

# Life & Health



THE NATIONAL HEALTH MAGAZINE

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# Life & Health

THE NATIONAL HEALTH MAGAZINE

SEPTEMBER  
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AIM: To assist in the physical, mental, and moral uplift of humanity through the individual and the home.

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## THIS ISSUE



HYDROTHERAPY is often supposed to be adapted only to a well-equipped sanitarium. But this is far from true. Priessnitz, if I remember, made his first experiments in hydrotherapy as a result of seeing a dog treat a wounded foot by holding it continuously in the water. Hydrotherapy in one form or another is perhaps about as old as the race. A physician once said that an intelligent, well-instructed nurse, with fomentation cloths and a pail of hot water, constituted a fairly equipped sanitarium. There are some simple measures in hydrotherapy that can and ought to be utilized in every home. Dr. Geo. K. Abbott, dean of the College of Medical Evangelists, Loma Linda, Cal., instructor in hydrotherapy, and author of two text-books on hydrotherapy, has in preparation a series of articles on simple hydrotherapy for the home, the first of which appears in this issue.

\*\*\*

Three new departments, For the Mother, What to Do First, and The Human Machine, begun in this issue, contain matter of vital interest for the home.

\*\*\*

For the Mother will contain one or more timely articles and a number of briefer suggestions relating to the training of children or to the care of their health.

\*\*\*

What to Do First, consisting largely of brief, pointed paragraphs, will be devoted to instruction concerning what one should do in case of accident or sudden illness.

\*\*\*

The Human Machine will be devoted to instruction in anatomy, physiology, and general hygiene, and to the discussion of topics relating to the general health.

\*\*\*

Other departments are contemplated; such as, Healthful Dress, Physical Culture, Care of the Sick, Pure Foods, Food and Drug Frauds, and Stimulants and Narcotics. Not all of these will appear in any one issue, but as the material on hand and the interest seem to indicate.

## THE NEXT ISSUE

Simple Methods of Infant Feeding; Hints to Fat People and Thin People; Aids to Health Restoration, by Dr. Kress; Dairy Products; Nerve Exhaustion, by Dr. Abbott.

# THE TREATMENT OF DYSPEPSIA

GEO. K. ABBOTT, M.D.

**S**TRICTLY speaking, the term dyspepsia means painful digestion; but as it is popularly used, it applies to a great variety of digestive troubles, or indigestion. Not all of these are associated with pain, or even with marked discomfort. However, if any great change in digestion has occurred, or there is marked discomfort, a physician should be consulted without delay. Many of the simpler forms of indigestion may be successfully treated at home with only the occasional advice of a physician.

The most common form of indigestion is associated with a deficiency in the formation of hydrochloric acid in the stomach, moderate dilation and prolapse of the stomach, slow or defective movements of the stomach wall, starchy indigestion and biliousness. These are all manifestations of decreased activity, or the wearing out of functions that have been overtaxed or overstimulated by such things as rapid eating, overeating, eating between meals or late at night, bad combinations of food, worry, nerve exhaustion, and many other minor causes. Because these conditions have been brought about by overstimulation, it is not only useless, but productive of further harm to resort to the use of bitters, stomachic drugs, etc. The use of pepsin and other digestants can result in only temporary benefit. The organs of digestion themselves are not strengthened by such means. It is necessary to tone up the muscles, glands, and nerves of the stomach and intestines, and the glandular activity of the liver and pancreas. The effects must be those of a true tonic; that is, of a restorer of energy. A stimulant can not build up, but is capable only of

calling forth the expenditure of energy.

Because of these last-stated facts, a certain amount of rest for the body generally, and especially for the stomach, is an absolute necessity in the treatment of indigestion. The meals should be not less than five or six hours apart, and a longer time is better in case of very slow digestion. The evening meal should be omitted or be very light, and taken not later than three hours before retiring. Those who are engaged in taxing mental work, especially if indoor, should rest a half-hour before the noon meal. This is especially necessary in those who are nervous or inclined to worry. The digestive glands act very imperfectly when the nervous system is on a tension. It has been shown that digestion and digestive movements are completely arrested in a cat when it is worried by a dog. Nothing is so helpful in relaxing nerve tension as a few minutes' sleep before the meal. After dinner, unless some special treatment is necessary, a half-hour of light work is highly beneficial.

There are a number of very simple means of toning up the glands and muscles of the stomach and intestines. One of these is to drink cold water ten to twenty minutes before the meal. The water soon passes out of the stomach, so it does not interfere with digestion. The reaction to this "dash of cold" comes on just as the meal is eaten, and increases the amount of the gastric juice secreted upon the food. This fact has been very conclusively demonstrated by Prof. I. P. Pavlov, of St. Petersburg, in experimenting upon dogs. He found not only that the amount of gastric juice was increased by the reaction to cold, but that its secretion continued for a longer time than



usual. Those who are very anemic will find it best to take a small amount of a hot soup at the beginning of the meal, as the deficiency of blood prevents proper reaction to the cold.

In some persons, the eating of the juice of an orange or half a grapefruit just preceding the meal, serves as an effectual and harmless stimulant to the secretion of hydrochloric acid. Nearly all fruit acids and other organic acids such as the lactic acid of artificially soured milks, have this same effect.

Those who have slow digestion or discomfort following the meal should use some hot application over the stomach after eating. This may be done with the least trouble by means of a hot-water bottle placed over an undergarment, or with one or two thicknesses of other cloth intervening. It should be left on for from twenty to thirty minutes, or longer if necessary. This will not be sufficient in persons who have great discomfort after eating, or who are troubled with vomiting of the food soon after it is eaten. In such cases a treatment known as the hot and heating trunk pack has been found an almost never-failing remedy.

To administer this, a single blanket is placed crosswise of a bed so that the upper edge will reach well up under the

patient's arms. A sheet doubled to a width which will reach from the armpits to below the hips, is wrung from cold water and placed over the blanket. The patient lies down on this, and while both arms are raised, one end of the wet sheet is pulled tightly across and around the trunk. Over the stomach outside of the sheet, place a three-quart hot-water bottle half filled with water at 135° F. Wrap the other end of the sheet about the trunk over the hot-water bottle, and cover snugly with the dry blanket, folding one end over at a time. This treatment should continue from thirty or forty minutes to two hours. General sweating should not result. Before taking the patient out, rub the parts covered by the pack with cold water.

This hot and heating trunk pack is also beneficial to those who are troubled with starchy indigestion and flatulence. For them somewhat the same results may be secured by a hot foot-bath and fomentations to the abdomen, given at the same time. Three fomentations should be used, and the treatment concluded by rubbing the body with cold water, treating one part at a time.

Constipation and flatulence are both benefited by wearing at night a moist girdle about the abdomen. The girdle  
(Concluded on page 527)



HOT AND HEATING TRUNK PACK FOR DIGESTIVE DISTURBANCES

# DIETETIC SUGGESTIONS *for the* HEART TROUBLE *of* OLD PEOPLE

J. R. LEADSWORTH, B. S., M. D.

**M**R. D is a man who has always lived a fairly temperate life; he ate and slept well, and was capable of accomplishing a great deal of hard work. By close application to business for a number of years, he had acquired a modest competency. Being in years near the three-score mark, it was only proper that our friend begin to count on growing old gracefully, and with less strenuous habits of labor. The only thing that seemed to hinder the full enjoyment of the years of industry was frequent attacks of shortness of breath. These attacks often followed a hearty meal, and were sure to come on after hurried walking and undue excitement. Of late, even moderate walking seemed to give rise to somewhat labored breathing and heart palpitation.

Examination of this patient confirmed the suspicion that there was some organic heart trouble, with hardened arteries. In addition to this, a half-hundred pounds of superfluous flesh and fat added somewhat to the handicap of a heart already laboring under difficulties. So far as could be discovered, it seemed safe to presume that if something could be advised that would relieve some of the burden of this constantly overworked heart, our friend might enjoy a few more years of health and comfort.

To begin with, our patient was greatly restricted on the amount of food eaten at a single meal. Elderly persons, like most of the rest of mankind, invariably eat too heartily. With those who are younger and more active the fires of the body burn more brilliantly, and thus the surplus is generally got rid of with less peril.

At least five hours' interval was required between meals, and no food, either

dry or liquid, was to be partaken of between meals. It was advised that the principal meal be taken at noonday, instead of in the evening, as was the custom. This is particularly important in cases of heart trouble. Eating heartily at the close of the day almost invariably increases the urgency of breathing. This is found to be true when the patient attempts to retire. In taking the horizontal position, a distended stomach exerts more pressure upward; consequently the evening meal should consist simply of bread and butter, with perhaps a little fresh or cooked fruit.

In this case, and it is a rule of general application in such cases, liquids were proscribed at meal-time. It is generally found that digestion is carried forward more promptly in the stomach when food is ingested without liquids. This is especially true when only a moderate amount is eaten. After all, the stomach works on about the same lines as does the entire man: a moderate load is taken hold of and handled with promptness and despatch, while an undue burden seems to invite defeat before the task is begun.

Only one more suggestion needed to be made, the prompt execution of which, in addition to the dietetic suggestions, gave our patient immediate and seemingly permanent relief from all symptoms of heart trouble. That was the discontinuance of the use of tobacco. Few realize the injurious effect upon the heart of the prolonged use of tobacco. In most cases the user will argue that he is reasonably sure that it does not injure him. But the experiment, carefully carried out for several months, will generally convince the most skeptical that while other things should be done, this should not be left undone.

# THE MEDICINAL ASPECT OF FRUIT

H. M. LOME.



[This article is commended to our readers with the caution that much that is written on this subject is based upon observation of effects on individuals, or upon theoretical considerations, rather than upon exact scientific demonstration.]

Doubtless, fruits have marvelous remedial effects, but as yet we know comparatively little about this medicinal influence. In fact, it does not seem to be always uniform. With some persons certain fruits act in a manner the exact opposite to what one might expect from reading the enthusiastic praisers of fruits.

For this reason each person should experiment with fruits on his own account, noting the effects, and remembering that sometimes a fruit "disagrees" because eaten with some other food, as milk or vegetables, when, if eaten alone, it would have a good effect.—*Ed.*]

**F**RESH fruit is made up of water, protein, fat, carbohydrates, cellulose, mineral matter, and the oils that give it its characteristic odor and flavor. The medicinal elements are found in the water, carbohydrates, cellulose, and mineral matter. The flavoring constituents have their share in the curative properties also, by making the fruit grateful to the palate, and so desired by the healthy and the invalid alike. Some of them are so subtle and ethereal that they have defied the chemist to isolate them. But, curiously enough, they have been made by synthesis from that malodorous substance, coal-tar. The juice of fruit consists of distilled water impregnated with the carbohydrates and other constituents.

One half to three quarters of the carbohydrates consist of fruit-sugar, or levulose. Some fruits, including the apple, apricot, and pineapple, also have cane-sugar. Fruit-sugar is capable of passing into the blood without preparation on the part of the digestive organs. On the other hand, cane-sugar calls for work by one of the intestinal juices. Fruits rich in levulose are good for dyspeptic and diabetic patients. The carbohydrates, in addition to the sugars, include gums that on boiling yield jelly, owing to the presence of a substance known as pectose. On being digested, the jellies are turned into a form of sugar called pentose, that is said to have

emollient qualities of a high order. Apart from their medicinal qualities, the carbohydrates are practically the nutritious elements of fruits, the protein and fat forming but a very small portion of their make-up.

While the amount of mineral matter found in fruits is small, something like five-tenths per cent, it has much to do with the curative properties of the fruit. In the main, such matter consists of potash, iron or phosphorus united with tartaric, citric, or malic acid,—organized salts capable of being assimilated by the human system. These salts when taken into the body are converted into carbonates, and so help the blood to become more alkaline. When the blood has too much acid in it, maladies of several kinds are pretty sure to follow. Fruit salts restore the balance in the vital fluid, as it were.

The absence of earthy salts in fruits is noteworthy. Such salts have a bad effect on sufferers from certain diseases, including some forms of tumor and atheroma, or degeneration of the inner coatings of the arteries. Many physicians therefore prescribe the free use of fruit in place of cereals, because the latter are rich in the objectionable salts.

Citric acid, more than its fellow acids already named, occurs in the majority of fruits. As fruits ripen, their acids diminish with the increase in sugar. Ripening is therefore a sweetening proc-

ess. A few fruits, such as the apricot, become sourer after cooking, because of chemical changes brought about by the heat. It is usually better to eat raw fruit, because it has curative qualities which the pot or pan may possibly destroy. Jams, jellies, and stewed fruits are appetizing and wholesome, but fruits taken for medical purposes, are better used as nature prepared them. Unripe fruits cause intestinal irritation by reason of their excess of acid.

Prof. Arthur Lonsdale, of London, spoke of fruits as "a globular framework of fine, easily digested and pharmaceutically valuable cellulose, saturated with distilled water containing fruit-sugar." The distinguished scientist is quoted because of his reference to the cellulose, his opinion being that of practically all members of the medical profession who have investigated the curative properties of fruits. This cellulose appears to have a direct stimulating action on the bowels. Those persons therefore, who suffer from constipation usually find ready relief by making fruit a prominent part of their daily dietary. Unlike artificial cathartics, the use of fruit does not entail subsequent constipation, while the action induced by it is of a gentle and bland nature. Where there is much griping or other violent intestinal disturbances following the taking of fruit, it is a sure sign that it was either unripe or not fresh.

Citrous fruits include the orange, lemon, citron, lime, bergamot, shaddock, and grapefruit. These fruits are distinguished by the volatile oils found in their skins and flowers. From the skins, flavoring essences are made, and from the flowers, perfumes. Both of these have their place in the *materia medica* also, by reason of their stimulative effects.

But it is because of the citric acid that these fruits are best known; the lemon in particular being prominent in this respect. Many are the excellent medical qualities claimed for this acid. When diluted and sipped slowly, it will increase

the secretion of saliva. It seems to be beneficial in muscular rheumatism; its power to allay feverish symptoms is well known. In many forms of skin disease, it acts like a charm. It is a certain preventive and cure for scurvy. Since it became a portion of the daily diet of seamen by law, scurvy, the dread and scourge of seagoers of old days, has practically disappeared. The writer remembers a sailors' song of English origin that was called "The Cantankerous Captain," two lines of which ran thus:—

"He puts 'em on a double watch; cuts 'baccy,  
that's a fact;  
But he's got to pass the lime-juice out, ac-  
cording to the act."

The allusion is to the stringent British laws, or act of Parliament on the subject. Citric acid is also often used in medicine in combination with iron, magnesium, lithium, quinin, etc., "citrates" being the result.

Fruit acids are germicidal. The harboring place for many of the most common and dangerous microbes that afflict humanity, is the intestinal tract. The use of the citrous fruits is somewhat of a protection against maladies that these microbes cause. As a mouth wash, lemon-juice has some virtue. A very dilute solution of the acid can be used with advantage for tired eyes and inflamed eyelids. Scorbutic affections yield to its use. Lemonade is too well known as a refreshing drink to need mention. And as a drink for feverish invalids, it is unsurpassed. It is also good for diabetic patients. Travelers escape tropical fevers by the liberal use of drinks of which lemon- or lime-juice is the basis.

Apples, pears, and quinces are all members of a botanical family that includes the roses, and is scientifically known as *Pyrus malus*. Ripe apples eaten raw and thoroughly masticated, are sometimes excellent for digestive troubles. In Devonshire, England, there is an apple-cure establishment for dyspeptics that is said to have effected some remarkable recoveries by placing the patients on an exclusive diet of the fruit. Skin

and allied diseases yield to a treatment that includes apples as one of the chief articles of diet. Together with the pear, the apple is a mild aperient. Fresh apple-juice, taken before breakfast, is excellent for constipation. The quince is used only in the form of preserves. Owing to its excessive astringency when raw, it is sometimes employed to stop hemorrhage by placing slices of it on the wounds.

Unfermented grape-juice acts as a mild laxative and diuretic, and diminishes the acidity of the urine. It is therefore good for gout, rheumatism, obesity, scorbutic affections, kidney troubles, and digestive disorders, including those that have their origin in the liver. And according to Robert Hutchinson, M. D., the famous English doctor, grapes are of the utmost value in the case of chronic bronchial catarrh.

At the European grape-cures, patients consume from one to eight pounds of the fruit daily. The grapes are not used as an exclusive diet, but are eaten between meals. Each patient has to gather his own grapes. Doubtless this enforced exercise in the open aids the action of the grapes. An American physician who visited one of the French cures, noted that many of the patients were suffering from fatness of the lower part of the body, due to their indulgence in the good things of the table and the habits of inaction. To such persons, the effort of gathering the grapes was an affliction, yet a blessing in disguise. It is said that two or three weeks of grape-eating betters the condition of most of the patients.

Rhubarb, owing to the large proportion of oxalic acid that it contains, is a capital antiscorbutic. In minor forms of scurvy, it acts as a curative. The young plant when stewed and eaten at breakfast, is laxative.

Bananas contain more starch than any other known fruit. For this reason, while they are very nutritious, they are not laxative. They may be used with advantage by those who suffer from looseness of the bowels.

The fig is rich in cellulose. On account of this quality it possesses laxative powers of a high order. Confirmed cases of constipation can be cured by the use of *sound*, dried figs. Many figs offered to the public are moldy, partly rotten, or maggot-eaten, and unfit for consumption. They should be plump, free from a suggestion of mold or blight, and of a fragrant odor.

Peaches, apricots, nectarines, and all the stone-fruits, contain much cellulose, and usually have marked laxative effects. When fully ripe, they have a tonic quality that "picks up" those of delicate appetite. It is said by some investigators that this bracing effect is due to an infinitesimal quantity of prussic acid, which gives the flavor to the kernel of the fruit, and escapes into the pulp. There are many poisons of the deadliest descriptions that, used in microscopic quantities, are of therapeutic value, and it would seem that that of the stone-fruits is one of them.

The plums have medicinal qualities akin to those of the fruits just named. The prune is especially well provided with cellulose, and hence its well-known effects on the organs of excretion.


Cranberries and gooseberries are plentifully supplied with acid, and are of value to those suffering from harsh, rough skin, or from scorbutic affections of any kind. Currants are also endowed with a liberal quantity of acid, but in addition have a very large percentage of fruit-sugar. Therefore they are fitted for diabetic patients as well as for anemic; for in both, such sugar can be used when other kinds of sugar would be harmful.

Iron salts enter largely into the composition of the strawberry, and make that fruit particularly acceptable to those who are nervous and run down. The acid of this fruit is also said to be of benefit to sufferers from kidney and bladder troubles. Because of the absence of cane-sugar in the strawberry, it also can be safely used by the diabetic.

(Concluded on page 525)

# MOTION PICTURE EYE-TIS

HOWARD C. KEGLEY



**T**HE motion-picture industry, which originated less than two decades ago, but which now represents an investment of at least sixty-five million dollars, constitutes a new and very serious menace to the health of the nation. An increasing amount of eye trouble among young people has been noted by oculists and opticians during the past few years, and specialists who have traced it to its source declare that a large per cent of it is due to the fact that a great majority of the children throughout the land are victims of the motion-picture craze.

Motion pictures have a serious effect upon the ocular muscles by reason of the absence of color vibrations, and on account of the flickering that results when the pictures are projected upon the screen. Eye strains result in headaches, and headaches result in more serious forms of nervous derangements, which are apt to work havoc with the health of the rising generation.

Manufacturers of motion-picture machinery and films the world over are exerting every effort to produce material that will not be so productive of tired eyes; but up to the present no means has been devised to eliminate entirely the flickering of pictures and to supply the color vibrations so necessary to perfect vision. Thus far, the camera craft has been unable to imitate the various color effects that nature provides for us, and the chances are that these color effects never will be reproduced through the lens of a camera.

Motion pictures are optical illusions, brought about by projecting, in rapid succession, a series of pictures upon a screen, produced by means of a physiological phenomenon styled "vision persistence." The turning of a wagon wheel furnishes an admirable illustration of vision persistence. When the wheel remains sta-

tionary, the eye may rest upon one or more than one spoke; when the wheel revolves slowly, the eye may rest upon several spokes; but if the wheel revolves a little faster, the eye will cease to follow a few spokes and begin to follow many. Then if the wheel revolves at a more rapid rate of speed, the spokes will all appear indistinct and blurred. They will not blur, however, until they reach a speed at which the eye is incapable of following them. To a pair of poor eyes the spokes will blur when they are passing a given point at the rate of three hundred a minute, but some eyes will follow them until they revolve at the rate of one thousand a minute.

The motion picture of the present day is a long film of separate and distinct photographs carried past a projecting lens so rapidly that they deceive the eye. Is it any wonder that an illusion is produced when pictures are projected upon a screen at the rate of twenty a second? Such films as are used in motion-picture cameras are usually one thousand feet in length. The edges of the films are perforated to fit the sprockets of the projecting apparatus. With his camera so timed that it will make several hundred pictures a minute, the motion-picture photographer clears the deck for action, and turns the crank that draws the film past his lens. Then the film is developed and made ready for use.

When the film is wound on a reel and placed in the projecting apparatus, the perforations are fitted to a pair of sprockets, and the loose end of the film is fastened to an empty reel. The projecting apparatus is then thrown into gear, the operator starts to turn the crank, and the show begins. In front of the lens is a little shutter that revolves rapidly in order to cut off the light between adjacent pictures. That shutter causes the flickering; but it must perform its function,

or else the film would be nothing but a passing panorama of motionless pictures. Each time the shutter revolves, it produces the same effect that you get if you blink your eyes. The flickering effect is a natural result, and a fortune awaits the man who can figure out a way to eliminate it.

It is difficult for the eyes to view motion pictures for a length of time without suffering injury. The degree of vision persistence required to follow motion pictures overtaxes the eye, the flickering produced by the cut-off shutter adds still more to the strain, and, unless the ocular muscles are unusually strong, "motion-picture eyes" are the result.

Sharp contrasts between black and white shadows in motion pictures have a bad effect upon the vision; and films that have been used too much, being dim and indistinct, injure the eyes.

It may be added that colored films are less injurious to the eyes than ordinary motion-picture films, because of the pres-

ence of color vibrations. One who attends motion-picture shows can testify that the eyes feel more comfortable when looking at colored pictures than when looking at black-and-white ones.

Summing it all up, there is reason for believing that the coming generation will pay dearly for the pleasure it is deriving from motion-picture shows. The price of admission to picture shows is very small, and there are those who can afford to attend regularly, but the time may come when the money thus spent would come in handy to pay an oculist for correcting an error in vision, or to hire a specialist to repair a nervous system deranged by eye strain.

Directors of many public schools have adopted the plan of exhibiting motion pictures in assembly-rooms for educational purposes, but it is doubtful whether the benefits thereby afforded justify the injuries that the eyes of the schoolchildren are almost certain to suffer as a result of motion-picture courses of study.

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## THE MEDICINAL ASPECT OF FRUIT

*(Concluded from page 523)*

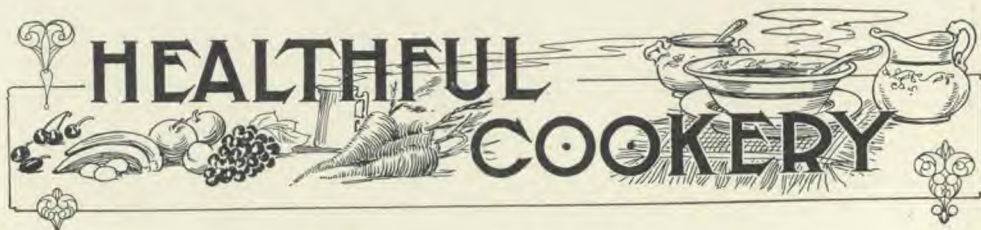
The pineapple contains a substance that assists in the digestion of food. The pineapple is not suited to diabetics, owing to its containing cane-sugar. But in the case of others, it is of value for its digestive and antiscorbutic properties and for its stimulative action on the bladder. Also, if eaten in liberal quantities on an otherwise empty stomach, it will overcome ordinary constipation.

Dates are mildly stimulating. Tamarinds are markedly laxative. In the British army in the tropics, this fruit, preserved, is served daily for the purpose of insuring regular excretory action. Melons and pumpkins contain a comparatively large proportion of phosphoric acid.

Blackberries, raspberries, huckleberries, and other similar kinds are rich in

acids and cellulose, and act as blood purifiers and laxatives. The cellulose takes the form of the pithy grains that are embedded in the pulp. These grains can not be digested. When one eats the fruit, the intestines make a special effort to rid themselves of them; hence the laxative action that usually accompanies the use of berries.

The peel, or rind, of the fruit is usually tasteless or bitter or even poisonous. Therefore, it is well to peel your fruit before you eat it. When the peel is eaten, care should be taken that it is thoroughly washed. Insects lay their eggs, and mold grows, on the outside skin of the majority of fruits, to say nothing of the dust and dirt that gather thereon. The safest and certainly the cleanest plan is to remove the peel.



## MEAT SUBSTITUTES

(Concluded)

George E. Cornforth

### Lentil and Nut Cakes

- $\frac{1}{2}$  cup lentil purée
- $\frac{1}{2}$  cup gluten meal, or zwieback-crumbs, or very light-browned flour
- $\frac{1}{2}$  cup chopped walnuts
- $\frac{1}{4}$  cup strained tomato
- 1 teaspoonful grated carrot
- $\frac{1}{2}$  teaspoonful salt

Combine the ingredients, form into cakes, and bake for ten minutes. Serve with —

### Nut Tomato Gravy

- $\frac{1}{4}$  cup strained tomato
- $1\frac{3}{4}$  cups water
- $\frac{1}{2}$  tablespoonful peanut butter
- 1 tablespoonful white flour
- 1 tablespoonful browned flour
- $\frac{1}{2}$  teaspoonful salt

Dissolve the nut butter in the water, add the tomato and salt, and heat to boiling. Stir in the two kinds of flour, which have been mixed and stirred smooth with a little cold water. Cook till thickened.

### Lentil and Nut Roast

- 1 cup lentil purée
- $\frac{1}{2}$  cup gluten meal or light-browned flour
- 1 cup chopped nut meats, different kinds
- $\frac{1}{2}$  teaspoonful salt
- $\frac{1}{4}$  teaspoonful sage

Mix ingredients, put into oiled bread tin, and bake for thirty minutes. Serve with —

### Nut Gravy

- 1 pt. water
- $\frac{1}{2}$  cup nut butter
- $1\frac{1}{2}$  tablespoonfuls flour
- $\frac{1}{2}$  teaspoonful salt

Blend nut butter with water, heat to boiling, and thicken with the flour stirred smooth with a little cold water. Add salt.

### Nut Scrapple

Stir into one pint of left-over corn-meal mush, while it is hot, one-half cup or more of any kind of chopped nuts. Put into a bread tin wet in cold water. When cold, slice and broil on a hot, slightly oiled griddle.

### Nut Barley Loaf

- $\frac{1}{2}$  small onion, finely chopped
- $1\frac{1}{2}$  tablespoonfuls oil
- $\frac{1}{2}$  tablespoonful browned flour
- $\frac{1}{2}$  tablespoonful white flour
- $\frac{1}{2}$  cup boiling water
- $\frac{1}{2}$  cup chopped, lightly roasted peanuts
- $\frac{1}{2}$  cup stale bread-crumbs
- $\frac{1}{2}$  teaspoonful salt
- 1 cup cooked pearl-barley

Cook onion in oil till it begins to brown, add brown and white flour, stirring in the boiling water. Cook till thickened, then add remaining ingredients. Put into oiled bread tins, and bake from thirty-five to forty minutes. Serve with —

### Brown Cream Sauce

- $1\frac{1}{2}$  cups milk
- $\frac{1}{2}$  cup cream
- $\frac{1}{2}$  cup flour
- 1 tablespoonful browned flour
- $\frac{1}{2}$  teaspoonful salt

Stir the brown and white flour smooth with a little of the milk. Heat remaining milk and cream to boiling, stir into it the flour mixture, cook till thickened, and add salt. Milk instead of cream may be used by adding two tablespoonfuls of oil.

### Lentil and Rice Roast

- $1\frac{3}{4}$  cups lentil purée
- $2\frac{1}{2}$  tablespoonfuls peanut butter
- $\frac{1}{4}$  cup strained tomato
- $\frac{1}{2}$  tablespoonful browned flour
- 1 tablespoonful gluten meal, or sufficient zwieback-crumbs to make it stiff enough for roast
- $\frac{1}{2}$  teaspoonful salt
- $\frac{1}{4}$  teaspoonful celery salt
- $\frac{1}{2}$  teaspoonful sage

Stir the nut butter smooth with the tomato-juice, add remaining ingredients, mix well, and put into an oiled bread tin in layers with one cup of rice to which one small egg, beaten, has been added. Bake thirty minutes. Serve with bread sauce.



**Nut Hash**

1 cup chopped nuts  
 2 cups chopped cold boiled or baked potato  
 $\frac{1}{2}$  onion, chopped  
 1 tablespoonful browned flour  
 $\frac{1}{2}$  cup cream or strained tomato  
 $\frac{3}{4}$  teaspoonful salt  
 $\frac{1}{2}$  teaspoonful sage, if desired  
 Mix ingredients, put into oiled pan, and heat in oven.

**Bean and Nut Roast**

2 $\frac{1}{4}$  cups bean purée  
 1 $\frac{1}{4}$  cups mashed potato  
 $\frac{1}{2}$  cup ground almonds or pecans  
 1 egg, beaten  
 1 teaspoonful shredded coconut  
 1 very small onion, grated  
 1 teaspoonful salt  
 $\frac{1}{2}$  teaspoonful thyme  
 Mix ingredients well together, put into oiled bread tin, and bake from thirty-five to forty minutes. Serve with egg sauce.

**Nut Patties**

$\frac{1}{4}$  cup peanut butter  
 $\frac{1}{2}$  cup chopped nuts, any kind  
 1 cup cracker-crumbs

Water to make of the proper consistency to be formed into patties with the hands  
 Salt to taste  
 Bake fifteen minutes in a hot oven. Serve with jelly.

**Lentil Patties**

2 cups lentil purée  
 $\frac{1}{2}$  cup peanut butter  
 $\frac{1}{4}$  cup gluten meal or cracker-crumbs  
 1 teaspoonful grated onion  
 $\frac{1}{2}$  teaspoonful salt  
 1 tablespoonful browned flour  
 Mix ingredients. Form into flat cakes, and bake ten minutes in a hot oven. Serve with —

**Lentil Gravy**

$\frac{1}{2}$  cup lentil purée  
 1 $\frac{1}{2}$  cups water  
 1 teaspoonful dark-browned flour  
 1 teaspoonful finely chopped onion cooked in a little oil  
 Flour to thicken to the consistency of gravy  
 Add water, browned flour, and cooked onion to the lentil purée. Heat to boiling, and thicken with just a little flour stirred smooth with cold water. A little tomato-juice may be used in place of part of the water.

**THE TREATMENT OF DYSPEPSIA**

(Concluded from page 519)

consists of two parts. The inner is made of one thickness of linen, or three or four of cheese-cloth, eight or nine inches wide, and a little more than one and one-half times the circumference of the body. The outer part is of flannel, and should be about twelve inches wide and of the same length as the inner piece. The girdle should be applied on retiring. The dry flannel is placed across the bed, and the cheese-cloth or linen, wrung nearly dry from cold water, placed over it. The patient lies down on this so that the top of the hip bones will come to about the middle of the girdle. Each end of the wet linen is pulled tightly across the abdomen, and tucked in on the opposite side. The flannel is now folded tightly over, and securely fastened with safety-

pins, so as to exclude the entrance of air under it. The girdle should be dry on removal in the morning.

These simple means, if persisted in, will prove of inestimable value in remedying the ills of indigestion and dyspepsia. While much relief may be obtained by a few treatments, one must not expect permanent results too early, as perverted habits of digestion require some time for their correction. These treatments are also far superior to drug stimulation, as they do not overstimulate and so wear out the response of the digestive functions. They promote healthy action of the organs of digestion, and leave them in normal tone, ready to perform better the work of digestion at the next meal.

*Loma Linda, Cal.*



## FEAR AND FALSEHOOD

[At the National Congress of Mothers held in Washington, D. C., in 1911, J. George Becht, of the Clarion (Pa.) Normal School, gave an address which contained so many helpful thoughts for parents (fathers as well as mothers) that we give the substance of the address. It was entitled "The Place of Fear in Discipline; Fear and Falsehood; Training to Honesty." — Ed.]

**D**URING the last twenty-five years there has been more attention given to child study than during all the preceding centuries. Jesus gave a new meaning to child life, and it is singular that through these centuries people have been so slow in appreciating what he taught.

Corporal punishment is the result of a false religious zeal. Rome drove the Christians to the monasteries. Then came the curious belief that sin was inevitably connected with the fleshly body, and that it must be got rid of by crucifying the body. Coercion by means of the rod was a prominent characteristic of the middle ages. The body was the seat of sin, and the more it was crucified, the more spiritual the individual.

It was forgotten that childhood is a period of development. The thought of the personality of the child was crushed out. We have just again discovered the fact that selfhood and personality are the sacred possession of childhood.

Biologically considered, fear is an attribute of the lowest form of life. It is very pronounced in animal life and in primitive man. Fear is nature's appointed way, if I may so speak, of avoiding disaster.

We have only recently learned to tell the truth. Nature rewards deception. The sly and the cunning survive, the others perish. The deer, the hare, the fox,

elude their pursuers and save their lives by deceit. All through nature deception is one of the first elements of self-preservation, and as far as the lower animals are concerned, is a virtue, not a vice.

The power and the success of primitive man lay in his ability to deceive. If we are the descendants of primitive man and have such a heritage, is it not rather surprising that we tell the truth as much as we do?

In dealing with children, we interpret child life in terms of our experience, not in the terms of childhood. When we come into right relation with child life on this point, we shall be more successful in our homes and in our schools.

The most sacred thing about the child is his personality. There is no more certain way to repress that than by coercive fear. We can not drill morality and religion into the child by force. The child does not develop from the outside, but from within outward.

When you have touched the motive, the spring of action, you have begun at the heart of the matter. When you have begun by enforcing an outward observance of form, you have made a tactful diplomat, with conventional morality.

Instead of disintegrating the child's personality by fear, we should seek to integrate it by good example in all that the child ought to be. Fear also crushes out imagination from the child, and

should be banished, as a means of child control, from home and school.

Deceit is a means of self-protection. The child is not far wrong who defines a lie as "a false statement, but a very present help in time of trouble." Many parents actually lead their children into telling lies by their questions.

A boy had been told to come in at five, but he did not. From the window, his mother watched him playing till nearly six, when he came rushing in. "Where were you?" she said. "I was out with Daniel." (True enough.) "Why did you not come earlier?" "Daniel had to go to the store, and I went with him." (Lie No. 1.)

"What did Daniel go to the store for?" "He went to buy some coffee." (Lie No. 2.) "But why did you not come home instead of going with him?" "Daniel's mother wanted me to go with him." (Lie No. 3.)

The mother then told the boy how she had watched him during the entire time, and how she had caught him deliberately lying. It was bad for the boy, but what can we say for the mother? Was she above suspicion in the matter of deception? When she knew the truth, was it her business to elicit a series of lies from the child? Each question she asked,

forced him to tell a more deliberate lie than before.

We hear teachers loudly decry cheating, but what causes the cheating? We cause the cheating when we place the whole emphasis on the grade—on the ninety-eight or ninety-nine per cent—

at the end of the examination. When we begin to train with the thought that the main thing is character and truthfulness, rather than grades, we shall do something to inculcate truthfulness in the child.

The child needs special attention for the reason that he has not the power of inhibition that older persons have. In the child the impulse is more likely to spring into action. We need to come so near

the child that he will feel our sympathy, and then we shall be in a position to help him. We must not go into hysterics even if the child has told a wilful, malicious lie. Let us remember that while the child is not *immoral*, he is *unmoral*. He has an unformed character, and it requires time to develop what we may call an instinct of truthfulness. While you may place your child on honor, let it be with the proviso that you will be there to help him to maintain that honor. Self-control is of slow growth.

"Dear Editor: What do you think of this? They are granose babies since five months of age.—Maxie, left; Audrey, right. Picture taken on first birthday."



Such was the notation on post-card accompanying this picture. They are certainly a rugged pair, and speak well for a health-food diet. Maxie and Audrey, we congratulate you on your choice of a mother, and trust you may always be as wise in your choice of a diet.

### Mothers, Nurse Your Babies!

DR. JACOBI, at the recent meeting of the American Medical Association, presented an earnest plea for the babies, that they have their right to careful nursing and mother's milk. The following instances given by him should be convincing as to the value of maternal nursing in the preservation of infant life:—

"During the siege of Pues (1870-71) the women were compelled to nurse their own babies on account of the absence of cow's milk. Infant mortality under one year fell from thirty-three to seven per cent. During the cotton crisis in 1861 there was a famine; men and women starved, and on account of no money for artificial food the women nursed their babies. One half of the infant mortality disappeared. In the poor forest districts of the Westerwald, the bottle-fed babies had a mortality of twenty per cent, and the breast-fed babies eight per cent."

There is a general impression that many mothers can not nurse their children. According to the most experienced of physicians, this is not so. There are exceedingly few mothers who can not at least furnish a fair share of the milk needed by the child; and even a part of mother's milk will help to render the little one more resistant to children's diseases, and give it a better chance in the world. Mothers, give the babies a chance.

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### Baby Needs Water

MOTHERS should not forget the fact so forcibly put by Dr. Abraham Jacobi, president of the American Medical Association, at the recent Atlantic City meeting:—

"When you are hungry, you want to eat; when you are thirsty, you drink. The baby wants its equal rights. But no matter whether it is hungry or thirsty, it is condemned to receive the same food to quench both its hunger and thirst. When it cries with hunger, it justly receives food from the bottle or breast; when it cries with thirst, it is given the same food from the same source. I have often felt like presenting a bill to the legislature, enforcing, when father, mother, and physician are thirsty, beefsteak and potatoes."

Perhaps if father, mother, and physician had to quench thirst with beefsteak and potato, they would feel more sympathetic toward the thirsty baby, and give him what he is calling for—water. Milk is not water, and will not take the place of water for thirsty baby or child. The baby can ill bear deprivation of water. Especially during the first few days of the baby's life, when the mother does not furnish much milk, the baby needs water.

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### Care of the Baby in Summer

In the summer give the baby less food and more fluid. A child should have a drink very frequently in warm weather.

It is a good practise to give a drink before feeding or nursing, for the reason that often the child will continue to take food because his little body is calling for water. Be sure that the water is from a good source. If not absolutely sure as to this point, the water should be boiled and then cooled. Be careful not to overdress a young child in warm weather. When the child is in the house, one piece is often amply sufficient.

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### Poisoning From Vermifuges

A PHYSICIAN in *La Semaine Médicale* gives a warning against the poisoning that may follow the use of vermifuges. A small child was made blind by a dose of santonin, which was given in oily solution, in order to render it more effective. He also warns against the administration of castor-oil after extract of male-fern. A child who took an ordinary dose of castor-oil after two drams of male-fern, died, though it had two weeks before taken twice as much male-fern followed by some other purgative. No oil of any kind, according to this physician, should be used with or after either santonin or male-fern. When it is necessary to expel worms, it is better to let a physician attend to it. Worm remedies are not harmless by any means.

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### Infant Mortality

*Archives of Pediatrics* is a magazine published exclusively for physicians who make a specialty of the care, feeding, and treatment of babies and children. In the May issue of this journal is a paper by Dr. Alexander McAllister, which was read before the New Jersey State Pediatric Society. It was a paper for specialists on children's diseases,—men who, of all others, are most thoroughly acquainted with the cause of infant mortality. Dr. McAllister says:—

"The general ignorance of parents as to the subject of the care of children is one of the most fruitful causes of infant mortality. Even the otherwise intelligent classes seem at times to be woefully lacking in knowledge of this most important special subject."

"Mother's instinct" may suffice for rabbits and chickens and pigs, but it hardly suffices for human beings; and the mother who depends upon it is apt to have some bitter experiences. Mothers are just learning the grave dangers from disease-infected milk, and the more intelligent are taking measures to secure pure milk; but better, many mothers are learning that a mother is not fulfilling her duty to her child when she feeds it by proxy.

"Not only should the parent be instructed in sex hygiene," says Dr. McAllister, "but in general and personal hygiene as well." What subject in the school curriculum is so important to the mother as the knowledge how to rear healthy and efficient men and women?

# WHAT TO DO FIRST



## THE STAGES IN SMALLPOX

**I**N every case of smallpox the casual observer can recognize a uniform procession of stages.

Except in rare instances, every case has five periods, or stages, termed incubation, invasion, eruption, suppuration and desiccation. These periods will be found in nearly all cases of smallpox, modified or unmodified, says Dr. W. H. Smith, in the *Medical Standard*.

In every case there is a period of incubation, that is, the time which elapses between exposure and the first symptoms of the disease, which has been ascertained to be nine full days.

The invasion is characterized by chills, high temperature, and constant sweating, by disturbances of the nervous system, by vomiting, by general muscular and joint pain,

and particularly by headache and excruciating backache, with which are frequently associated paralysis of the extremities, and occasionally of the bladder. This stage usually lasts three full days, and then the eruption appears. This

shows itself first on the face and neck, and perhaps also at the same time upon the body and limbs. The skin over the entire body is studded with spots resembling fine needle pricks, red, slightly pointed, and hardly above the surface of the skin.

The next day they are more prominent, and each day they increase very perceptibly. Their elevation above the skin surface is considerable. The base is hard and shotty; and gradually the fluid which they contain becomes a little more opaque, until the end of eight days.



From "*Acute Contagious Diseases*," Welch & Schamberg, published by Lea & Febiger, Philadelphia

Two children in the Municipal Hospital, Philadelphia, one unvaccinated, and the other vaccinated on the day of admission or the day before; the crust is still seen upon the leg. The vaccinated child remained in the hospital with its mother, who was suffering from smallpox, for three weeks, was discharged perfectly well, and remained so. The unvaccinated child admitted with smallpox died.



*From "Acute Contagious Diseases," Welch & Schamb erg, published by Lea & Febeger, Philadelphia*

Three members of a family brought to the Municipal Hospital with the mother, who was suffering from smallpox. The child in the center was unvaccinated; the other two had, a year before because of the school vaccination requirements, been inoculated by some of that "terrible virus," which is the bugaboo of some people. These two children remained in the smallpox wards several weeks and left the hospital perfectly well.

After the eighth day of eruption, a redness begins to be perceptible around the base of each pimple, which is now the beginning of a small pustule. The pustules in a short time become painful, and swelling begins.

This is the starting-point of suppuration. The swelling attains its maximum on the following day, that is, on the ninth day of the disease. The pustules increase in volume until about the fourteenth day, when the swelling by which they are surrounded goes down, and rupture takes place within three or four days. The pus which they contain escapes, and they remain unbroken until they are dried up.

Upon the falling of the crusts, which takes place from the twentieth day, there remains not a depression, but a projection of a deep violet-red hue. On this projection a small scale forms, which separates in a few days, and is succeeded by a thinner scale, which in turn gives place to another one, thinner still, and thus in succession scales form and fall during a period of from fifteen to thirty days.

By degrees the projection diminishes. After from four to six weeks there is seen in its place a slight depression; in four or five months the redness of the skin has disappeared, leaving in its place a white and contracted pit.

### An Efficient Nutritive Enema

BEAT one egg thoroughly with a quarter of a teaspoonful of salt, and if desired, a little cream. The bowel should be thoroughly emptied by full enema an hour before the rectal feeding, which latter should be given by means of a soft rubber tube that can be inserted well up the bowel.

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### For Erysipelas

PAINT the part with tincture of iodine; and when it is dry, give it a coat or two of flexible collodion. A strong solution of Epsom salts also acts well in erysipelas.

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### For Ivy-Poisoning

MUCH relief will be obtained by applying a hot saturated solution of Epsom salts to the part. It is best to apply by means of hot compress, over which an oiled silk is applied to prevent evaporation. The application should be renewed three or four times a day.

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### Vaseline a Laxative

ONE of the best means of producing a regular daily evacuation of the bowels is liquid vaseline, which is non-irritant and can not decompose, says Hertz, in *Progres Médical*. It is especially useful in painful constipation. Take a teaspoonful to a dessert-spoonful two or three times a day, as may be needed. Hertz prefers it to agar.

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### The Continuous Bath for Burns

It is now more than fifty years since Passavant established the fact that the continuous warm water bath is the ideal remedy in the treatment of extensive burns, and fifty years since Hebra first practised the method. Dr. Achilles Rose, in the *New York Medical Times*, calls attention to this much-neglected remedy.

The continuous warm water bath gives almost instantaneous and complete relief from the excruciating pain of extensive burns. In the warm water the wound is constantly kept

clean, the water penetrates the burned tissues, in consequence of which they remain moist and soft. Without this immersion the cuticle which has been destroyed allows exposed tissues to harden and form an impenetrable cover over the deeper parts. Immersed in water, tissues that have become gangrenous can not dry up, but remain moist; and for this reason the wound is kept constantly clean. There is no accumulation of pus, no crusting of dry secretion, and what is most essential, the patient does not have to suffer the painful procedure of a change of dressing.

To any one who knows the wonderfully soothing effect of the bath in cases of burns, how painful it is to see the routine treatment by dressing.

All who have had experience with it will admit that the warm bath is the most reliable means of applying antiseptic principles in cases of extensive burns.

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### Nosebleed

ACCORDING to *Merck's Archives*, bleeding, if not excessive, is sometimes a great benefit. In typhoid it relieves apathy and headache; in plethora, certain liver troubles, malaria, and Bright's disease, it acts as a safety-valve.

When it is excessive, or when it is not needed to afford relief, treatment should immediately be begun.

Try first the simpler methods. Stretch both hands high up in the air. This alone will stop many a nosebleed.

Apply a key or other cold body to the back of the neck. A lump of ice is best, if it is at hand.

Application may also be made to the forehead and cheeks.

Compress the nostrils with thumb and finger.

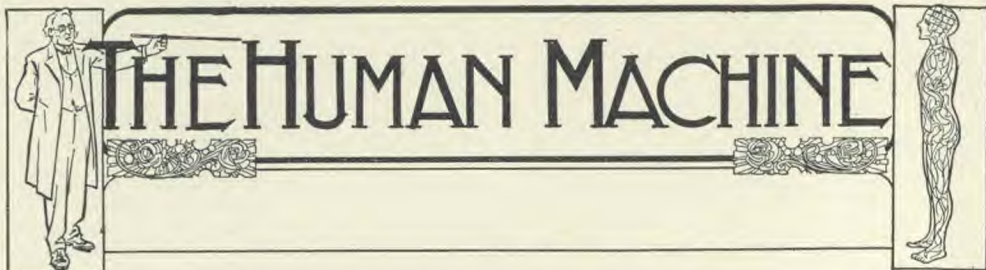
Put the extremities in a hot mustard foot-bath, or better, in a leg bath.

Inject peroxid of hydrogen full strength into the nostril, and plug with cotton saturated with it.

If no peroxid is handy, use witch-hazel or vinegar.

If these all fail after a fair trial, it is better to have a physician.





## ARE YOU IN SOUND HEALTH?

**P**ERHAPS that is not a fair question, for one's notion of that which constitutes "sound health" gives opportunity for an immense leeway. The writer has taken histories of men applying for treatment who at first stated that they had "always been in sound health until the present illness," and yet questioning elicited the fact that they had constantly been subject to such symptoms as gas on the stomach, water-brash, constipation, occasional headache, etc.; that is, with them such symptoms were not incompatible with good health. On the other hand, the writer has known persons who, so far as their minds were concerned, seemed to have all the diseases of the doctor books, especially such diseases as they had read about and seen in others; and yet examination failed to reveal any disturbance of function, and apparently they were as sound as a dollar. We would naturally say they were sick because they imagined they were. But whatever may be at fault, the person whose imagination constantly tells him (or more likely *her*) that he is sick, *is* sick. He has a diseased imagination (I use the word in broad sense), and until that is remedied, he is incapable of doing efficient work. He may be of the self-assertive kind, whose delight is to parade his ills and shortcomings before his fellows whether they will or no; or he may be of the submerged type, who feels that he lacks something, yet to the best of his ability strives to keep above water and present a normal appearance.

The fact is there are comparatively few persons who are entirely satisfied

with their state of health, and there are fewer still who are living up to the highest possible standard of mental and physical health and efficiency.

One evidence of this is the surprisingly large number of medicines, nostrums, appliances, health systems, climates, waters, etc., used in the hope of bettering the health.

Perhaps five hundred million dollars would be a moderate estimate for the amount paid out in this country for the advertised so-called cures of disease, nostrums, quack concerns, etc., to say nothing of the amount paid out regularly to physicians.

Whatever is widely advertised as a means of preventing or curing sickness or of improving the health finds multitudes of buyers. Thousands of persons who want to get well, spend about all the money they can spare, and sometimes more, for some widely advertised nostrum. Multitudes constantly visit the doctors, going from one to another, spending their all, in the hope of receiving benefit. Some are cured, for there are honest doctors and intelligent doctors. But often they fare no better than the swallower of patent medicine, one drug after another being tried without permanent relief.

Many put their trust in Christian Scientists, in magnetic healers, in faith-curists, in quacks, and what not. These all overlook the important fact that every disease has a cause, and it is necessary to remove the cause before the cure can be effected.

If your stove is filled with clinkers and ashes and your chimney with soot, you



do not waste your time with some patent fire starter; you clean out, and give the fire a chance. Many a person is loaded with clinkers, ashes, and soot, so that his vital fires burn low, and he perhaps takes some "bitters" or other stimulant to whip him up for the time being; but in the long run these "remedies" only increase the amount of clinkers and ashes.

One reason for the popularity of many medicines is that they make the user feel better for the time being. Whisky will do it; opium will do it; morphin will do it; many other drugs will do it; but what a wretched condition these narcotics develop, as a result of their use!

An important part of the education of every child should be a knowledge of the causes of disease and how to avoid them. These principles should be instilled before the child has formed wrong habits; for, once formed, such habits are difficult to break. The little one should learn how to care for his body as soon as he is able to understand. Compared with this knowledge, all other learning is of secondary importance; for without health, no matter what his other qualifications may be, one is handicapped in the battle. Those not fortunate enough to have such instruction in their youth, and who, perhaps, are suffering from the results of wrong habits, should realize that it is not too late to begin the work of reformation,—to *rebuild* the body, to reconstruct it. The body is being constantly changed, old tissues are breaking down, and are being replaced by new tissues formed from the food. By a proper attention to hygienic living the body may within certain limits be gradually made over anew. Cornaro was nearly forty years old when he was given up by the physicians as a hopeless case; yet by careful living he regained his health, and lived to be more than one hundred years old. Fletcher was rejected by two insurance companies as a bad risk, but he began studying and practicing healthful living, and is now known as a man of unusual power and health.

What others have done you can do.

All that is necessary is that you shall be so alert to the importance of regaining your health that you will at once change your habits in accordance with physiological laws. Such a change may mean present sacrifice, but in the end you will realize a rich reward in increased health and greater capacity for work.



### Prevention of Tuberculosis

THE common method of transmission is by transference of the bacilli from the sick person to his neighbor by means of discharges from the lungs and air-passages; even particles too small to be recognized thrown out by the so-called dry cough may contain the germs of tuberculosis, says the *Journal A. M. A.* The problem is to care for all matter expelled from the mouth and nose of the tuberculous patient.

To collect the sputum, a metallic cuspidor with an easily opened cover is useful. It should contain water or a five-per-cent carbolic solution. Smaller cuspidors or cups are necessary for patients walking about, or the sputum may be received on pieces of cloth or on paper napkins. The receptacle containing these things should be impervious to moisture, and capable of thorough cleansing and disinfection. All cloths and papers containing sputum should be burned. If the ordinary handkerchief is used to receive the discharge, it should be placed in water before it is allowed to dry, and should be boiled before being placed with other laundry articles.

It is impossible to emphasize too strongly the necessity of the most minute care to prevent the dissemination of tuberculous discharges. If they fall on the floor or in the street, they turn to dust, and become a menace to the healthy. The feather duster should be forever banished. Ordinary sweeping with a broom should not be undertaken without special precaution to prevent dust. Moist sawdust or newspaper dampened and torn to pieces answers the purpose. Fair

better than the broom is the vacuum cleaner.

One of the most important problems is to raise the vitality and resistance powers of those who by heredity are predisposed to tuberculosis; for there is such a wide dissemination of the bacillus that all must come in contact with it. But those who are sufficiently strong will easily resist an ordinary attack of this kind.

It is necessary to caution against the use of alcoholic drinks. Many believe these beverages to have a tonic effect and to be useful to those predisposed to tuberculosis. The opposite is true, and the fact is that those who are not robust are better off without an alcoholic régime.

To increase the resistance in children, select homes with reference to fresh air. If necessary to live in the city, live in the less populous part of town. Avoid dark-roomed tenements.

All sleeping-rooms should open outdoors. No bedroom should be occupied by more than two persons, and preferably every person should have a separate bed. Windows should be open at night. Infants, as well as adults, require fresh air, but they must be gradually accustomed to cold air. If a strong cold wind is blowing, the window should be partly closed, or a screen be placed in front of it.

Delicate children should not be sent to school too young, nor confined for long hours. They should be encouraged to be out in the air, and to engage in active but not violent play. They should have longer sleep hours than robust children. Ten hours are none too many for children from five to ten years of age.

Growing children, especially weak children, should be fed regularly. The food should be varied, nutritious, and digestible. Milk is important. Eggs are useful, but should not be given too frequently. It is necessary to avoid an excess of pie, cake, and candy. Children should be taught to eat fruit and vegetables, and protein foods, and especially foods containing fats.

The upper air-passages of children should be examined to see whether there

is ready access of air to the lungs. Irregularities of the nose, hypertrophies, polypi, or adenoids may interfere with the breathing.

The use of high collars or very tight collars or corsets may interfere with respiration sufficiently to predispose to tuberculosis. The clothing should be warm enough to serve as a protection, and loose enough to permit free breathing.



### Postponing Old Age

**O**LD age comes to every one sooner or later, provided accident or disease does not anticipate it; but it comes to some much sooner than to others. A man may suffer from the effects of old age at fifty, or because of a rugged body and a discreet life, these effects may be postponed until eighty, says Dr. J. L. Wolfe, in the *Medical Summary*. Old age is often produced by hardships, dissipation, and exposure in early life. To quote:—

“When man reaches the zenith of his physical existence, he does not stand a perfect physical man, but already a hereditary predisposition, or the struggle of life for an existence, or habit of vice, has laid the hand of decay upon some one or more organs of his system, so that he starts down the declivity of his existence under disadvantages. Until the climax of physical existence is reached, the natural tendencies of the organism is to combat disease; but as soon as the point is reached, conditions change, a retrograde process is begun, and as life recedes and vitality diminishes, just in the same proportion does the body lose its power of resistance.”

The time to prepare for a ripe old age is during youth. The young man who squanders his physical resources just because he seems to have enough and to spare, will come to the time, if his life is not cut short suddenly by disease or accident, when he will realize that he must go slowly. He will then be compelled to cut off this indulgence and break off that habit. But he finds his life so miserable without these lifelong “solaces” that his resolves amount to nothing, and he finally decides to die as comfortably as possible if he does die early. His indulgences have mastered him.

As Dr. Wolfe says: "In that perilous time of life, youth and young manhood, the foundation for a long and healthy life must be laid; but how disproportionately large the majority who strand at this stage of life!"

Is this not a reflection on home training and our educational systems? What more valuable education could be given young men and young women than to enable them so to sense the importance of health conservation that they will not enter into any of the many hurtful youthful indulgences?

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### To Bathe, or Not to Bathe?

**W**HY, bathe, of course! the oftener the better." But over in England, where, according to the *Dietetic and Hygienic Gazette*, frequent bathing is a part of the national religion, Sir Almroth advised "against washing, fresh air, and physical exercise—three things which have gone into the making of the mighty Briton."

The general belief is that by bathing we wash off the microbes, but according to Sir Almroth "we can bathe off a certain amount of microbes, but we also destroy the protective skin that is all around our bodies like the tiles of a house. When one has a horny hand, no microbes can ever get near the skin. A great deal of washing increases the microbes of the skin, so I do not think cleanliness is to be recommended as a hygienic method."

In comment on the learned knight's views, the *Gazette*, after reminding us that the great majority of mankind do not bathe, or at least only about as frequently as the man who proudly boasted that he bathed every fourth of July whether he needed it or not, and that frequent bathing, even where it is now most in vogue, is a matter of the last generation, refers to Simon Baruch, the greatest apostle of hydrotherapy in this country, who advocates the warm bath (95-105° F.) for ten to twenty minutes for the healthy person.

Dr. Baruch does not admit that bathing opens the pores of the skin. What it does is to keep the delicate skin muscles, which have so much to do with reactive power, in a healthy condition.

We think, however, that aside from this bath for cleanliness and luxury, Dr. Baruch would always advise, as a tonic measure even for the consumptive, some form of quick cool bath, whether a douche in a well-equipped institution, or a simple spray, or the emptying of a sponge of cool water over the shoulder while the patient stands in a tub of warm water, to be followed by friction until the skin is aglow. One who accustoms himself to some form of cool spray after his warm bath is giving to the skin muscles an excellent course of gymnastics, which prepares them the better to resist sudden changes in the weather. One who takes cool sprays is not so liable to colds.



# EDITORIAL

## IS THERE A PRESENT TRUTH IN HYGIENE?

**F**OR each locality, for each period, certain procedures are of such vital importance that all others pale in significance.

When "we" undertook the construction of the Panama Canal, the first great question to decide was, Shall man or mosquito run the isthmus? The question was decided in favor of man; the mosquito went; the canal was built.

No matter how much might have been done in the way of general hygiene,— food, exercise, clothing, and the like,— if that one question of the mosquito had been left unsettled, the canal would never have been built.

If man could have built a canal alongside mosquitoes, the French would have done it; for they lacked not a whit of energy and resources.

Man or mosquito had to be master on the isthmus. Not that the mosquito is necessarily fatal to man. But a certain species, if infected, transmits yellow fever, while other species transmit malaria.

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You can not say to a man, "If you abstain from beer, you will not have yellow fever; if you do not smoke, you will not get malaria." It does not work that way. The prime thing, then, in certain localities is the avoidance of certain insects. This includes the use of insecticides, screening, protection of infected patients, protection of drinking water, draining of swamps, and an immense amount of detail work.

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In another region the "first commandment" of the health decalogue is to get rid and keep rid of the hookworm.

All else is secondary. For with hookworm infection, the inhabitants are too lazy, too shiftless, too helpless to take care of themselves or earn a half-decent living.

Where the hookworm is in control, there may be several generations who have grown up without having seen the inside of the school— poor, miserable creatures more dead than alive. What good would general hygiene do for these until they are rid of their hookworms?

If, on the other hand, they are rid of the hookworm, they gradually regain self-respect, and strength of body and mind; and if the process has not gone too far or too long, they may become quite normal.

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In many places typhoid fever is a real and ever-present menace, and the first thing in order is to take means to prevent its spread.

Again, in certain districts, especially in congested districts, there is the tuberculosis problem looming up above everything else.

Plague infection must be guarded against in other sections, formerly our Pacific Coast cities, but now also in the East, and "Swat the Rat" may for the time be the all-important slogan.

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There is no question that thoroughly carrying out preventive measures for any one of these or of other diseases, not only lessens the danger from the disease in question, but from other diseases as well.

That is to say, any special campaign in hygiene must have a good effect on the general health.

But observance of the general rules of diet, exercise, etc., may not have the least effect on some local condition, provided the mosquitoes, flies, hookworms, etc., are neglected.

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It would seem, then, that the emphasis of teachers of hygiene should be laid on those measures which at the time or place are of first importance.

They should cry aloud and spare not, until the entire community is aroused regarding the matter of greatest danger; and then, after the ball is rolling as to the main issue, they can follow with instruction as to the details of general hygiene.

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## THE ROLE OF MINERAL SALTS

**S**MUGLY and complacently we have elaborated our dietetic systems, based largely on the proportion of the organic elements of the food,—protein, carbohydrate, and fat,—contenting ourselves, as regards the mineral constituents, with the thought that these are less important, or if they are important, that we probably obtain sufficient of the various salts from any mixed dietary.

Anyhow we did not know much about the salts, and we did not worry about them. We were satisfied if the food contained a certain minimum of protein and fat, and sufficient carbohydrate to yield a certain number of calories, according to the weight, age, etc., of the individual.

It is true there were a few men not recognized in medical circles, who emphasized the importance of a proper balance of the mineral salts; but all such teaching was practically unheeded.

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Recently there has been a cry raised in widely separated localities and as regards very different diseases, that these diseases are made possible, or at least greatly favored, by the absence in the tissues of certain minerals or by the preponderance of others.

When we have a simultaneous cry by such men as Russell and Van Giesen, that tuberculosis is caused, partly at least, by lime starvation; by Horace Packard, that cancer is caused or favored by the lack of certain mineral salts; by Aulde, that acute and chronic non-infectious skin diseases are due to a lack of lime in the system, and a consequent deposit of magnesium in certain of the tissues,—when, in accordance with these theories, these men have treated patients with gratifying results, it is time our physiological chemists should make an exhaustive study into the rôle of the various mineral food salts in human nutrition.

If some of us are sick because our foods lack certain salts, or because we do not properly assimilate them, we ought to know it.

It is a notorious fact that meats are not all-round foods. They do not contain the bone-making material. Certain of the salts found largely in the blood and bones are practically absent in the meats.

White flour is practically robbed of its mineral salt, as are potatoes, when peeled and boiled.

Many other vegetables are so cooked that the important mineral salts are thrown away with the water in which they are parboiled.

Flesh-meats, white flour, and boiled-out vegetables!

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Is it any wonder that a raw-food propaganda, which has nothing to recommend it except that it retains these mineral salts, has had such excellent results in certain cases?

Is it any wonder that Dr. Bulkley had marvelous success in certain skin affections by dropping the old meat dietary?

Can we be surprised that the prevalence of cancer has apparently increased proportionately with the increase in the eating of meat (and white bread)?

Can we wonder that physicians have found in the dietetic treatment of tuberculosis that milk and eggs (rich in lime) are superior to meat (poor in lime)?

Perhaps some day we shall fully realize that the proportion of lime, magnesium, iron, etc., in our foods is as important as the proportion of proteins, fats, and carbohydrates, possibly even more so.

But why has not the human race run into the ground long ago if this be a fact?

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The answer is simple: It is only recently that we have to a large extent eaten such mineral-poor foods as white bread, boiled-out vegetables, and meat.

The consumption of these articles has greatly increased within the last generation. Are we now paying the penalty?

*J. H. Heald*



# AS WE SEE IT

## An Argument Against the Saloon

DR. REID, in "The Principles of Heredity," a work which treats of alcohol as having a mission to uplift the race by weeding out the unfit (see Book Notices, in this issue), says some things which to the person who is not entirely given over to the idea of sacrificing the individual for the race, should be a strong argument against the licensing of liquor stores. Dr. Reid says, on page 193:—

"The truth is that most men and women who drink at all and can afford it take alcohol more in proportion to their desires than in proportion to their lack of self-control. One may observe this every day at dinner. As a rule, the people one meets there are manifestly not under the influence of strong temptation. They take as much alcohol as they are inclined to. More would be unpleasant, or at least, not very pleasant to them. Indeed, it is hardly possible for a man who is tempted by alcohol to be a moderate drinker. The human will is not strong enough to resist a passion so overmastering when it is continually fed by small indulgences. Such men must, as a rule, be drunkards or total abstainers."

Some will say: "The good of the race demands that these weak ones be sacrificed on the altar of alcohol so that they and their progeny may finally perish. To shield them from alcohol is to perpetuate a race of weaklings."

But those who believe we have a duty to the weakling as well as to the race will say that this class of men, with their strong passion for alcohol, should not be in an environment where, in order to increase the revenue of the government, they have the liquor constantly within reach.

## Motives for Drinking

IN his book "The Principles of Heredity," G. Archdall Reid gives three reasons why men drink, the first of which is to satisfy thirst. "When possible," says

Reid, "they flavor the water in various ways, as with tea, coffee, or alcohol." It is possible, of course, that these substances are used as "flavors," but far more probable that they are used as stimulants; that is, for their actual or apparent stimulating action, or in some cases for their benumbing effect. It is a significant fact that we find savage and civilized man in all parts of the earth—nations so far separated that it is not likely that the practise of one was borrowed from another—using for beverages, tea, coffee, cocoa, and maté, also cola, all of which contain caffeine, or its equivalent, a stimulant of the cerebrospinal centers. How these peoples, widely separated, found in plants so varied in nature this identical drug, and made use of it as a beverage, is a mystery.

The taste, undisguised, of these beverages is often rather unpleasant, at least until a taste is acquired; and they are not at all similar. Were they chosen because of the taste, or because of the effect upon the nervous system?—We think undoubtedly the latter.

Give a habitual coffee user a cup or two of water for breakfast, instead of his coffee, and he will afterward feel the need of something. He will, in fact, if he is a confirmed coffee user, feel about as "gone up" as if he had missed a meal or two. The coffee acts as a "bracer" or "pick-me-up." One who thinks it is simply a quencher of thirst with something added to improve the flavor deceives himself.

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## A Limited List of Drugs

THE practise of medicine—at least with discerning physicians—is not synonymous with the practise of indiscriminate drugging. Under the above heading, the *Journal of the American Medical Asso-*

ciation has an article on the folly of an overloaded pharmacopœia, in which is the following expression:—

“While there are still some physicians who are impressed by the folk-lore and mystery of drugs, and others who are hypnotized by the smoothly worded claims for complex shotgun proprietaries, the vast majority of practitioners pin their faith to a comparatively small number. And the longer a physician is in practise, the smaller is the number of drugs he uses, and the better he is acquainted with them.”

And some, like Osler, get down to four or even less, and then depend largely on other agencies.

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**Why Use Drugs?** THE *Medical Summary*, after giving a list of twenty-five different remedies used for dandruff, falling hair, etc., makes the following comment:—

“We would give more, but rather begrudge the space. The moral to this is quite obvious: We are using so many things that are rubbish. Somebody said rattlesnake oil was ‘good for’ rheumatism, or that grape-vine ashes would cure piles, and we take it for granted. Our therapeutics is in a chaotic state. That is one reason why we have drug nihilists. Let us pitch out a lot of our worthless remedies, and instead of having so many drugs indicated for one ailment have one or two that we really know something about.”

And yet, after it has said all this, it says, “Let us not lose faith in drugs.” The fact is many physicians have lost faith in drugs, and simply use them because they know that patients will not be satisfied unless they get something in a bottle. At best, we know very little about the action of drugs, and we are learning more and more that it is wiser to prevent disease than to wait until it is necessary to attempt a cure.

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#### Drugs in Headache

Not infrequently lay papers give some excellent advice regarding the treatment of disease. The following statement from the *Youth's Companion* is quite significant:—

“It may be said, with little fear of contradiction from those who know the facts, that if a cast-iron law forbidding the use of any drug whatever in the treatment of headache could be enacted and enforced, there would

be much less misery for the coming generation than there is for this.”

The same article suggests the advisability of always consulting a physician in case of headache, because the headache may be due to any one of quite a number of diverse causes, and to treat a headache caused, for instance, by eye strain, in the same way you would treat a headache caused by an overloaded stomach, would be extremely irrational, and do more harm than good.

When one has a headache, there is some cause back of it, and the first and most important procedure is to learn the cause and get rid of it. To attempt to fool the nerves by means of some hypnotic or narcotic is exceedingly unwise.

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#### Theory Versus Fact

To show that learning and position and long experience do not take the place of brains, I give a quotation from a surgeon of the Public Health Service, who for five years has been an inspector of immigrants at Ellis Island. In a recent article in which he is discussing the causes for the physical inferiority of certain European races, he says:—

“The Irish from the country are even more poorly developed than those from the cities. This may be due to the fact that in the country they live almost entirely on vegetables, consuming very little fresh meats. Fresh meats are absolutely necessary to muscle building (!), even though vegetarians claim the contrary and cite instances of athletes accomplishing athletic feats on a vegetarian diet. Those persons are the exception and not the average. Besides, the ordinary labors of life, especially of the poor people, are far more exacting and arduous than the most difficult of athletic feats (!).”

What do you think of that? He is absolutely blind to the fact that the horse, and especially the gorilla with its man-like anatomy, can, by eating plant-food, develop muscles that could tear the poor doctor in a jiffy.

Blind to the fact, when he is discussing vegetarian races, that he is discussing peoples who have a large number of other antecedents that may explain their inferiority—bad housing, total lack of protein, inbreeding, malaria (the Greeks,



for instance), crossing with inferior races, and the like.

Blind to the fact that meat is not the only available source of good, digestible protein.

Blind to the fact that there have been a very considerable number of endurance tests in which every vegetarian outclassed every meat-eater in the test! Are these all coincidences? are they all "exceptions"? or are we justified in charging the learned doctor with being so obsessed with a theory that he can not look opposing facts squarely in the face?

This is not written in order to make a plea for vegetarianism, or to advise any one to live on nuts and fruits and cabbages, but it is a protest against a man, in the face of modern knowledge, making the statement that "fresh meats are absolutely necessary to muscle building." The statement has never been proved, and is not likely to be proved. The opposing facts are too numerous. Right in the journal containing this article is the following editorial comment:—

"There is a growing belief in the strong tendency of the organism to maintain a constancy of ultimate chemical structure independent of variations in the nature of the proteins injected."

Flesh-meat needed to make muscle, indeed! Go back to school, Doctor, and read up.

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#### Importance of Dietetics

It is only comparatively recently that dietetics has had a due share of attention from physicians, and naturally so, for the schools have taught practically nothing about dietetics. The ordinary physician, when he was graduated, knew as much about dietetics as a child does about algebra. He was taught disease, and he was taught drugs and all that, but not hygiene and dietetics. It is true the colleges are doing a little better now. But those who are authorities on dietetics obtained their knowledge outside the walls of the medical college.

Here is a statement from the *Journal of the American Medical Association* by Dr. Boardman Reid, who has given con-

siderable attention to dietetics; and I happen to know that practically all he knows of the subject he obtained after graduation:—

"The diet in most chronic affections is a factor of the greatest consequence. A more thorough study of dietetics would immensely improve the therapeutics of the average practitioner of whatever school or system.

"The modern exact methods in the diagnosis and treatment of gastro-enteric affections should receive more attention in our medical colleges. If every practitioner were required to master them, or not having done so, would seek help from specialists in that line, not only in his frankly stubborn abdominal cases, but also in countless other obscure affections, he would very often be helped sooner to find the key that would solve the difficulty and obviate a harmful prolonged dependence on hypnotics or other inappropriate drugs."

The subjects that he rightly says physicians should be required to master, he mastered after he left college. It is true the colleges are doing better along this line, and that gradually we are coming to treat disease rationally, and to teach rationally the treatment of disease.

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#### Fresh Air Preventive of Tuberculosis

DR. L. D. FIELD, in the *Medical Summary*, gives the following suggestions regarding the prevention of tuberculosis, which, if heeded, would doubtless do much to lessen the incidence of this disease:—

"Those who are in easy circumstances, and those who follow sedentary employment, especially indoors, use their lungs but little, breathe but little pure air, and thus, independently of positions, contract a wretchedly small chest, and lay the foundation for loss of health and strength. All this can be obviated by a little attention to the manner of breathing. The lungs can be expanded to double their size or capacity with perfect safety, and thereby give a splendid chest, and give immunity to so much lung disease. The agent to banish this dread scourge of tuberculosis is the pure air we should breathe. It is the only sure preventive required. There should be no obstacle external to the chest to impede the free inspiration of plenty of pure air. On arising in the morning, place yourself in an erect posture, with your head thrown back, and your shoulders brought together as near as possible, then inhale as much air as the lungs can possibly hold, hold it awhile, and keep up such practise for some time. Do this every morning."

Of course we know that there are many factors in the production of tuber-

culosis. Bad housing, impure air, insufficient food, and a number of others contribute to this result. The simple use of this breathing method, with no other, doubtless would not be so efficient in the prevention of tuberculosis as if it were used in connection with other rational preventive methods. On the other hand, one living an outdoor life is not obtaining the greatest possible benefit, provided he breathes shallow and uses only a small portion of the lungs.

It has been known for some time that those portions of the lungs that have the least motion, are the first and most frequent to be attacked by the tubercle bacillus. Undoubtedly if we all utilized the entire lung so as to keep every part thoroughly flushed with fresh blood, there would be very much less tuberculosis.

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#### Typhoid Versus Flying-Machine

WILBUR WRIGHT escaped the dangers of aerial navigation, to be taken years before his time by — typhoid! The editor of the *Boston Medical and Surgical Journal* thinks, and perhaps rightly, that the foresight that avoided an accident in flight might have avoided the accidental typhoid infection. To quote:—

“Wilbur Wright survived the professional risks of the occupation by judicious employ-

ment of the wise discretion which is the better part of all courage. It is unfortunate that he should not equally have adopted a safeguarding precaution which modern medical science has placed within the reach of all.”

The reference is to the use of anti-typhoid inoculation, which has proved to be harmless, and an absolute protective against typhoid fever in a large percentage of cases.

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#### Menthol Gone Bad

MENTHOL has long been a popular household remedy in this country, but especially in France. Recently Dr. Leroux has shown in a convincing manner, by the citation of case after case, that the remedy is dangerous. He condemns its use with children under three, advises its most cautious use up to the age of seven, and considers it unsafe to use at any age in stronger concentration than one per cent. The Paris correspondent of the *Boston Medical and Surgical Journal*, who gives this information, makes the following comment:—

“The downfall of such a popular household remedy as menthol will make me more circumspect than ever in my therapeutics. How, after this, can we be sure lest danger be lurking in things apparently the safest?”

And yet people will eagerly take anything that comes in a bottle, even though it be put up by a concern whose only aim is to amass wealth.



# THE MINISTRY OF HEALING



## THE WASHINGTON DISPENSARY

Mrs. J. L. McElhany

**T**HE city of Washington is one of the most beautiful cities in the world. By some it is considered the most beautiful. The wide streets, bordered on either side with stately trees, the broad avenues in front of palatial homes, all give one the impression that he is in a beautiful park rather than a city. Many do not know that there is anything in this fair city to mar its beauty; but on taking a street-car and riding but a few minutes down Four-and-a-half Street, one is led to exclaim, "What a change! What wretchedness!" for instead of the well-built houses seen a few moments before, there are the tenement-houses, so crowded together as to make living in them seem worse than a prison. It is mockery to call them homes. A description of the interior of one of these places of abode will suffice for all.

A knock at the door brings the response, "Come in," and we enter. At first it is so dark that we have to feel our way along until our eyes grow accustomed to the dim light, and slowly different objects in the room open before our vision. In the corner of the front part of the room is a bed covered with ragged, old-fashioned pieced quilts. A broken chair or two, some boxes, the remains of some cheap pictures on the wall, are about all there is in this part of the room. In the back part the dim light from one very small window shows us a stove, a table, and another bed. The few cooking utensils and clothing hang on the wall. There is no means of ventilation except through the door and small window, which are invariably closed.

After standing a moment waiting to see more distinctly, we can see the form of an aged person sitting in a chair, and soon notice that she is blind. Another elderly woman is cooking the evening meal. A slight cough from the corner of the room where the bed is, attracts our attention, and there we see a little child wrapped warmly in bundles of rags. The little helpless thing is burning with fever. The room is foul with odors, and very warm from a fire in the stove, and yet the child is kept swaddled in warm rags. On examination, he is found to have pneumonia. Here in this one small, unventilated room, so small that there is scarcely room to get around between the articles of furniture, live a family of five. This is only one of many such places. Some are even more repellent than the one described.

In Christ's ministry upon earth we find him always working and walking among the needy and suffering. Day by day he might have been seen entering just such abodes of want and sorrow as the one described above; and wherever he went, he carried blessing. He did this that he might leave us an example, that we "should follow his steps."

It was because of the great need of the people in this part of Washington, and the desire to walk in the Master's footsteps, that a dispensary was opened on Four-and-a-half Street. This is not an ordinary dispensary; for those who work in connection with it are filled with a yearning love for all those who come to them for help. Not alone do they desire to minister to their physical needs; but they also seek to point them to the

Great Physician and their need of finding comfort in his love.

Physicians are in attendance at the dispensary every day from 1 to 2:30 P. M., to give attention to those who are in need of special help. The dispensary is open all the time, with competent nurses in charge. In addition to this, there are two graduate nurses who visit the homes, give treatments, and minister to the needs of those who are unable to go to the dispensary. These nurses, as they go about the streets in their uniforms, are looked upon by all in that district as friends and comfort-bearers. In many homes, where they have brought peace, comfort, and relief, they are welcomed with delight. Often they are called out in the night to render aid that should be given by a physician, but which must be given before a physician can arrive. In this way they have saved the lives of their patients. These nurses are out all day ministering to the needy and suffering.

It is most interesting to see the room fill with patients at the hour when the physicians are present. As many as twenty-eight patients have been examined and treated during the hour and a half. One after another they file into the office where they are prepared by the nurses for examination. A little boy comes in to be vaccinated, his face blanched with fear over the ordeal.

While the vaccination is being performed, a nurse kindly attracts his attention by questioning about the little things a child likes to tell, and when it is over, he says it did not hurt him at all. Another child is found to have a number of ringworms. One woman has a severe sore throat. Some need treatments that

can be given in the office, others are found to be in such a condition that they must return home and remain in bed, and the visiting nurses will go to them and care for them in their homes. Some with most loathsome diseases come in the hope of getting relief. All are treated with gentle, Christlike kindness. Remarkable cures have been made, with the result that the people are filled with confidence in the work there, and with love for the workers, and many are so grateful that they try to manifest their gratitude in different ways. No one who



BABY BORN IN ALLEY, AND SAVED BY DISPENSARY

visits the dispensary can doubt that true love for suffering humanity, self-sacrifice, and Christlike devotion exist there among the workers in a marked degree.

The good that can be accomplished by the medical missionary is inestimable. One of the special functions of this dispensary is to assist in training medical missionaries for other needy fields. Already some of these workers are under appointment for South America, India, and other lands.

*Takoma Park, D. C.*

# THE MEDICAL MISSIONARY AT WORK



## AMONG THE INDIANS IN PERU

F. A. Stahl

[In appealing for help among the Indians at Puno, Peru, Brother F. A. Stahl, our missionary among them, gives us a little insight into some of the every-day experiences which are sure to come, and which must be reckoned with in undertaking work among these neglected people in the wilds of the mountains. His letter was delayed, having been written the latter part of September, 1911.—Ed.]

**W**E have been here now more than two months. The people come to us in crowds, and needy ones they are. We treat them, hold meetings with them, and go to their homes and help them there. But many a time the case is a helpless one, nothing can be done, as in the case of black smallpox. In such cases we smooth the brow of the sick one, perhaps wash it with cool water, fix up the bed the best we can, then call the family together, and with the hand of the sick one in ours, pray for them and talk kindly to them. This has never failed to make friends.

It is a blessed work. One does not feel tired until the day is over. But we need help, for there are other needy districts. It is a fight of faith. It would be difficult to exaggerate the hardships. The climate is bleak and dreary; there are no trees, and very little vegetation; the winds are cold; and when it rains, which it does quite often without any warning, the rain is accompanied by a fierce wind, so that when it strikes the face it feels like hail. The food is of the very plainest.

Another trial to the foreigner is the louse, a very small insect which causes much inconvenience. The Indian's skin is much tougher than the white man's, and he does not seem to mind this little insect so much; but on us the lice leave a track of fire. One is never without them, no matter how often his clothes are changed. If a person is going to mingle with the people, as he must to reach

them, this is one of the things he has to contend with. Perhaps in time we shall find something that will serve to keep them off us.

We can not keep the people out of our house altogether, as they feel that we belong to them; nor do we wish to. It does us good to have them come to us. When we have a few more rooms, their coming will not inconvenience us so much. As it is now, we are living in one room. And one must not complain when the dinner is not ready, as a woman's work here is with the people also. This, too, may be changed for the better when we are able to train some of our good people to help in this work. But just now these things must be met as they are.

I am not writing this to complain, but because I believe that any workers who are sent here ought to be told that there are real hardships to meet, and that there is nothing romantic about the work. On the other hand, blessings are in store for the faithful missionary, who rejoices to see God's guiding hand, and his protection manifest in many ways. He sees the people turn to the true God. He hears their words of prayer and praise to God. The blessings are far more than the hardships; but one must look for them and acknowledge them. Even some of the hardships have good in them. I have come to the place where I look for the good.

Our first testimony meeting here was a blessed experience. Many arose and

told how thankful they were that they were healed. One man who is more than ninety years of age took off his hat (as the meetings are held in the open air, I ask them to keep their hats on during the speaking, but to uncover their heads when prayer is offered), and lifting up his face said, "I thank the God of heaven and earth for the hope in the great beyond. I thank him for what my ears have heard about his Word. Blessed be his name! My days are few upon this earth, but I have a joy in my heart of meeting you in the new earth." To see that face so expressive of thankfulness was worth a great deal.

The following week we held our first prayer-meeting. There was a large attendance, and we had a good meeting. Voices trembled as they prayed for the first time in public. I explained how prayer is the "key to unlock Heaven's storehouse." Now they ask me, "Will this be every week?" and when I tell them, "Yes," they are happy. We have singing on Sunday night, and prayer-meeting on Wednesday. These serve to hold the people together. The Lord willing, we shall hold our first quarterly meeting in October. We are looking for a blessed time.

Our Sabbath meetings are smaller on account of the persecution; but this will not always continue. We may have some trouble with the authorities soon, but God will give us the victory, I feel sure. They say that we are against the religion of the country, and that we are breaking the law, and they tell the people so. But I tell them that we are not breaking the law of Peru; that Peru is a good country, and I think a just one; that as for the religion that is taught, the teachers are not teaching the religion as I feel sure Peru would wish it, if it were understood. In the first place, I tell them we are teaching what the Catholic Bible says (I always have one with me). Then I ask them, "Do you know that Jesus is coming to this earth again, and that

soon, in our time; and that the great day of God is at hand?" They, of course, say, "No, we do not." And without exception they become much interested. "Why," I ask, "have not your teachers, your shepherds, told you of this? Do you want the Saviour to come and find you unprepared for this great event?" I let it be known that we are calling the attention of the people to the great truths of God's Word, which the present teachers are failing to do, and that they ought to be thankful for being enlightened as to their awful peril; that we are not against any one, only God would deal hard with us if we did not try to help our brothers, and that we should be glad to have the priests teach the people these things that they claim to know. You can readily see that we have the best of it all the way, and I believe God will help us to give the message to this people.

I have been careful not to mix in the political affairs of the country. In towns and villages traps have been set, but I have always said that I was too busy taking care of the sick, and that as I was a stranger in the country, I knew very little about these things; that I was here to help all, and could not take sides.

I have been hit with stones; but I am sure those who threw them did not know any better. I was starting out to attend a sick man, one of the best men of a certain village, and as I mounted my mule, I was hit.

People were waiting for me, but I did not run. I told them that they surely ought to be ashamed of themselves to do thus when I was there to do them good, and went in answer to a call of sickness. I feel sure that some do regret it; for people from that very village have come to me away out here for medicine. Just think! no medical help within miles for these people!

We had a very large gathering to-day. But I must close. We thank you for your prayers in our behalf.

## QUESTIONS



## ANSWERS

THE editor can not treat patients by mail. Those who are seriously ill need the services of a physician to make a personal examination and watch the progress of the case. But he will, in reply to questions sent in by subscribers, give promptly by mail brief general directions or state healthful principles on the following conditions:—

1. That questions are *written on a separate sheet* addressed to the editor, and not mixed in with business matters.
2. That they are *legible and to the point*.
3. That the request is *accompanied by return postage*.

In sending in questions, please state that you are a subscriber, or a regular purchaser from one of our agents; or if you are not, accompany your queries with the price of a subscription to LIFE AND HEALTH. This service is not extended to those who are not regular readers.

Such questions as are of general interest will, after being answered by mail, also be answered in this department.

**Indigestion.**—"As a result of eating the wrong kinds of food, when I get a cold my complexion changes, my eyes become yellow, and I become depressed and weak; and if I take a purgative, the yellowness in my eyes increases. Hygienic treatment has not seemed to relieve my trouble thus far. I have taken more or less purgatives with very little effect. Nuts disagree with me. Kindly direct as to my diet and treatment, and give me information regarding the use of buttermilk."

In the first place, I would suggest that you would better be under the care of a physician who understands your case. As a temporary expedient, I would suggest the following:—

Instead of using purgatives, take a glass of water each morning, in which you have put a handful of bran. Drink very freely of water, with a little lemon-juice in it if you like, but preferably without sugar. Take more exercise, especially such as will bring your trunk muscles into action, as for instance, a daily horse-back ride, or a boat ride, in which you use oars or paddle. If you can not do this, spend ten or fifteen minutes each morning in taking breathing exercises, with side bending and side twisting. Bend slowly, first to the right and then to the left, just as far as you can make your body go; then standing with the feet square on the floor with arms outstretched, twist first to the right and then to the left as far as you can. Repeat this about ten times. Then standing on the floor with hands to the sides, raise the hands square over the head, rise on tiptoes and bend forward until the fingers touch the floor, or come as near to it as you can, without bending the knees; then rise to the erect position, and repeat this several times. During these exercises you should practise deep breathing. Wear a cold girdle at night as described in this issue by Dr. Abbott.

It would be difficult to give any directions regarding sour milk or buttermilk, as there are so many different varieties. Of these preparations none perhaps, in America, have the regular Bulgarian germ, yet some of them

have a good effect in certain cases. All I can suggest to you is to try various preparations until you find one that agrees with you.

**Worms.**—"My little girl of five recently passed a long white worm. Is it likely there are more? Ought I to give her worm medicine, or is there other treatment? I thought these were caused by too much sugar and sweets of various kinds, but she has never had candy, cake, etc., except on a few rare occasions, and scarcely any sugar."

There is every possibility that there are more worms of the same kind, and she ought to have proper treatment. I would not trust to any proprietary or patent medicine, but put her into the hands of a conscientious physician who will doubtless give her *santonin*, the substance that is most effective with this worm.

A substance that will poison worms is apt to be not altogether harmless to a child, and it is not safe to take the advertised remedies; the child should be in charge of a conscientious physician who will take the necessary precautions.

Worms are not caused by sugar and sweets. A worm can come into existence only from some other worm; in other words, it is a case of infection. All the sugars and sweets in the world would not produce worms.

I take it that what you found was one of the roundworms, something like an angle-worm, only larger. If it was a tapeworm, you probably recovered only one part of the body, the head remaining to produce more body. This would require a treatment quite different from that which is effective for the roundworm.

**Hives.**—"Please explain to me what condition leads to the skin eruption called hives. Is it due to an excess of uric acid in the system?"

Hives, so far as I know, are usually caused by the use of some food, such, for instance, as strawberries. An individual will have what doctors call an "idiosyncrasy" for a certain kind of food, and that particular kind of food

will cause that particular person to have hives (or some other disturbance), where perhaps ninety-nine persons out of one hundred would not be so affected. It is my impression that usually the food that causes hives is acid in reaction, but I am doubtful as to whether uric acid has anything to do with it.

**Injuriousness of Drugs.**—"Is a formula consisting of iodid of potash, bloodroot, and gentian root, in small doses, injurious to heart or kidneys?"

I do not know that a small quantity of the prescription you have described would injure either the heart or the kidneys. However, the habitual use of this substance, it seems to me, would not be advisable, unless there is some condition that is more harmful to the system than iodid would be, which could be remedied only by this means.

Any remedy that is strong enough to have a medicinal effect on the body is always capable of leaving some injurious effects, and it is a question as to whether this injury will be lesser or greater than the disease we are attempting to combat.

**Pain in Ears.**—"Please inform me as to what I should do for slight but annoying pain in both my ears that comes on occasionally. I have been very careful in my diet, eating no flesh, fish, fowl, nor fried food, nor anything cooked in milk.

I have no idea whatever that your diet has anything to do with the pain in your ears; that is, that the pain would be any less if you lived entirely on cracked wheat, or any more if you ate chicken. The first thing you ought to do is to consult an ear specialist and see if there is any local difficulty in the ear. There may be something there that should have immediate attention. I doubt if it is anything that any difference in living would make any change in, for you certainly have attempted to live a hygienic life.

I suppose, owing to the fact that you have to live in hotels, that you are compelled to eat things that you would not choose if you were in your own home, yet I hardly think that this would account for your ear trouble. I am more inclined to think that it is a local trouble, and subject only to local treatment, which would have to be determined after a careful examination.

**Sour-Milk Tablets.**—"In the May number I note what you say about the sour-milk tablets in America not being good. I have seen the — tablets highly recommended; are they not good? Would a person suffering with autointoxication not derive benefit from them?"

I think the tablets you mention are not all that has been claimed for them. A young man

who at one time had the marketing of these tablets told me himself that because the tablets did not have a sour taste he had treated them with commercial lactic acid. There would be no surer way of killing all the lactic acid germs in the tablets than this. There is every evidence that the methods used in preparing the tablets does not in any way preserve the pure culture of the real Metchnikoff lactic acid germ. In fact, Professor Metchnikoff has very earnestly protested against all statements by American manufacturers that they have the germ that he recommends.

I would not say that these tablets would not do good in some cases, but I am inclined to think that they have been exploited, just as have patent medicines, in a way that was not at all warranted.

**Can I Become Taller?**—"Am nineteen years old, and am only five feet five inches high and weigh one hundred forty-five pounds. Could you suggest something that would increase my height?"

I am not certain of any effective way of increasing the height. There is a cartilage company that does a great deal of advertising, and that offers many testimonials from those whose height has been increased one, one and one-half, and two inches, etc. Its method of working I understand is to increase the cartilage space in the spine, that is, the spaces between the vertebræ, by means of stretching. I have not examined carefully into this, but I have noticed that all their testimonials are from persons who have been taking the treatment only a short time, and I imagine that perhaps their method gives temporary results of a most surprising nature. I doubt very much if the results would be found permanent. I know of no way to increase the length of the bones of the leg.

After all, is not this query an example of frequent observation that the world is divided into two classes—the fat people who are trying to get lean, and the lean people who are trying to get fat? If God created the greyhound thin, should he not be contented to be a greyhound and to be the best possible greyhound? A fat greyhound would be an absurdity. Should not the person who has red hair be proud of it instead of dyeing it and trying to make it some other color? Is not the attempt to alter natural conditions that do not cause ill health an effort to change the plans of the Creator?

Regarding your weight, so long as this is within normal limits and does not tend to interfere with your health, it seems to me that you would do better not to attempt to change it. Of course, you will exercise freely and eat abstemiously, and yet not so abstemiously as to deprive the system of its proper nutrition.



# SOME NEW BOOKS

**The Principles of Heredity**, with some applications, by G. Archdall Reid, M. B., F. R. S. E. Published by Chapman & Hall, Ltd., London.

This is an interesting book in many ways. The author accepts the Mendelian theory of heredity, and shows, by the action of disease on the human race, that the race develops by the transmission of spontaneous variations, those who are best adapted to their surroundings, surviving and transmitting their qualities to their offspring. He shows how, for instance, tuberculosis has, after generations of contact, produced a race not more susceptible but less susceptible to the disease. The races most susceptible to tuberculosis are those, like the Indians, whose ancestors have never come in contact with the disease. Measles, which in civilized communities is a comparatively mild disease, is a devastating plague when first introduced among savages.

The chapter on "Bacteria as Empire Builders" develops a line of thought that is particularly interesting, inasmuch as it forms the basis for a prophecy as to the future course of nations.

He finds, however, that bacteria are not the only selective agents, which, by killing off the unfit, improve the race. He sees in the narcotics, and particularly in alcohol, another agency, which, like the hardy old fathers who, in order to insure a more vigorous posterity, killed off all their puny children, is constantly making a vigorous selection, and running the weaker or more susceptible family lines to the ground.

Dr. Reid, therefore, is rather a friend to alcohol. Presumably he and his friends can imbibe without fear of evil consequences, but the man of less fortunate lineage, in imbibing so degenerates his stock that his line is extinguished in a few generations at most. If we catch the reasoning of the learned doctor, we must conclude that it is the duty of the neuropath and the psychopath to use alcohol in order that his line may be obliterated. It would also seem to be the duty of the more fortunate man to indulge lest, perchance, there might be in him some latent taint that should be smitten by alcohol!

No doubt the doctor's brilliant argument is hailed with delight by the class who enjoy this form of indulgence, and by that other class who derive their revenue by catering to the weaknesses of the race.

In these days when alcohol is receiving from the experimental laboratory one knock-out blow after another, it needs some one to champion its cause, if even on the theory that it is useful as a weeder-out of the unfit.

Though he believes that alcohol, like bacteria, improves the race, he recognizes that it is a

very destructive force with the individual. He quotes the figures of the registrar-general of England, who announces that (26/100 of 1%) .26% of the total deaths of England are caused by alcohol, and continues: "But in this particular his returns are worthless. For very obvious reasons 'alcoholism' is very seldom introduced into a British death certificate. Physicians generally prefer to mention the immediate cause of death—cirrhosis of the liver or kidney, or disease of the nervous or vascular system, or what not." He finds in Switzerland, where the death certificate is a secret official document, handed not to the family but to the registrar, the percentage of deaths *directly* due to alcohol is 2.47, nearly ten times as much as in England. Then with deaths due indirectly to alcohol the official record of Switzerland announces a total of 10%. Dr. Reid says in comment: "Even 10% hardly conveys an adequate idea of the truth. In many cases when death is accelerated by alcohol the medical attendant can have no suspicion of the fact. It is notorious that indulgence in alcohol weakens the general powers of resisting disease and injury. The statistics of insurance and friendly societies clearly demonstrate that abstainers on the average live longer than non-abstainers." And much more he gives in proof of the ravages of alcohol. It is from the very fact that it has such a deadening influence on the individual that Dr. Reid believes it acts as an improver of the race.

**Rand, McNally & Co.'s Indexed County and Township Pocket Map.** Rand, McNally & Co., Chicago and New York.

This series of pocket maps, complete and up to date, most of them indexed, are excellent for the traveler. We have before us the map of Maryland and Delaware showing everything regarding railway, express, mail, population, and other useful detail. Price, 25c.

**Beauty of the Highest Type;** a scientific and artistic aim for a nobler beauty, by Caroline Williams Le Favre. 18mo. Prices, cloth, \$1; leatherette, 50 cents. The Health Culture Company, New York, and Passaic, N. J.

The title gives the author's purpose. Fifty cents for the cloth would have been more in keeping.

**A Captain Unafraid**, as set down by Horace Smith. Illustrated, Harper & Brothers, New York and London.

A tale of filibustering by Captain "Dynamite Johnny" O'Brien, the man who carried arms to struggling patriots everywhere. It is the type of book that hardly comes within our field of review.



**Professional Visit by Aeroplane.**—A doctor of Hammondsport, N. Y., called to attend an emergency case across Keuka Lake, made the trip in an aeroplane, perhaps the first case of professional visiting by this means.

**London Death-Rate.**—As the result of better sanitation, the death-rate in London has decreased 10% in six years, which means a saving of 28,000 lives each year, not a very small item by the way. The question is suggested, Does public health work pay, or should we have more "liberty" and abolish all health boards?

**No Public Drinking-Cups in Kentucky.**—Kentucky has been added to the States that have forbidden the use of the public drinking-cup. This is commendable, but what about the glasses at the soda-fountains, which get only a pretense of rinsing between drinks? One, of course, avoids part of the danger in such case by the use of the convenient straw.

**Pellagra and Spoiled Corn.**—There is a Georgia doctor who reports a family of ten, all of whom have pellagra. He says, "The specimen of corn-meal used was examined and found to be unfit for human consumption. The patients said that on several occasions the meal bought was so moldy that they fed it to the stock. Corn in all its forms was prohibited to these persons, intestinal antiseptics were prescribed, and at present all are doing nicely."

**Avoid the Mosquito.**—It should be remembered that the mosquito breeds in water, and does not need the ocean for this purpose. An empty can, a rain barrel, a gutter in a roof, a hole in the ground, or sink-hole out in the lot, may furnish a breeding-place for great numbers. Or, they may be found in water-pitchers, flower vases, fire-buckets, etc. If there are mosquitoes, look carefully to every bit of standing water. Remember that the mosquito can hatch in about a week.

**A New Law to Isolate Consumptives.**—New Jersey consumptives will hereafter be placed in hospitals at State expense if they do not take precautions to prevent the spread of the disease. According to law, all patients who, because of carelessness, are a menace to others, will be likely to be committed to a tuberculosis institution. Each county is required to maintain such an institution, and the State will pay a certain proportion of the expense of the up-keep. This is the first attempt to carry out the recommendation of the National Association for the Prevention of Tuberculosis, that dangerous consumptives should be segregated by law.

**Loss From Hookworm Disease.**—The pecuniary loss as the result of this one disease is very great, many of the victims being unable to do more than one quarter of a man's work. In many of the mines, the general efficiency of the whole crew is lessened 20% by the disease, and mine owners are learning that it is to their interest to cooperate with the authorities to stamp out the disease. With our increasing immigration and our closer relationship with tropical countries, the problem of hookworm disease becomes of more and more importance.

**Insurance and Liquor.**—An Industrial Insurance man gives the following: "Muncie a city of about 35,000 was dry for a number of years. Our company placed many policies, payments of which were met promptly and cheerfully. Last year the city voted wet, and since then our collectors have had the greatest difficulty in collecting payments. In fact, delinquent payments and lapsed policies are now the rule instead of the exception." The fact is, money is much more scarce with the laboring person when there is a convenient saloon to use up his surplus earnings.

**The International Congress.**—At the time of the International Congress on Hygiene (to meet in Washington, D. C., in September), there will be meetings of the American Public Health Association, itself international, and the New England Water Works Association, the American Statistical Association, and the Conference of State and Provincial Boards of Health. There will also be strong delegations present from the Association for the Study and Prevention of Tuberculosis, the American School Hygiene Association, the Federation for Sex Hygiene, the Society of Mental Hygiene, and others.

**Subcutaneous Oleaginous Alimentation.**—Do not become frightened at the name. What it means in plain English, is the feeding of oil to patients by injection under the skin. According to the *Archives of Internal Medicine*, 1911, VII, 694, it has been found feasible in cases of wasting diseases where there is intolerance of fat by the mouth, as is almost universally the case in tuberculosis, to administer fats and oils, such as olive, peanut, coconut, cottonseed, and unsalted butter fat, made into an emulsion with 3% to 5% egg lecithin and water, hypodermically for a considerable time without local irritation, provided the work is done antiseptically and care is taken to avoid injection into the blood stream. During starvation, an amount of fat sufficient to equal about two thirds of the required calories, may be thus dissolved and assimilated.

**Cancer Studies.**—The Columbia University press has just undertaken the publication of an important new series of publications entitled "Studies in Cancer and Allied Subjects," which will contain the results of researches conducted at Columbia University under the George Crocker Special Research Fund, and will form a valuable contribution to the knowledge of cancer and similar diseases. Volume II, the first number to appear, has just been published, and contains the results of experiments on cancer conducted by the Department of Pathology of the College of Physicians and Surgeons, Columbia University. Three other volumes are now in press, and will be issued in the fall.

**Increasing the Iron in Plants.**—Experiments are being performed in Vienna, Austria, to increase the quantity of iron contained in certain food plants, for the reason that the human system assimilates iron from plants much better than it does from inorganic compounds. If plants can be made to take up an increased quantity of iron during their growth, thus bringing the iron into organic combination, such plant-foods will have a greatly increased value for persons having certain types of anemia. Among the plants we now have which are rich in iron are spinach and strawberries. By the addition of iron hydrate to the soil, it is believed that such iron-bearing plants can be made to take up a greatly increased quantity.

**Hookworm a World Disease.**—Investigation has shown that hookworm belts the globe in a belt 4,000 miles wide, both sides of the equator, but slightly more to the north. Practically all countries within this belt are affected. In Wales, Germany, Holland, Belgium, France, and Spain, the disease is confined to the mines. In forty-six other countries the disease is general. The population represented in the affected States in this country is about 20,000,000.

**Baldness.**—A writer in the *Medical Record* says that idiopathic baldness is usually permanent and without relief. He suggests, however, the following: Frequent washing of the scalp with green soap or tar, resorcin, naphthol, or sulphur soap, and the application of stimulating substances, such as chloral hydrate, tincture of jaborandi, spirits of rosemary, cantharides (in the form of tincture, guardedly), tar oils (cade, birch, pine, etc.), castor-oil, croton-oil (in minute quantity), alcohol, and chloroform. He suggests the use of intelligence, which, by the way, seems to be a pretty good thing to use any time. Oily substances should be used when the scalp and hair are dry; dry preparations when the hair and scalp are greasy. To make combs antiseptic, he uses resorcin, 2% to 5%; lactic acid, 2% to 5%; salicylic acid, 2% to 5%; mercuric-chlorid, 1-1,000, carbolic acid, under 2%. Each of these substances also has a stimulating effect.

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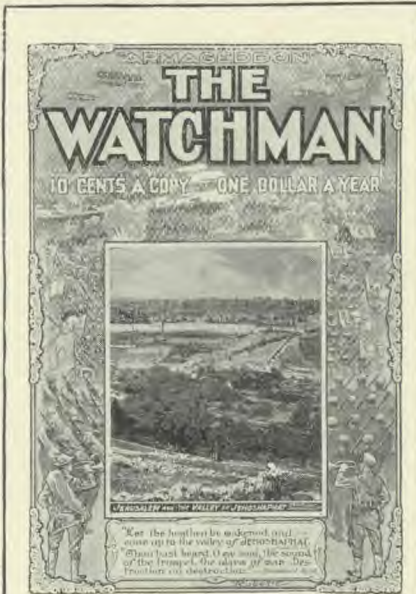
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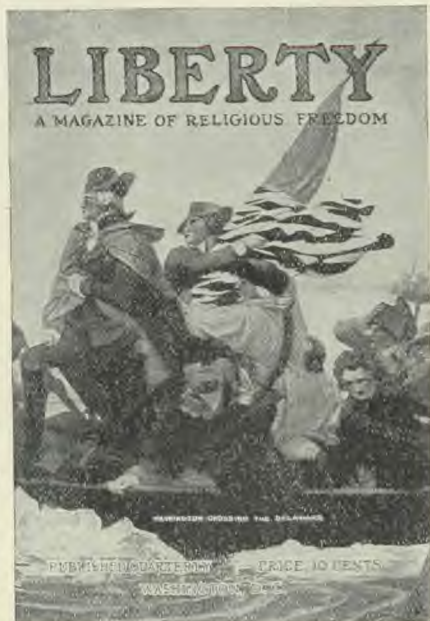
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