-be-served food — the most wholesome and toothsome of all the grain preparations.

SANITAS TOASTED CORN FLAKES are made from the choicest White Dent Corn. Each kernel is subjected to a process which converts it into a thin translucent flake. These flakes are then toasted to a delicate brown, making them crisp, and imparting to them the popcorn flavor so much liked by every one.

SANITAS TOASTED CORN FLAKES require no cooking, simply the addition of milk, cream, or fruit juice, and can be made the important course of any meal, morning, noon, or night.

SANITAS TOASTED CORN FLAKES agree with most people, especially those who cannot eat mushes or other starchy foods.

SANITAS TOASTED CORN FLAKES contain in readily assimilable form the nutritive properties which impart vigor, force, and energy to the working man, the student, the young and the old, and to invalids of all classes.

SANITAS TOASTED CORN FLAKES are put up in large cartons, and are for sale by grocers for 15 cents per package. If your grocer has not laid in a supply of **SANITAS TOASTED CORN FLAKES**, write to us saying that you would like a package; also send us name and address of your grocer, and we will do what we can to induce him to keep our goods in stock.

Sanitas Nut Food Co., Ltd.,
BATTLE CREEK, MICH.

Scarce as bank bills when agents beg for missions,
Which some say is pretty often ('tain't nothing
to me,

What I give ain't nothing to nobody); but, O
Sexton,

You shut five hundred men, women, and children,
Especially the latter, up in a tight place;

Some have bad breaths, none are too sweet,
Some are feverish, some are scrofulous, some have
bad teeth,

Some have none, and some are not overclean;
But every one of them breathes in and out, and out
and in,

Say eighteen times a minute, or ten hundred and
eighty-breaths an hour.

Now how long will a church full of air last at that
rate?

I ask you; say fifteen minutes, and then what's to
be done?

Why, they must breathe it all over again.

And then again, and so on, till each has took it
down

At least ten times, and let it up again; and what is
more,

The same individual don't have the privilege
Of breathing his own air and no one's else;

Each one must take whatever comes to him.

O Sexton, don't you know our lungs are bellows
To blow the fire of life, and keep it from

Going out? and how can bellows blow without
wind?

And isn't wind air? I put it into your cushions.

Air is the same to us as milk is to babies,

Or water is to fish, or pendulums are to clocks,

Or roots and herbs unto an Indian doctor,

Or little pills unto a homeopath,

Or boys to girls. Air is for us to breathe;

What signifies who preaches if I can't breathe?

What is Paul, what is Apollos, to sinners who are
dead,

Dead for want of breath? Why, Sexton, when we
die,

It's only 'cause we can't breathe any more — that's
all.

And now, O Sexton, let me beg of you

To let a little more air into our church

(Pure air is certainly proper for the pews),

And do it every week day and on Sundays, too—

It isn't much trouble — only make a hole,

And the air will just come right in of itself

(It loves to come in where it can get warm);

And O how it will rouse the people up,

And spirit up the preacher, and stop gapes,

And yawns, and fidgets as effectual

As wind on the dry bones the prophet tells of.

—*The Health Reformer.*



Eat Steam-Cooked Foods

Food cooked by steam is healthier and more digestible than boiled or baked. Our cooker can be used to great advantage for steaming the different cereal foods that are on the market. People eating steam-cooked foods will not suffer from indigestion. Don't stand over a hot stove, but make summer cooking a pleasure by using our **Steam Cooker with doors**. Entire meal cooked over one burner. Saves fuel, labor, and provisions. Used on any kind of stove. Only cooker made with steam condenser and copper tank, sold on 30 days' trial. Get it for your home and summer cottage.

Agents Wanted. Liberal terms. \$30 to \$40 a week can be made by agents. Write for territory at once. Don't delay, as largest sales are made during summer months. Illustrated circulars free.

OHIO STEAM COOKER CO.,
76 Ontario Bldg., Ont. and Jeff. Sts., TOLEDO, OHIO.



Robinson Folding WATER BATH.

Just the thing for country homes and summer cottages. Takes the place of bath room. Excellent for giving baths in sick rooms. Rubber duck. Strong wood frame. Folds into space three inches thick. Send for circular and special ten-day offer. **\$25 to \$40 a week made by good agents.** Write for territory to-day, before it is given out. We also make smaller sizes for children and infants, and Folding Foot Baths.

ROBINSON FOLDING BATH CO., 402 Jefferson Street, TOLEDO, OHIO.

Improved by the Addition of an Adjustable Spray Tip.

THE LADIES' Perfect Syringe

The Only Perfect VAGINAL and RECTAL SYRINGE in the world.

THE BEST SYRINGE invented for making vaginal injections without leaking and soiling the clothing, or necessitating the use of a vessel, and which can also be used for rectal injections, or irrigation and spray effects. The Syringe is operated by using the ring handle to push or double the thin flexible half of the bulb into the thick, firm part, and to draw it out again. This pumping motion first injects all the fluid into the vagina, then draws it back into the bulb, with all the discharges. Our new adjustable spray tip greatly improves the syringe, affording the opportunity to produce a fine spray or a veritable deluge of water, by simply turning the screw head on end of spray tip.

IT WILL PAY YOU TO HANDLE THIS ARTICLE.

Ask your jobbers for prices and further particulars, or write us direct.

THE B. F. GOODRICH COMPANY,
Akron Rubber Works, AKRON, OHIO.

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CHICAGO — 141 Lake St. SAN FRANCISCO — 302 Mission St.



ALL POINTS TO THE Parker Lucky Curve Fountain Pen

The famous **Lucky Curve, Spring Lock, Anti-Break Cap**—all exclusive Parker features. Insurance policy, covering possible breakage for one year, free with each Lucky Curve.

A Beautiful Catalogue and a Six-Inch Aluminum Paper Cutter mailed on receipt of 4c. in stamps, to any one wishing to purchase a fountain pen who will give local fountain pen dealer's name. PARKER PEN CO., 99 Mill Street, Janesville, Wis.

SEVEN PRINCIPAL ROUTES.

It is a well-known fact that the C. M. & St. P. Ry. system offers a great many different routes between Chicago and St. Paul and Minneapolis. Its main line between those points is especially well known as the route over which runs the famous "Pioneer Limited" and the Government Fast Mail Train.

There are six or seven other routes, over a number of which are run through coaches and sleeping cars, which are almost as direct as the principal main line.

These various routes traverse the most interesting and attractive sections of Illinois, Wisconsin, Iowa, and Minnesota, including the celebrated "Lake Region" of Wisconsin, and cross the Wisconsin River at the famous "Delles," where is the most picturesque scenery in the Northwest.

The main line and several others include from 150 to 300 miles of romantic and picturesque scenery along the Mississippi River. On these various lines are located the most important towns and cities in the Northwest.

Both one-way and special excursion tickets between Chicago, and St. Paul, and Minneapolis are honored via any one of these direct lines.

The teachers attending the National Educational Convention at Minneapolis will appreciate and take advantage of this fact, as they can thus have a choice of routes going and returning.

A NATURAL FOOD.

THOUSANDS of men and women are daily seeking relief from suffering by means of pills, powders, laxatives, mineral waters, and nostrums of all sorts, utterly oblivious of the fact that their ailments are wholly the result of the unnatural conditions of life under which they are living. "Whatsoever a man soweth, that shall he also reap," is a divine principle from which there is no escape. The remedy for indigestion, constipation, and the protean miseries of dyspepsia is to be found in the use of natural foods properly prepared. As well try to cure a man of dyspepsia without attention to diet, as to cure a drunkard of his staggering gait without withholding liquor from him.

The great majority of dyspeptics are unable to digest starch, which leads them to adopt the free use of flesh foods. This results in disorder of the kidneys, liver, nerves, and in endless disease.

All their trouble may be avoided by using the foods manufactured by the Battle Creek Sanitarium Health Food Co., Battle Creek, Mich.

You May Have HAD a Fountain Pen

at some time in your life, that was always out of order, and after trying repeatedly to use it, finally gave up in despair.

We do not blame you. We have had the same experience ourselves.

Now we sell Fountain Pens; but they are not that kind. Ours are always ready for use, and they write without skipping, blotting, or scratching.

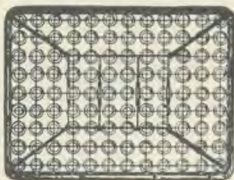
Prices range from \$1.00 for a plain, serviceable pen, to \$14.00 for one full gold mounted and richly engraved. Illustrated circular on request.

Business Office Supply Co., Ltd.

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Typewriter Supplies, Rubber Stamps, Seals, Stencils, etc.

THE 20th CENTURY SANITARY BED SPRING



Pat'd Apr. 30 1901.
No. 672904.

Is a modern necessity. It does away with all iron hangers or slats, and is guaranteed not to sag.

It is the only self-supported spring with adjustable center manufactured. Attachments for holding center are anchored at each corner with a series of turn buckles for adjusting. Base of frame is made of angle steel.

IT IS EASY TO REST UPON

Write for full particulars and prices to-day. Buy direct from the manufacturers and get the best for little money.

TOLEDO SPRING AND MATTRESS CO.

519, 521, 523 Erie St., Toledo, Ohio

We also manufacture Electric Felt and Hair Mattresses, and make a specialty of Sanitarium and Hospital work.

As light as a Bubble is
the Touch of the FOX



FOX TYPEWRITERS

Are Noted for their Light Touch

(2½ oz. key tension instead of 5 and 6 oz. as on most typewriters.) This means easy action, and easy action means DURABILITY.

Combining as they do EVERY device that tends to increase usefulness, FOX TYPEWRITERS are the best value in writing machines on the market.

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In preference to "Age" is the claim "THE FOX" has for consideration.

OUR FREE TRIAL PLAN enables any responsible person to try "THE FOX" for ten days.

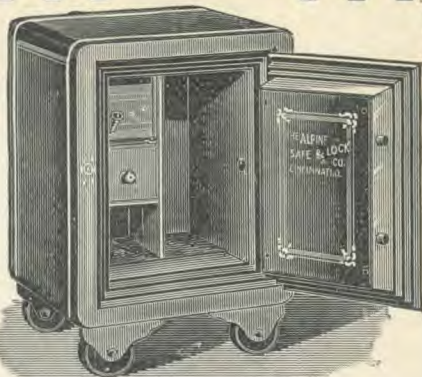
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FOX TYPEWRITER CO. Ltd.

GRAND RAPIDS, MICH.

78

N. FRONT ST.



FIRE and BURGLARS

Are no respecters of persons or things. No need to fear if you have one of our celebrated ALPINE SAFES in your business and home to protect your books, papers, valuables, etc. Cheapest and best.

AGENTS WANTED IN EVERY TOWN

Alpine Safe & Lock Co.

CINCINNATI, - - - OHIO



The Superior Quality of this Powder makes it one of the best for the treatment of -

Prickly Heat,
Nettle-rash,
Chafed Skin,
etc., etc.

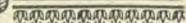
It is an excellent remedy for PER-SPIRING FEET and is especially adapted -

For Infants.

Delightful After
Shaving.

Price, post-paid, 25c
per box.

Agents Wanted.



**VEGETARIAN
Cafes and
Restaurants**



Eating-houses where food prepared in accordance with the principles of rational dietetics and scientific cookery may be obtained, are now open in the following places:

- Vegetarian Dining Rooms, 17 Bromfield St. (Elevator at No. 21), second floor, Boston, Mass.
- Cafe The Hygienic, 276 Euclid Ave., Cleveland, Ohio.
- 54 Farrar St., Detroit, Mich.
- 755 Market St., San Francisco, Cal.
- 317 W. Third St., Los Angeles, Cal.
- 607 Locust St., Des Moines, Iowa.
- Hygeia Dining Rooms, 58th St. and Drexel Ave., Chicago, Ill.
- Hygienic Cafe, 118 Monona Ave., Madison, Wis.
- Lincoln, Neb.
- Portland, Ore.
- Vegetarian Cafe, 1635 Champa St., Denver, Colo.
- GOOD HEALTH RESTAURANT, 616 Third Ave., Seattle, Wash.

\$4.20 for \$2.10

Another Combination Offer that Means Something.

BIRDS AND NATURE one year.....\$1.50
 *Ten back numbers BIRDS AND NATURE..... 1.50
 60 colored pictures from BIRDS AND NATURE..... 1.20
 The total amount of value.....\$4.20

All for \$2.10.

BIRDS AND NATURE Monthly; 48 pages, 8x10 in., per year, \$1.50. A magazine devoted to nature, and illustrated by colored photography. It is the only periodical in the world that publishes pictures of birds, animals, insects, flowers, plants, etc., in natural colors. Eight full-page plates each month.

"It is one of the most beautiful and interesting publications yet attempted in this direction. It has other attractions in addition to its beauty, and must win its way to popular favor. I wish the handsome little magazine abundant prosperity."—Chas. R. Skinner, State Supt., Albany, N. Y.

"You have certainly hit upon a method of reproducing natural colors with remarkable fidelity to nature."—Dr. Elliott Coues.

"Your magazine has certainly had a phenomenal success, and it is entirely worthy of its cordial reception."—F. A. Allen, Editor "The Auk."

"Most of the pictures are astonishingly good. I like them so well that I shall put them up on the walls of my rustic retreat, 'Slab Sides.'"—John Burroughs.

"When one considers the low price at which you sell BIRDS, the number and excellence of the plates are surprising, and I trust that your efforts to popularize the study of ornithology may meet with the success it so well deserves."—F. M. Chapman Associate Editor "The Auk."

*A bound volume of BIRDS AND NATURE may be substituted for the ten back numbers.

A sample of this magazine and of The Review of Education for a dime and two pennies — 12 cents in stamps. Send for catalogue.

A. W. MUMFORD, Publisher,
 203 Michigan Avenue, Chicago.

THE
**Mexican Central
 Railway Co., Ltd.,**

CALLS ATTENTION TO THE FACT THAT

IT IS THE ONLY Standard Gauge Route from the United States Frontier to Mexico City.

IT IS THE ONLY Line in Mexico that can offer the Traveling Public the conveniences and comforts of Standard Gauge Pullman Drawing Room Sleepers, lighted by Pintsch Gas.

IT IS THE ONLY Line by which you can travel without change from St. Louis, Mo., to Mexico City.

IT IS THE ONLY Line from El Paso, Texas, to Mexico City.

IT IS THE SHORT Line from San Francisco and Pacific Coast points to Mexico City.

The Lines of the Mexican Central Railway pass through 15 of the 27 States of the Republic. Eight million of the thirteen million inhabitants of Mexico are settled contiguous to them.

The principal Mining regions receive their supplies and export their product over it. Chihuahua, Sierra Mojada, Mapimi, Fresnillo, Parral, Guanacevi, Durango, Zacatecas, Guanajuato, Sombretete, Pachuca, etc., etc.

WHEN YOU TRAVEL FOR BUSINESS, GO WHERE BUSINESS IS DONE.

There are only five cities of over 35,000 inhabitants in the Republic of Mexico that are not reached by the Mexican Central Line.

The following ten cities are reached only by the Mexican Central Railway.

Chihuahua, 30,098 inhabitants; Parral, 16,382; Zacatecas, 24,438; Guanajuato, 40,580; Leon, 63,263; Guadaluajara, 101,208; Queretaro, 38,016; Zamora, 12,533; Aguascalientes, 37,816; Irapuato 19,640.

It also reaches the cities of Torreon, 13,845; San Luis Potosi, 60,858; Tampico, (Mexican Gulf Port) 16,313; Celaya, 25,565; Pachuca, 37,487; City of Mexico, 368,777.

Daily Pullman service between St. Louis, Mo., and Mexico City, also between El Paso, Texas, and Mexico City, and vice versa.

C. R. HUDSON, G. F. & P. A. W. D. MURDOCK, A. G. P. A.
 Mexico City, Mexico City.

T. R. RYAN, Gen. Agt., 328 Marquette Bldg., Chicago.

DIRECTORY
 of
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 disease are recognized at these institutions as at the Battle Creek Sanitarium, and they are conducted on the same general plan. Both medical and surgical cases are received at all of them. Each one possesses special advantages due to locality or other characteristic features.

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

COLORADO SANITARIUM, Boulder, Colo.
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ST. HELENA SANITARIUM, or RURAL HEALTH RETREAT,
 St. Helena, Cal.

NEBRASKA SANITARIUM, College View (Lincoln), Neb.

PORTLAND SANITARIUM, 1st and Montgomery Sts., Portland,
 Ore.
 W. R. SIMMONS, M. D., SUPERINTENDENT.

NEW ENGLAND SANITARIUM, South Lancaster, Mass.
 C. C. NICOLA, M. D., SUPERINTENDENT.

CHICAGO BRANCH SANITARIUM, 28 33d Place, Chicago, Ill.
 DAVID PAULSON, M. D., SUPERINTENDENT.

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 lajara, State of Jalisco, Mexico.
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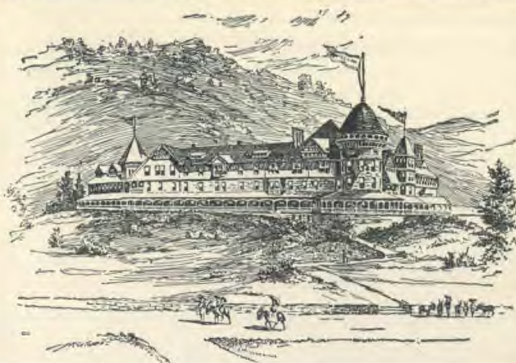
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EAST	8	4	6	2	10	76
Chicago	AM11.05	PM 3.02	PM 8.15		AM 7.32	
Valparaiso	PM12.49	4.53	10.25		10.05	
South Bend	2.08	6.15	11.52		11.35	AM 7.10
Battle Creek	4.14	8.15	AM 2.00	AM 7.00	PM2.00	PM 5.00
Lansing	5.20	9.25	3.22	8.30	13.45	
Durand	6.00	10.15	4.25	9.30	6.30	
Saginaw	8.10			11.05	8.10	
Bay City	8.45			11.40	8.45	
Detroit	8.00			11.50	9.20	
Flint		10.40	4.54	10.21	7.25	
Port Huron	9.40	AM12.30	7.00	PM12.20	9.30	
London	AM12.32	3.27	5.24			
Hamilton	2.10		PM12.25			
Suspension Bridge	3.40	7.05	1.55	8.50	AM 3.40	
Buffalo		8.20	3.05	10.00	6.15	
Philadelphia	PM 3.47	PM 7.20	AM 6.55	AM 8.56	PM 3.47	
New York	4.33		8.23	8.23	4.33	
Toronto		AM 7.40	PM 1.30	PM 7.40		
Montreal		PM 7.00		AM 7.30		
Boston		AM 8.15		PM 7.05		
Portland		8.00		6.30		
WEST	3	5	7	9	11	76
Portland	AM 8.15	PM 6.00	AM10.30			
Boston	11.30	7.30				
Montreal	PM10.30	AM 9.00				
Toronto	AM 7.40	PM 1.00	PM 5.25		AM 8.30	
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Buffalo	AM 6.15	AM 8.00	PM 9.30			
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Hamilton	8.45					
London	11.05					
Port Huron	M 12.00	9.00	AM 3.20	AM 6.50	PM 3.50	
Flint	PM 1.35	11.07	4.54	8.45	5.64	
Bay City				7.25	4.00	
Saginaw				8.00	4.25	
Detroit	AM11.30	10.00		7.00	4.10	
Durand	PM 2.02	AM12.45	5.22	9.30	6.30	
Lansing	2.45	12.57	6.05	10.50	7.50	
Battle Creek	3.50	2.17	7.10	PM12.15	9.10	AM 7.30
South Bend	5.35	4.08	8.55	2.39		PM 5.20
Valparaiso	6.51	5.25	10.05	3.57		
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Chicago	pm 9.35	am 6.45	am 10.30	pm 8.00	pm 5.30	pm 1.30	am 1.30
Michigan City	11.25	8.43	pm12.08	4.39	7.00	am 1.30	
Niles	am12.40	10.15	1.00	5.35	7.55	2.30	
Kalamazoo	2.10	am 7.30	pm12.10	2.08	6.45	9.03	4.10
Battle Creek	3.90	8.10	1.00	2.42	7.17	9.37	5.00
Marshall	8.33	8.38	1.80	3.69	7.45		5.30
Albion	3.55	9.01	1.50	3.30	6.03		5.30
Jackson	4.50	10.05	2.35	4.05	8.40	10.50	6.40
Ann Arbor	5.55	11.10	3.47	4.58	9.30	11.40	7.45
Detroit	7.15	pm12.22	5.30	6.00	10.00	am12.40	9.15
Falls View							5.40
Suspension Bridge							pm 5.09
Niagara Falls							5.32
Buffalo			am12.20		am 7.00		7.50
Rochester			8.13		9.00		10.00
Syracuse			5.15		10.55		pm12.15
Albany			9.05		pm 2.30		4.50
New York			pm 1.80		6.00		am 2.50
Springfield			12.16		6.10		8.45
Boston			3.00		9.00		11.30
Portland							8.46
WEST	7	17-21	5	8	23	13	37
	*Night Express	*NY Bo. & Ch. Sp.	†Mail & Express	*Fast Mail.	*W't'n Express	†Kul.	*Pacific Express
Boston							pm 6.00
New York		pm 2.00			pm 4.15		am 3.15
Syracuse		4.00		am 8.45	am 2.00		10.30
Rochester		11.30			am 2.00		pm12.10
Buffalo		am 1.20			4.05		3.50
Niagara Falls		3.20		pm 6.25	5.20		4.32
Suspension Bridge					6.02		
Falls View					6.31		5.07
Detroit	pm 8.20	8.25	am 7.15	am12.30	pm12.40		4.35
Ann Arbor	9.38	9.23	8.40	1.20	1.38		5.45
Jackson	11.20	10.20	11.05	2.50	2.40		7.25
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Kalamazoo		1.40	pm12.10	1.20	4.05		10.00
Niles		3.25	1.22	3.25	5.25		5.08
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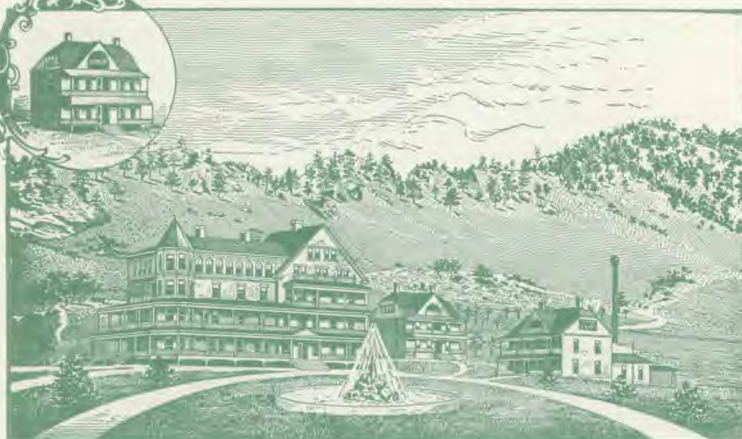


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