Life & Health

/ASHINGTON, D. C.

FIFTEEN CENTS A COPY

"The atmosphere breathes rest and comfort, and the many chambers seem full of welcomes." LONGFELLOW.

Come!

COME out to California—out where the skies are a trifle bluer—out where the sun is a little brighter—out where a fresher breeze is blowing—out where you can rub elbows with Nature and revel in the great outdoors.

Come!—break up the monotony—get away from the toil and moil of city life—cut loose from the daily grind—leave workaday responsibilities far behind—and dedicate a few weeks to health-building. *It pays!*

Once a year, at least, the body should be given a chance to catch up—to recuperate. Tired muscles and fagged-out nerves should be relaxed. Pleasant recreation should take the place of nervous tension.

And this rest period should be more than an aimless absence from daily routine. It should be a period of actual body-building.

The value of several weeks of healthful living under such ideal conditions can hardly be overestimated. The natural results are sound, refreshing sleep—good digestion—a clear head—increased energy—and a sense of zest and buoyancy that makes life worth while.

It is a treat to see the outdoor life work its charm. Men and women with the pallor that comes with fatigue and indoor air, become ruddy, clear-skinned and healthy.

Come to one of these places, then, for your "rest-vacation". For here a quiet, restful atmosphere prevails. Here you get all the pleasant diversion of a resort, with none of the health-defeating distractions.

WHY spend your "rest-vacation" in California? A natural question and an ample answer—if you'll send for our illustrated literature. Today is the day to do it.

The Loma Linda Sanitarium
301 Pepper Drive, Loma Linda, Cal.

The Glendale Sanitarium
201 Broadway, Glendale, Cal.

The Paradise Valley Sanitarium
101 Sanitarium Ave., National City, Cal.

Life & Health

PUBLISHED MONTHLY BY THE

REVIEW AND HERALD PUBLISHING ASSN., TAKOMA PARK, WASHINGTON, D. C.

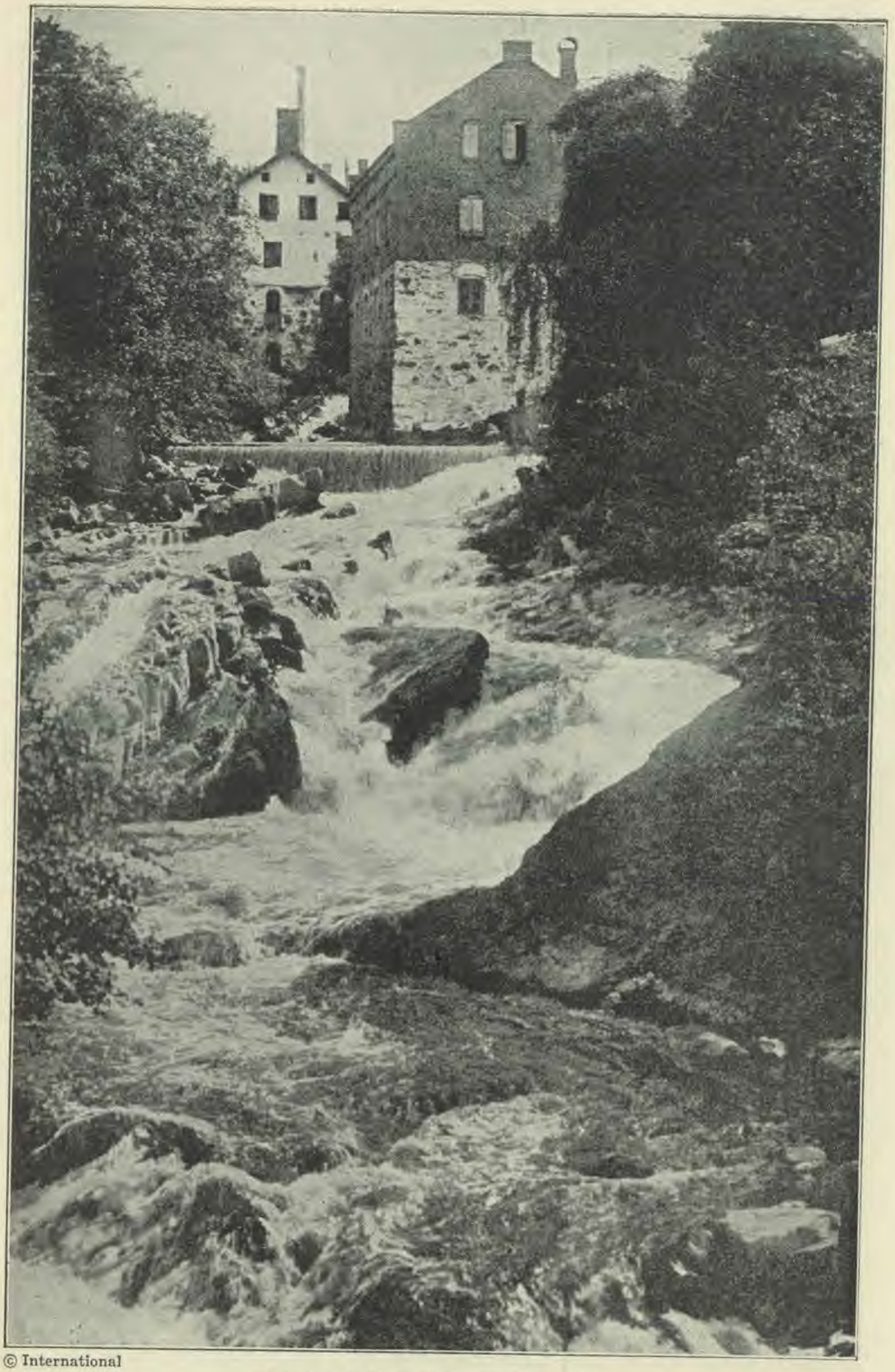
Entered as second-class matter June 24, 1904, at the Post Office at Washington, D. C., under the Act of Congress of March 3, 1879

Acceptance for mailing at special rate of postage provided for in Sec. 1103, Act of Oct. 3, 1917, authorized on June 22, 1918.

VOL. 35 JANUARY, 1920 NO. 1

CONTENTS OF THIS ISSUE

SUBSCRIPTION RATES.— One year, $1; six months, 60 cents. Remit by Post Office Money Order (payable at Washington, D. C., post office), Express Order, or Draft on New York. Cash should be sent in Registered Letter. When a change of address is desired, both old and new addresses must be given. No extra charge to foreign countries.



IN THE LAND OF THE MIDNIGHT SUN

Factories built along the river, where electric energy is plentiful

Life & Health

HOW TO LIVE

EDITORS

L. A. HANSEN G. H. HEALD, M. D.

VOL. 35 JANUARY, 1920 No. 1

EDITORIAL

Making Good on Your New Year Resolutions

THIS is the time of the year when many of us give ourselves a sort of moral overhauling, noting wherein we have come short the past year and deciding we will do better the coming year. Men vow to quit smoking, drinking, and swearing. They resolve to improve in their home conduct, to overcome the bad temper, and to treat the wife and children better. Women resolve to be more patient and to stop scolding and nagging.

It is an old newspaper joke that New Year resolutions do not last long. Probably we ourselves have seen a number of perfectly good New Year resolutions go to smash in a little while. Be that as it may, it is not a bad thing to decide to do that which is good, and it is a good thing to stop doing the bad.

Some of our resolutions do not stand long because they do not go deep enough. Take, for instance, a resolution to be more patient, and not speak hastily and sharply, or do the other things that result from impatience. We are merely dealing with the branch and leaves, as it were, when we try to put away these and do not go to the root of the trouble and remove the cause.

Impatience is closely related to intemperance. Nervousness is not a mere trait of character, but is a physical condition. Our habits of living have a great deal to do with what we are. The way we eat, drink, breathe, work, and sleep has a marked effect on our behavior.

Health and Morals

While physical wholeness is no guaranty of moral uprightness or spiritual perfection, physical and moral health are closely related. A diseased body affects the brain. It is with the mind that we discern between right and wrong

and make our decisions for good. The inner life is controlled for good by the higher impulses sent via the brain and nerves. Anything that disturbs the nervous system affects the life and its expressions.

A morbid state of health cannot give a normal state of spirits. Beclouded faculties cannot give forth bright rays of joy and cheer that go to make up the sunshine of life so much needed everywhere. Indulgence of depraved appetite, excessive labor, and late hours of dissipation do a big part toward breaking down moral energies. With enfeebled physical, mental, and moral powers, keen discrimination between right and wrong becomes more difficult.

Dyspepsia has a good deal to do with wrecking family peace. Bad cooking causes a large share of blame for domestic troubles. A bad table is productive of bad dispositions. Foods that are hot with spice are very likely to make hot heads. An irritable temper comes easy with a stomach irritated by strong condiments.

Some men have failed to overcome the drink habit because the appetite for liquor was fostered at the family table. So, too, has many a young person gone impetuously into wrong because the home living had not taught him self-control. One's living and life are synonymous.

We must not forget that our own resolutions are about as strong as ropes of sand if we base them upon what we are able to do in our own strength. One that is already overcome cannot well overcome that which holds him. But we can put our wills on the right side, and a power mightier than any other becomes ours. We need clear minds to sense our need of this help and to know how to make use of it. So again, we see the close relation of physical to spiritual living.

Make your good resolutions. But if you want to "make good" on them, go to the bottom. Remove every hindrance. Make use of every help. Don't forget that little foxes spoil the vines, and that some things we may think of as being small may have much to do with shaping great things. L. A. H.

TWISTED PROVERBS

A man never suffers too much health.
Better do it now than later wish you had.
A man without reason has oft a sick season.
A wasteful wife and her back door will surely make a rich man poor.
A great feast is a bed full of troubles.
A handful of good health is better than a bushel of poor learning.
A man without health is like a tree without sap.
A treatment in time saves nine.
Better go to bed supperless than rise in distress.
A clean tongue shows a wise eater.
He that lives fast will not live long.
A decayed tooth infects the whole system.

L. A. H.

A Health Resolution

WHEREAS, The fullest enjoyment of life and its largest usefulness are impossible without health of body, and recognizing that I owe it to myself, to my friends, and to my family, to keep myself in as good physical condition as possible, thus sparing myself needless suffering and loss and saving others from unnecessary labor, expense, and anxiety; and,

WHEREAS, I am not my own, but belong to God by right of creation and redemption, which right includes my whole being, and should therefore glorify God in my body and spirit which are his, rendering to him and to my fellow men the best possible service; and,

WHEREAS, My own health is largely dependent upon my own relation to the laws of health, through which God works to give his creatures physical wholeness; therefore,

I Resolve, That for the New Year I will faithfully do my part in conforming to the simple laws of life, and will, so far as possible, seek by all rational and reasonable effort to make use of the natural means of health. To this end I will observe personal hygiene and cleanliness, eat and drink for strength, be temperate in all things, and do all within my power to attain and maintain the best possible physical condition.

AS WE SEE IT

Conducted by
G. H. Heald, M. D.

Do Not Worry,
Make Your Own Diagnosis

In a time of epidemic such as that of influenza there are two courses of action that are illogical and hazardous: One is to be constantly worrying lest any little symptom may be the sign of an infection or attack of the dread disease; the other is, to neglect the beginning symptom of a true infection.

Many persons in an epidemic constantly worry themselves into a state of fear that predisposes them to an attack. It should be realized that not every one who is exposed to the germs gets an attack. Some escape, and yet may become living incubators, carrying the germs around in their secretions and exposing others. But an attitude of fear makes it more certain that if one comes in contact with the germs he will get the disease.

On the other hand, there are those who take the opposite extreme course. When they find themselves showing a few symptoms of influenza, they ignore it, and stay right at their work, determined to wear out the disease. It is this fact that explains why so many vigorous people succumbed to the disease. In practically every such case, the person failed to go to bed at the beginning of the attack.

In many cases, influenza begins with atrocious pain, headache, backache, and general feeling of illness that almost compels one to give up; but sometimes the attack is not so severe, and there lies the danger.

If every one has in the house or in his pocket a clinical thermometer, it is easy to determine whether one is seriously ill or not. If the temperature, properly taken, is 98.6 or under 99, there is little to worry about. If it is above that and going up, the best place is bed, and the patient should remain there until he is out of danger. Many lives have been lost in influenza because patients were not willing to remain in bed. Ordinarily, the patient should remain in bed *after the temperature is normal,* for as many days as the fever lasted.

"The Whole Truth
About Alcohol"

The following review of a recent book, which appeared in the *Journal A. M. A.* of Sept. 27, 1919, is an evidence of the fundamental change that has come into the minds of medical leaders regarding the effect of alcohol on the human body:

> "In spite of the title, which promises by suggestion an impartial discussion of the entire alcohol question, we soon find that our author, the son of Dr. Austin Flint, and himself a layman, needs to learn considerably more plain everyday human physiology and also the specific pharmacology of alcohol, before he can begin to discuss his chosen subject. The book certainly contains every talking point that has been

raised in favor of the moderate consumption of alcohol. Furthermore, it is plain that on every controversial point the author mentions only evidence favorable to his standpoint. Finally, he sometimes quotes confidently as fact what is absolutely not true. It is the half truth about alcohol presented by one outspokenly in favor of its moderate use. The arguments are often based on incorrect premises leading the educated layman (for whom it was probably written) to accept the false conclusions. The author either lacks the fundamental physiologic and pharmacologic training and knowledge necessary really to discuss his theme as he proposes it in his title, or he avoids using them. The book is written in short snappy paragraphs, which sustain the interest to the end."

Not so many years ago the position held by the author of "The Whole Truth About Alcohol," was pretty generally accepted by the members of the medical profession; but little by little the leaven of education has been working until now there are few medical men who do not realize that this country is better off without alcohol.

Suggested Provisions for Discharged Tuberculosis Patients

In view of the fact that a very large proportion of those who are discharged from sanatoriums as cases of "arrested" tuberculosis, on returning to work soon have to give up, it is now proposed to establish farms or colonies, within a reasonable distance of large cities, providing suitable work for those who are not able safely to return to their old jobs.

The plan proposes a farm of say one thousand acres, most of which is to be under cultivation, but thirty acres to be utilized for village improvements. The village is to have streets, sidewalks, electric lights, cottages for workers and their families, administration building, fire house, hospital, printing establishment, factories, etc., affording facilities for a population of thirty-five hundred to four thousand. The original cost of such an installation has been estimated to be something more than $1,600,000.

Effect on Membranes of Chilling the Skin

It has been generally assumed that with the chilling of the extremities, there was a simultaneous congestion of the mucous surfaces of the air passages, and that colds were the result of this congestion.

It would seem, however, from carefully conducted experiments reported by Mudd and Grant of St. Louis, in the *Journal of Medical Research,* Boston, that this supposition is not correct. These men, by means of delicate temperature-recording instruments, showed that when the surface of the body at a distant point is chilled, there is an actual lowering of the temperature of the mucous membranes of the mouth and throat, which continues until the chilled part is rewrapped. It was shown at the same time that chilling of the surface does not induce a lowering of the temperature of the blood, but rather a minute rise, which continues until the chilling ceases. Evidently the chilling of the surface causes a contraction not only of the superficial vessels of the skin, but also of the mucous membranes examined, and probably of others.

Take an Inventory

L. A. Hansen

THIS is stock-taking time. Business houses are now taking inventories. Industrial plants are figuring up their assets and liabilities. Any successful concern must know from year to year what the amount of its working capital is in order to operate safely and profitably. The close of the year sees almost every business checking up its losses and gains.

Suppose you take inventory of your physical self, and find out what you are worth in health. Take stock and see what you have to expend. Check up and see whether you are gaining or losing. If you find you are losing, try to ascertain where the leaks are and what you should do to stop them.

The best way to get your correct physical rating is to have a good doctor give you a thorough examination. If this were done at least once a year, it would be all the better. Most people do not see the doctor until they see marked symptoms or feel ill enough to become alarmed about themselves. While self-examination is not very satisfactory, and one cannot rely much upon one's own diagnosis, we suggest a few things that might be helpful in determining one's health condition.

Your Digestion

First, take your digestion, for the health of the entire body is greatly controlled through the stomach. The whole being is constructed from what is taken into the stomach, and a good digestion is necessary to build a sound body and maintain health. Do you suffer with indigestion? Do you have pains in the region of the stomach? Are you troubled with gas in the stomach and bowels? Don't take Somebody's Digestive Tablets; find out the cause of your trouble, and remove it.

There are a number of things that will cause digestive troubles. If you are in the habit of eating hurriedly and without properly masticating your food, you will suffer loss and will likely suffer otherwise. If you will eat slowly and allow the saliva to mingle with the food, you will give the stomach a better chance to do its work.

Eating when angry, excited, anxious, or worried; eating in a mechanical way, without enjoying one's food; engaging in brain work or violent exercise immediately after eating; drinking freely at meals, or of very cold liquids,— these will hinder digestion. If you are accustomed to doing any of the things enumerated, you may count on having poor digestion and insufficient nutrition. Your whole being is liable to show a lack.

If you have reason to believe your stomach is weak, check up on the amount of work you give it to do; perhaps you will find you are overworking it. Remember that giving it food means giving it work, and that too much work is hard on any organ. The stomach gets tired, and often its cry for rest is mistaken for a call for more food, and more food is eaten. This relieves the feeling of faintness for a time because the stomach has to work on, but this continual working is wearing.

There should be time enough between meals for the stomach to rest, and to

provide the natural digestive fluids needed for the next meal. Five hours, and longer for some, should be allowed from one meal to another, and not a bit of food between meals. And bear in mind that good sleep and good food digestion cannot go on well at the same time, so make the evening meal light, if you eat an evening meal. Some persons would do better without it.

Is your tongue coated or furred, and do you have a foul breath? Do you suffer with headache soon after eating? Check up on the things you have eaten, and see if it may be you have eaten too great a variety or a mixture that would stagger even a strong animal to care for. By the way, few animals would eat the conglomeration of foodstuffs that a man will impose upon his helpless stomach.

Do you have an appetite for simple foods, and do you know the enjoyment of eating various foods because of their own flavors? or is yours a lagging appetite that has to be coaxed with delicacies or stimulated by catsup, pepper sauce, and various condiments? Can you eat cereals without a liberal amount of milk and sugar, a combination that is unwholesome?

Can you stop eating when your judgment tells you you have had enough? If so, you are well off, in a way. It is not what is eaten that nourishes, but what is digested, and he who eats more than his system can care for throws upon it a burden. The mere pleasure of eating an overamount of food does not at all compensate for the serious consequences. The decaying mass of excess food fills the system with impurities and taxes the eliminative organs. When the system becomes overloaded, serious ailment results.

In its effort to dispose of surplus food and the poisonous products of its decay, the system becomes worn and perhaps exhausted, giving that "tired feeling" that the patent medicine advertisements describe. Don't take the stuff advertised, and thus add fuel to the fire. Cut down on your eating; skip a meal or two; adopt a program of eating to live instead of living to eat.

Your Lungs

How are your lungs and your breathing capacity? Do you get "winded" easily? Does a little exercise, like going upstairs or walking briskly, make you short of breath? Do you breathe through your mouth? Are you able to expand your chest freely, or is your breathing capacity restricted by tight clothing or because of an improper method of breathing? Can you make your chest, waist, and abdomen expand at the same time?

The healthy action of the respiratory organs is essential to the health of the entire being. Pure blood is impossible without pure air, and the pure air must be breathed into the lungs to do any good. The lungs must have breathing capacity and must have access to the air. While there is a world full of air to be had, we can shut ourselves in from it and we can close our lungs in a large degree against it.

Are you easily subject to sore throat? Do you catch cold readily? Are you sensitive to drafts? If you live a good part of the time in poorly ventilated rooms, breathing over and over air that is charged with poisonous matter thrown off through the lungs and pores of yourself and others, you may know that you have a poor quality of blood and that your system is weakened. If you cramp your lungs by sitting or standing in a stooping position, you may be sure you are not getting the oxygen you need; and you need not wonder if you have a dull time of it doing brain work.

Superficial breathing reduces the lung capacity, and diminishes the supply of oxygen so necessary for purifying the blood. The result is that other organs of the body are affected, for the health of every part of the body is dependent upon securing a pure blood supply. A poor circulation gives a clouded brain, confused thoughts, gloomy spirits, and general depression, and a poor circulation is sure to result from poor respiration.

Your Circulation

If you have not a good circulation, you have not perfect health. Pure blood and a good circulation are of supreme importance to the health. Good food and plenty of oxygen will supply the needed materials for making good blood. The blood must then have unrestricted access to all parts of the body, carrying to every tissue cell the material necessary for building the body and for producing heat and energy.

The blood nourishes the body, and when the circulation is cut off from any part, that part suffers from lack of nutrition. A corn occurs when the pressure of a tight shoe cuts off the blood supply. Baldness results from wearing a close-fitting hat. Indigestion may follow vigorous mental or physical exercise just after a meal because the blood is diverted from the stomach where it is especially needed at that time.

Just as necessary as supplying food material to the system is the removal of the waste material or products of combustion, and an unrestricted circulation is essential for this. Good food and plenty of oxygen may be abundantly supplied for making pure blood, but the blood will not remain pure if its impurities are not removed. Don't fool with so-called "blood purifiers" sold in drug stores, for they do not purify.

Do you have cold feet? That is often an indication of poor circulation. Perhaps one of the most common and most serious practices affecting the circulation is that of wearing thin stockings and shoes. The legs and feet are provided with large blood vessels for supplying a liberal amount of blood to those parts farthest from the heart. When these parts are chilled, the blood vessels contract. The heart is unduly taxed to force the blood through the chilled and restricted veins, arteries, and capillaries of the extremities. This overwork weakens the heart. Besides this, the chilled blood coming from the extremities still further taxes the heart. The task of sending fresh warm blood to the distant parts becomes too much for the heart, and habitually cold feet result. The blood is thrown back upon other parts of the body, and inflammation and congestion result, the lungs and brain often suffering. Headaches and colds of the head, throat, or lungs may be occasioned.

Vigorous exercise, avoiding excess, is one of the best measures of equalizing the circulation. Brisk, open-air exercise is particularly good, and there is nothing better than walking. Brain workers should guard against calling too much blood to the head, by too much study and too little physical exercise. Stagnant blood beclouds the intellectual powers.

Your Brain and Nerves

Have you a clear mind? Can you make clear decisions and do it quickly when necessary? Have you a steady nerve? Can you stand annoyances? Can you meet emergencies with a cool head? Do you sleep well? Are you free from worry? Can you look upon troubles without succumbing? How is your will-power?

The mind controls the entire body. The brain is the headquarters of all the activities of the being. From the brain mental impressions are carried by the nerves to every other part of the body, and every motion is governed by the impulses thus sent out from the center of all action. Every other part of the body transmits to the brain its needs. Any injury anywhere in the body is felt by the brain. The nerves are the communicating lines for all the messages and impulses thus passing.

Through the brain and the nervous system the whole body, with its faculties and functions, is made to work in harmony. All the activities are to harmonize and to work in union for the upbuilding and maintenance of health. No part suffers by itself; the whole being is affected. All suffer together and all together do what they can to relieve the suffering or injury of any part.

The brain is affected by every injury to the body and by every wrong practice. A clear brain and a steady nerve are dependent upon a well-ordered system. An impeded circulation hinders free thought of the mind. Indigestion confuses the brain, hindering clear thought. An irritated stomach communicates its feeling to the brain. Narcotics stupefy the brain and nerves.

Through the mind the rest of the body is affected by that which disturbs the brain; for the latter can only send out such impulses, impressions, and sensations as it possesses. It must be evident that food questions concern more than the stomach; that ventilation reaches farther than the lungs; that tight shoes affect more than the feet; that clothing is a matter of more than mere dress. The mind and body must work together in everything, for the health of the whole being is concerned.

Your annual inventory of yourself will show how you have attended to the details of your living. You cannot neglect any part of your health program without sustaining loss. Giving attention to all the essentials of health, means a maintenance of full-value health.

Economy and Health in Heating and Lighting

G. H. Heald, M. D.

WITH the advent of cold weather and shorter days there is of necessity a greatly increased consumption of fuel or its equivalent, both for heating and lighting; and the need for economy in the use of fuel or current becomes increasingly more urgent. Even with the best management, household expenses are greater in winter than in summer; but usually the outlay for this purpose is more than it need be. Frequently there is waste because of carelessness. Lights are left burning where they are not needed, and fires are kept going after the temperature has moderated, making it necessary to throw the windows wide open in order to obtain a more comfortable temperature. Then, again, many houses in winter are kept too warm all the time. This is not only wasteful but unhealthful. In addition to these general faults there are special faults in lighting and heating, which, if avoided, will lessen expense or make for better health, or both. For this reason a few words on the principles and practice of lighting should not be amiss.

Economical and Healthful Lighting

In general it may be said that artificial light must be neither too intense nor too faint. This might seem strange in view of the fact that it is extremely difficult to get an artificial light that will compare in intensity with sunlight; and the light cannot be so faint as that we sometimes enjoy when we sit on the porch evenings without artificial light. That is, artificial light is not likely to be so intense nor so faint as that which nature may furnish. Wherein, then, is the danger from excessive or deficient artificial light? The answer is that we do not ordinarily use direct sunlight for reading or close work. If we do, it is at the expense of our eyesight. Neither do we use the dark porch for close work, except at the expense of weakened eyesight. But when we are using artificial light, we are usually doing close work that is trying to the eyes unless the light is favorable. And in winter we are likely to do proportionately much more close work than in summer when the outdoors furnishes attraction. Another objection against excessive lighting is that often

Courtesy Illuminating Engineering Society, N. Y.

POOR LIGHTING

The unshaded light in the range of vision is dazzling, and injurious to the eyesight.

the source of artificial light is within the range of vision. That is, the rays of light from the source may enter the eyes directly as we look about the room, causing irritation and eyestrain.

Forms of Illumination

For the usual purposes of illumination candles need hardly be considered. They have the advantage of cheapness and are easily carried and are free from some of the dangers incident to oil, gasoline, and gas lighting, but they give an uncertain light and are unadapted for close work.

Oil lamps, which in many places are the only practicable means of illumination, have the advantage of cheapness and portability. The light from an oil lamp with a good burner, properly shaded, is all that can be desired for the most taxing work. Hanging oil lamps that cast no shadow beneath serve an excellent purpose for overhead lighting. The disadvantage of oil lamps is the risk from explosion and fire, and the extra work involved in the care of the lamps. The daily care of the lamps, say in a six-room house, is an extra task on the housewife which she would gladly give up for the privilege of using gas or electricity; and if the time required for doing this work is properly valued, there is very little saving in the use of oil.

Gas illumination is somewhat more expensive than oil, but by using mantles this expense can be nearly cut in two. There is less work and less danger from fire than with the use of lamps. But where gas is used, house plants do not thrive, and it may be suspected that the people living in such an atmosphere are being slowly injured. Moreover, gas flames soil the walls, necessitating more frequent renovation than does electricity.

Where it can be obtained, electricity is doubtless the best all-round form of

illumination. It is more expensive than gas, but the amount saved from not having to repaper or reclean the house so often partly offsets this. Moreover, the convenience with which the lights are turned on and off makes it possible to save current much more closely than is the case with the use of gas. A careful householder can effect a considerable saving by having the lights turned on only when needed. For hallways and places not intended for close work, low-power lamps, even down as low as one candle power, may be used, thus reducing the consumption of current very materially. By the use of Tungsten or Mazda lamps the current consumed can be reduced half or more.

General Principles of Lighting

1. The intensity of illumination diminishes with the square of the distance. Thus, if a lamp is twice as far off it gives only one fourth of the light, or if three times as far off, only one ninth of the light. For this reason it is of the greatest importance to have the source of illumination near for work requiring good light.

2. Lamps in range of the vision should be shaded so as to avoid irritation to the eyes. The indirect or semidirect hanging lamp is much more pleasing to the eye and much less wearing on the eyesight than is the unprotected light. An excellent form of illumination, subduing the light and diffusing it like daylight, is the indirect, in which all the light from the lamps is thrown up to the ceiling and from there reflected down over the room; but this requires so much current or gas to give adequate illumination as to be prohibitive for most homes. The next best form of general light is the semi-indirect, in which part of the light is thrown to the ceiling to be diffused, the rest passing down through the ground-glass bowl of the hanging lamp. This form of lighting, while not so expensive as the indirect, is more expensive for close work than the shaded table lamp, but it makes a much more cheerful room. When it is necessary to do

Courtesy Illuminating Engineering Society, N. Y.

SEMI-INDIRECT LIGHTING

Semi-indirect lighting is softer, more agreeable, and less wearing on the eyes.

close work, the illumination may be economically effected by the use of a good, well-shaded table lamp; but the general effect in this case is rather gloomy, unless the shade is of ground glass. An excellent combination is to have the room moderately lighted by the semi-indirect method, and in addition to have a shaded table lamp for close work.

3. The light should fall on the work, not on the eyes. This is best accomplished by means of the table lamp, high enough so that all the work is illuminated, and so shaded that the unsubdued rays from the light do not enter the eye.

Light-colored walls, which absorb less light than dark-colored walls, are more economical, for the same illumination may be obtained with a smaller fuel or current consumption.

In using gas the best effect with the least expense is obtained by the use of incandescent mantles. The amount of gas required to produce a given amount of light is, with a mantle, about one third of what it is with an open flame.

The slot meter, in frequent use among the poor, is an expensive way of buying gas. It is like buying coal by the bushel. It is much more economical to obtain sufficient money to make a meter deposit and to have a regular meter installed. Where a slot meter is used, if it is run until the supply of gas is exhausted before dropping in another coin, care must be taken to see that all the gas jets are closed, else there will be an escape of gas when the flow begins.

Economical and Healthful Heating

In some ways the fireplace is the most cheerful, the most sociable, and the most healthful way of heating a living-room; it gives off a radiant heat and acts as a ventilator; but is not adapted for heating the entire house and it wastes fuel.

Courtesy Illuminating Engineering Society, N. Y.

DAZZLING GLARE FROM UNSHADED LIGHTS

Courtesy Illuminating Engineering Society, N. Y.

INDIRECT LIGHTING

The same room lighted by the indirect method. The light is more diffused, and the eyestrain is much less.

For small homes the heating stove will probably always have its friends. It is economical of fuel and can be made to respond quickly to sudden weather changes. On the other hand, it is liable to be the means of keeping the room in partial disorder, and is often a source of unwholesome gases, especially when it is attempted to control the fire by closing the stovepipe damper.

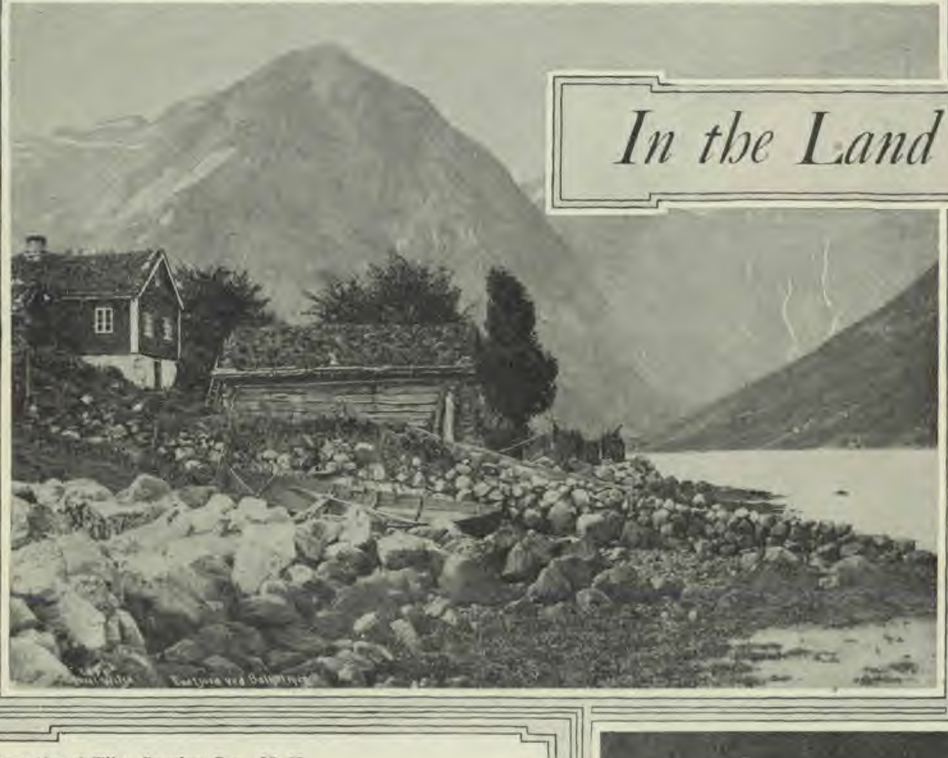
The base-burner has the advantage that the supply of fuel for a day or so can be put into the magazine at one time. A latrobe saves much of the chimney heat for the upper rooms, but usually the lower rooms are inadequately heated.

But in general for larger houses a central heating plant is desirable. Among the principal types of central heating plants are those using hot air or warm air, — which may have a flue for each room or have one large flue emptying into the main room, — hot water, hot water under pressure, steam, and vacuum steam.

The hot-air plant, especially the "flueless," having one large air vent into the main room, is well adapted for small houses, and can be made to respond quickly to sudden temperature changes. Such a system is much better adapted for a climate with cold nights and moderate days than is a hot-water system. It is cheapest both as regards the cost of installation and the cost of maintenance. Moreover, if the air inlet is from outdoors, it affords an excellent method of ventilating the house without the need of opening any windows. There is a constant inflow of warm pure air, and of course an escape of an equal amount of impure air. One disadvan-

(Concluded on page 18)

In the Land of



© International Film Service, Inc., N. Y.

SAGNEFIORD NEAR BATHOLMEN, NORWAY

NORWAY — land of deep-sea inlets zigzaging far inward between bold buttresses of rock; land of mighty mountain masses with multitudinous glacier-fed waterfalls now being harnessed and made to work for the prosperity of the country; land where in summer the days lengthen rapidly, until finally the sun does not set — that midnight sun due north; land where the winter days shorten rapidly, until the sun, abashed, fails to show his face above the horizon, and nothing but that southerly twilight gives a hint of longer days elsewhere; land with an arctic location and a temperate climate, the gift of the gulf stream: Norway, the delight of the tourist and the pride of the native — this is the country we have chosen for illustration in the present issue.

Norway, the smaller and western portion of the Scandinavian peninsula, is about 1,100 miles in length, with a maximum width of 270 miles.

© International Film Service, Inc., N. Y.

BERGEN RAILWAY, NORWAY'S NEW RA
TO A HEIGI

The Midnight Sun

© International Film Service, Inc., N. Y.

NORTH CAPE, MOST NORTHERLY POINT OF NORWAY

WAY WHICH RUNS OVER THE MOUNTAINS OF 4,500 FEET

Much of the way, however, it averages only about 60 miles in width, and at one point the deep-sea inlet pierces the land to within 6 miles of the Swedish border, and at another to within 17 miles of the Russian border. The area of Norway is a little more than 124,000 square miles. The direct coast line is said to be about 1,700 miles; but if all the deep fiords and the islands are counted, the coast line, it is estimated, would be about 12,000 miles in length. Of the islands, there are 150,000, many of them small, with a total area of 8,500 square miles. The fiords, which are very long and very deep (one being 136 miles long and 4,200 feet deep at one point), afford an excellent means of communication and traffic. They are rarely if ever encumbered with ice. The aspect of the coast (with the exception of a patch of green here and there) is bare rock, as is well shown in the illustrations.

ECONOMY AND HEALTH IN HEATING AND LIGHTING

(*Concluded from page 15*)

tage of the hot-air plants is that if the fire box is cracked, the unwholesome products of combustion are thrown into the rooms. And if there is a wind, the rooms on the windward side of the house get no heat. With the "flueless" furnace, however, the heat is more uniform.

A hot-water system is cleaner than a hot-air system. There is less dust and ash thrown into the rooms. The temperature of the rooms may be more uniform. That is, the windward side of the house need not be cold, as is usually the case when hot air is used. But the expense of installation and maintenance is greater, and the system is not adapted to climates where the temperature change is rapid. The water heats up and cools too slowly to meet such weather requirements.

Another disadvantage of the hot-water system is that if one attempts to open windows of sleeping-rooms and live an outdoor life, the increased consumption of coal to make up this loss is considerable. On the other hand, if the heat is cut off the radiators, they freeze. This last objection would not hold in a good steam system.

The steam system is better adapted for large buildings. If of the vacuum or vapor type, it responds much more rapidly to temperature changes than does the hot-water system.

For any of the central heating systems it is economical to have an automatic temperature regulator so arranged as to throw the dampers one way or the other as the temperature of the main room reaches an upper or a lower limit decided upon, say sixty-eight and sixty-five degrees. A further economy is obtained if the regulator is arranged by clock work to run the temperature lower at night than during the day.

Another method of saving fuel is to keep the room temperature down to a healthful level — to average not over sixty-five degrees, running, perhaps, from sixty-two to sixty-eight. Such a temperature is much more healthful than one of seventy degrees and over, and is economical of fuel.

It is well to state also that recent research indicates that the most healthful condition obtains when there is more or less of a fluctuation in temperature. If we succeed in perfecting our heating arrangement so that the temperature of the house remains at a dead level, it is not so good for the health. It is well for us if the air is a little chilly once in a while.

During cold weather the heated air of the home is abnormally dry and should have water added in the form of vapor. An open pan of water on the stove, a pan on each radiator with a cloth hanging back so that it will absorb water from the pan by capillary attraction as fast as it evaporates, or, in a hot-air system, pans of water placed in the air registers, will accomplish this purpose very nicely. For comfort and health it is important to see that these water pans are not neglected.

Whatever heating system is used, the ordinary method of ash disposal involves a waste of about a third of the fuel. One who visits an ash dump after a rain can readily satisfy himself that very much of what was supposed to be fully burned coal, is just as good coal as that in the bin. Inside of a superficial layer of ashes there is the unburned coal almost the size and weight of the piece as it went into the furnace. Much of the supposed ash and clinker is only surface-burned. Raked out, or screened out, it will save about one third of the coal bill.

Do you usually pay $60 a winter for coal? Screen closely, and save $20. To avoid flying ashes, have a rotary sifter fitting closely over an ash barrel; or else sprinkle the ashes and separate the unburned coal with a rake.

Dietetics

Food: Its Composition and Uses

George E. Cornforth

DISEASE must be fought with food, not with drugs." It is the purpose to give in this series of articles information which will enable the readers to choose food intelligently for themselves, and for their children if they are parents, so as to provide all that can be provided in the way of diet to keep themselves and theirs in the best of health; and also to give information that will enable the readers to provide the nourishment which is most potent in bringing back to health those who are suffering from various illnesses.

Food is defined as anything which, when taken into the body, furnishes to the body material from which it can get heat and the energy that is manifested in the performance of physical and mental work and the various activities of the body, and material with which it can build new tissue and repair waste tissue. Also, a food contains nothing harmful.

There are other substances that are added to foods, either in their preparation for eating, or when they are eaten, which do not supply the body with nourishing material, and which are called "food accessories." They comprise spices, condiments, and flavorings. The use of most of these we do not sanction; because some of them irritate the mucous membrane lining the alimentary canal, they disguise the natural flavors put into foods by the Creator, they may be used by the cook to cover up poor cooking, and by their irritating properties they are capable of causing a thirst that calls for something stronger than water. The normal appetite does not require condiments; food can be made of so delicate a flavor that it is enjoyed without them. There are a few of these food accessories that are unobjectionable, such as vanilla, lemon, and other fruit flavorings, and various herb flavorings which have no "bite" or irritating properties, such as sage, savory, thyme, bay leaf.

A variety of food is necessary, not a large variety at any one meal, but a variety secured by varying the food from meal to meal, in order to supply all the different kinds of substances of which the body is composed, because no one food contains all these substances in the right proportion for all persons under all conditions.

The body contains some sixteen different single substances, not compounds, such as iron, phosphorus, carbon, oxygen; and all these substances must be supplied in proper proportion by the food.

Another reason why a variety of food is needed is because, besides these single substances, there are certain compounds of these that the body cannot manufacture from these simple elements, but that must be supplied by food. To be more definite, the living tissue of our body consists of a substance called protein. This substance requires for its building certain simpler compounds, called amino acids, sometimes called the "building stones" of protein, and while practically all foods contain protein, the protein of most foods does not contain all the necessary building stones for building body protein.

Still another reason why a variety in diet is necessary is because there are other compounds, called vitamines, that

the body cannot manufacture from the simple elements but that must be supplied in the food. One of these vitamines, which has been named "fat soluble A," is found in milk, cream, butter, egg yolk, wheat germ, and green leaves, and so far as is now known in very few other foods. This vitamine is absolutely essential for the growth of the young, and in the mature for the power to reproduce young. Another vitamine has been named "water soluble B," and is found in the outer coatings of cereals, in egg yolk, milk, yeast, and in vegetables and fruits, and is necessary to protect us from certain diseases, of which scurvy is an example. This vitamine is entirely absent from white sugar, candy, starch, and foods made from white flour.

Again, the body cannot use directly the simple substances of which it is composed. We do not eat iron, nor carbon in the form of coal, for example. However, plants build up the elements into certain food compounds, or "food principles," for the body's use.

These food principles are: proteins, fats, carbohydrates, mineral matter, water, and cellulose. Although authors do not include cellulose as one of the food principles, I listed it, because it is absolutely essential in the diet of a healthy person.

Foods are classified according to chemical composition as follows:

- Nutritious
  - Nitrogenous
    - Protein
  - Non-nitrogenous, or Carbonaceous
    - Carbohydrates
      - Starches
      - Sugars
    - Fats
- Non-nutritious
  - Mineral matter
  - Water
  - Cellulose

According to function, that is, the purpose they serve in the body, foods are classified as follows:

- Warmth and Work Food
  - Carbohydrates
  - Fats
  - Proteins (to serve as fuel foods is not their normal use)
- Building Food
  - Protein
  - Mineral Matter (for building bones and other hard parts)
  - Water (blood and all other tissues contain water)
- Regulators of Body Processes
  - Mineral Matter
  - Water
  - Cellulose

The foods that supply the different food principles are shown in the following table:

- Starches
  - Cereals
  - Breads
  - Legumes
  - Some vegetables, as potatoes (largely starch)
  - Sago (almost pure starch)
  - Tapioca (almost pure starch)
  - Arrowroot (almost pure starch)
- Sugar
  - Granulated, or cane, sugar
  - Beet sugar (same as cane sugar)
  - Maple sugar (sugar the same as cane sugar but has some natural flavoring)
  - Milk sugar
  - Malt sugar
  - Fruits
  - Honey
  - Confectionery
  - Desserts
- Fats
  - Milk
  - Cream
  - Butter
  - Ripe olives
  - Olive oil
  - Salad oils
  - Nuts
- Protein
  - Eggs (egg white is almost pure protein)
  - Milk (the casein, or curd, is the protein part)
  - Legumes (a vegetable casein)
  - Cereals (the gluten of wheat, and zein of corn)
  - Nuts
  - (Flesh food)
- Mineral Matter
  - Bran and germ of cereals
  - Vegetables
  - Fruits
  - Milk
  - Eggs
  - Legumes
  - Nuts
- Cellulose
  - Bran of cereals
  - Framework of vegetables
  - Framework of fruits

Water
Beverages
Soups
Milk
Fruits
Vegetables
(All carbohydrate in the body is burned to carbon dioxide and water)

The non-nitrogenous, or carbonaceous, foods are called the warmth and work foods, or heat- and energy-producing foods, because the body uses these as sources of heat to keep itself warm, and to support its activities, just as an engine must burn coal to develop power, and in the burning of the coal, heat is evolved. These foods are fuel foods, and, like the substances we use for fuel, — coal, wood, and oils, — these foods consist largely of carbon, and are therefore called carbonaceous foods.

Protein is body-building, or tissue-building, material. It is this kind of food that the body must have with which to build itself and keep itself in repair. There is one chemical element that is necessary in building the vital parts of the body; all living tissue contains it. That element is nitrogen. Therefore protein, containing nitrogen, is called nitrogenous food. While the chief function of protein is to serve as building material, it can also, to a limited degree, be used as fuel food. But it is uneconomical, both in food cost and in economy of body energy and health, to use protein as fuel food, because it is not entirely burned, as starch, sugar, and fats are, when used as fuel, but leaves a residue which may be compared to clinkers in a furnace, which clogs the vital machinery and predisposes to disease.

While flesh foods are the principal source of protein in the diet of most people, we shall omit any considerable discussion of them, because we believe that the Creator intended man to get his building food from the vegetable kingdom (with exception of milk, which is produced for no other purpose than to serve as food, and eggs), and that it is better for the health to do so.

Mineral matter also is used as building material in building bones especially, but it also forms a part of all other structures of the body. And water is needed in building all body tissues, for they all are largely composed of water.

Besides being a necessary constituent of all the tissues of the body, a very important function of the mineral elements of food is their work as regulators of body processes. The function of the mineral substances in food may be summarized as follows:

1. They act as building material for bones, nerves, teeth, hair, finger nails, blood, and, in fact, all parts of the body.
2. They give the body the power to use the proteins, fats, and carbohydrates.
3. They give the body the power to build and repair itself.
4. They give the body the power to eliminate the waste products of its own activities.
5. They maintain the alkalinity of the blood.
6. They give the body the power to fight disease germs.
7. They give the body the power to recover from sickness.
8. They furnish material for the production of digestive juices.

In short, they give the body the power to carry on all life activities.

The mineral elements in food may be called nature's medicines. When animals are fed a sufficient quantity of carbohydrates, fats, and protein, without mineral elements, they die within thirty days. One writer says that "a diet consisting of pure protein, fat, and carbohydrate would cause starvation even more quickly than if all food were withheld."

These important elements are taken from food in the milling of flour, removing the bran and germ; in the refining of sugar, removing from the sugar all the cellulose and mineral elements that grew with it, and leaving nothing but pure sugar; and in throwing away the water in which vegetables are cooked, which often contains much that is valuable to the body. The body is also deprived of mineral elements by making flesh a large part of the diet, for the mineral elements

in the animal's body largely form bones and other hard parts, while only the flesh is eaten. If we eat meat, we ought to eat it as cats and dogs eat it, — bones, skin, hair, feathers, and all, — then we should get all the necessary body-building materials.

If animals are fed on a diet consisting of grain from which the germ has been removed, they die. That weevils know what is good for them is shown by the fact that when they attack wheat, they eat the germ out of it and leave the rest. If the diet consists too largely of sugar, the body will endeavor to get mineral matter by taking it right out of the inside of the teeth.

If we should get our sugar by eating sweet fruits, chewing sugar cane, drinking maple sap, and eating beets, we should not eat too much sugar, nor should we deprive ourselves of needed mineral elements that naturally grow with sugar.

In the South where sugar cane grows, puny babies are sometimes allowed to drink all the sugar-cane juice they want, and they soon become plump and healthy. This results, no doubt, not only on account of the sugar taken, which is a fattening food, but on account of the needed mineral elements that are supplied by the sugar-cane juice.

Tooth decay, rickets, scurvy, and beriberi may follow a diet lacking in mineral elements, and possibly a lack of these important substances predisposes to skin diseases, cancer, and tuberculosis. A condition of general lowered vitality results from mineral starvation.

More about mineral elements will follow in the next article.

A Portable Fomentation Tank

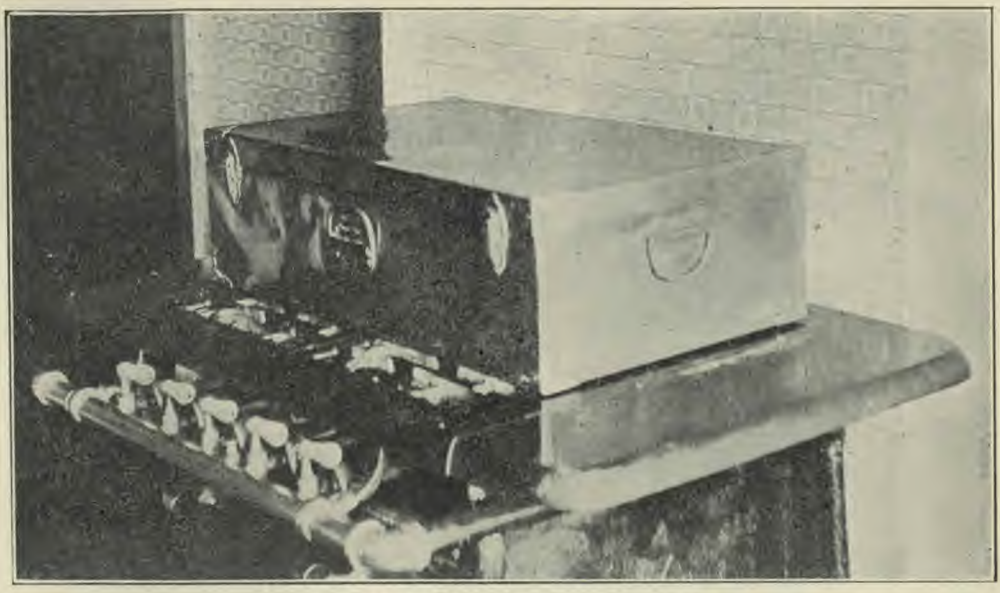
W. H. Addis

A PORTABLE fomentation tank is something that will be appreciated by the nurse who has struggled to treat influenza in private homes. The copper, suitcase-shaped tank, shown on the gas stove, is an ideal construction. The wire screen, which is seen about two and a half inches down inside the open case, is so made that it may be lifted out and placed in the bottom of the tank when not in use. This leaves the interior of the tank for packing cloths, fillers, towels, etc.

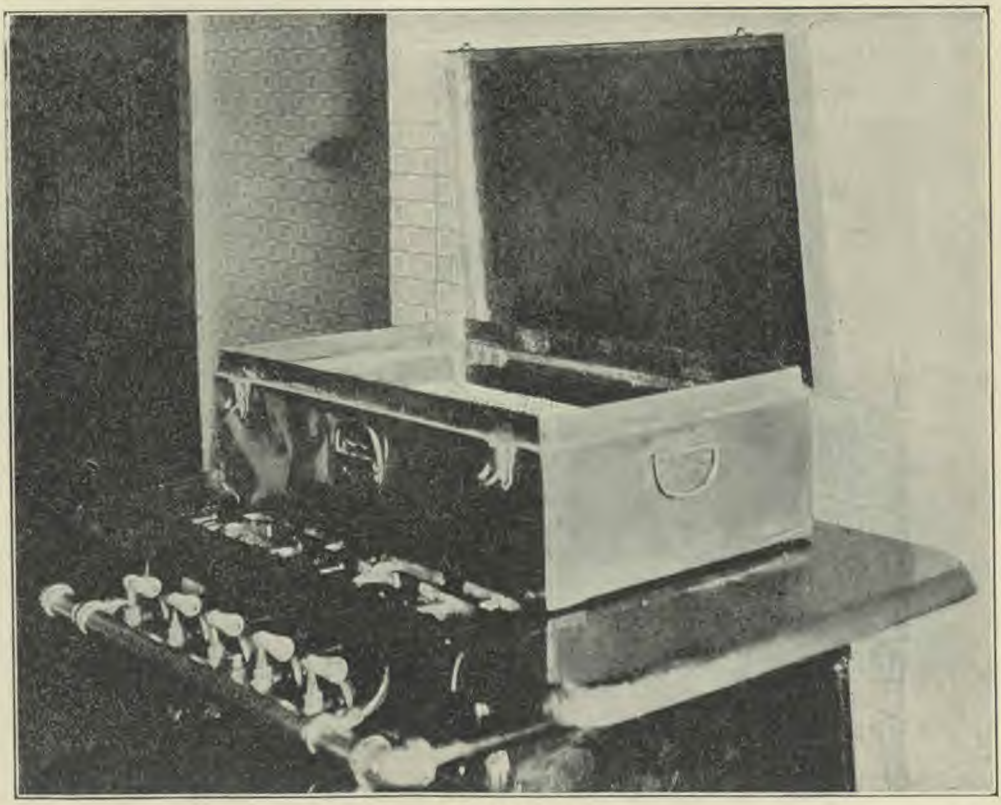
To use the tank, it is only necessary to place the screen in position, put one or two inches of water in the bottom of the tank, and heat to the boiling point. The fomentations will be ready for use in ten minutes from the time the cold water is placed in the tank.

With an outfit like this there is no wringing of the fomentation cloths. The all-wool fillers are folded to proper size and quilted. When ready to use, sprinkle them lightly to moisten, then roll up and place in the tank. The steam coming up through the screen quickly saturates the cloths, and it is only necessary to remove them and place in the covers.

This tank has been used under all conditions of service. The copper makes it just a little too heavy for carrying about under all circumstances, but the copper may be replaced by tin, heavily plated.



THE SUITCASE FOMENTATION TANK (CLOSED)



THE TANK OPEN

The Air and Health

G. Henry Hale

IT is a matter of common knowledge that on certain days we feel better than on others, and we attribute the difference in our feelings to the weather. But do we realize that weather has a more potent, more permanent effect on us than the mere change in our feelings? De we sense the fact that the changes in weather from day to day have a perceptible effect on the death rate? Surprising as this may be, it has been found to be a fact. Careful comparisons of weather changes with the death rates, over considerable populations and periods of time, indicate that certain weather changes increase and other changes diminish the death rate. As the death rate is an accurate index of the general health, it follows that weather changes have a definite effect upon the health of the community. We all know this to be so as regards the extremes of weather, but we do not fully realize that minor weather changes also have their effect on the health.

Weather and Morale

When taken over comparatively long periods, so that intelligent comparisons can be made, periods of high death rate are found to be accompanied by certain well-marked symptoms in the social and financial world, such as decreased school attendance, lessened business prosperity, lessened bank clearings, lowered prices, etc., indicating that coincident with the higher death rate there is a lowering of health and morale, and these higher death rates are found to correspond with certain weather conditions. At first one is tempted to doubt the validity of these findings, they seem so far-fetched; but carefully prepared curves or diagrams, comparing the ups and downs of these various items, indicate a definite relation between them, and they all seem to depend on the condition of the general health, and that on the weather.

Why Worry About the Weather?

Now what is the purpose of stating all this if, as is generally supposed, we cannot control the weather? If it is the weather that determines whether sixteen or twenty-five out of every thousand shall die this year, why worry, so long as we do not make the weather? Why not go about our work, looking after such things as diet, clothing, etc., which we can control, and let the weather do its worst? The purpose of writing this article is to make it plain that we do have something to do with making the weather. We create an artificial climate in our houses, and as we shall show later, this artificial climate is often a very potent factor in increasing illness and the death rate.

Certain careful comparisons which it would be out of place to attempt to describe in a popular article, indicate that the weather most favorable to health and prolonged life is a temperature of about 65° and a humidity of about 80 per cent. This is about the condition found in the cooler rooms of hothouses — rarely or never in our homes when we are supplying artificial heat. Whether it be in New York, or Boston, or Alaska, or Los Angeles, the periods that most nearly approximate this temperature and humidity are those that show the lowest death rates. When the average temperature is warmer than this, there is a distinct increase in the death rate; when it is colder, we start our furnaces, and while we raise the temperature, we run the humidity down to forty, or twenty

or less, and this has its depressing effect on the health.

Variability in Temperatures

But there is another factor that deserves attention. Variability in temperature has been found to be more beneficial than uniformity of temperature. This is "rank heresy," I know, for we have been taught to believe that the acme of perfection in house heating is a system that automatically maintains the temperature at an unvarying level. Experience shows this teaching to be false. Our effort to maintain an unvarying house temperature during the winter is an unwitting effort to undermine the health; and were it not for the fact that our heating systems fail us, and that we get out of doors occasionally, the result would be more serious than it is.

Ventilation

Much has been made of the importance of ventilation. Probably not any too much. But careful experiment indicates that it is not the decrease in oxygen or the increase in carbon dioxide that causes unpleasant symptoms, for persons shut up in a very small, tight room until they are practically suffocated are restored by starting an electric fan within the inclosure. There is no ventilation, no change of pure air for foul, simply a little breeze and a stirring up of the foul air, yet it acts as a restorative. It would seem, then, that an important use of ventilation is to cool the air and keep it in motion.

When we fail to ventilate or to use fans in warm weather, we suffer from a sameness in temperature that is debilitating. This suggests that milady in using a fan on a warm day, even though it requires some muscular exertion and hence the liberation of additional heat, is thereby increasing her health as well as her comfort. It also indicates that those preachers who have fans distributed to their congregations on a hot day are performing an act of practical Christianity. Some day, perhaps, all auditoriums will be fitted with overhead electric fans.

As an evidence of the importance of variability of temperature, it may be stated that those who live in supposedly ideal climates like the Bermudas, where there is a minimum of variation in the weather, after a time lose energy and disposition to work, owing doubtless to the lack of the stimulus that would come from weather changes. Inhabitants of the Bermudas must take occasional trips to some more vigorous climate, else they degenerate. Now in winter we try to imitate as nearly as possible the monotony of the Bermuda climate, with this difference, however, in favor of the latter: that, while there it is comparatively moist, the air in our houses in winter is as dry as a bone — another factor in ill health.

The Value of Cold Air

There is more than a probability that the phenomenal benefit of the outdoor life in restoring tuberculosis patients, pneumonia patients, and patients with bad suppurating wounds is not altogether that the air contains a certain amount of oxygen and is comparatively free from carbon dioxide and other deleterious matter. These may have their effect; but probably the principal benefit of the outdoor life is the cold. The same with the open-window schools. It is the cold air as much as anything that restores vigor to the young bodies and increases the ability of the pupils to master their studies.

Our Heating Blunders

In our variable spring and autumn days, according to carefully prepared statistics showing death rates, we enjoy the best health. But when colder weather comes, in place of making a little fire to take the chill off the house at times, we start the furnace and attempt to maintain an even temperature of 70° or over. In warming the cold air to this degree, we deprive it almost entirely of its moisture. We then have three factors of ill health — the warm air, the even temperature, and the dryness. Were the enemy to try to invent a more certain combination to under-

mine the health insidiously, he could not do it. In fact, if the undertakers required to do some propaganda work to increase business for themselves, they could not do better than to advise everybody to install modern heating systems, and keep their apartments at about 70° or over — like a modified Turkish bath — all winter.

The ideal heating system will not have an unvarying temperature. The temperature will vary, perhaps, between 56° to 58° in the early morning and 68° to 70° in the evening; but the air will be almost as moist as it is in a conservatory; at least as moist as it is possible to make air which is heated thirty or more degrees. This will necessitate the constant evaporation of water into the apartments, either from specially constructed evaporators behind each radiator or in the registers, or by boiling water on the stove.

If we maintain such conditions in our homes in winter, we will do away with many sore throats, colds, catarrhs, dry, bleeding noses, pneumonias, and the like. For while many of these conditions are infectious, they are also seasonal; but seasonal because they come at the season when we, by our vicious heating systems, supply the conditions favorable for the onset of disease. For the sake of health we would better keep the room temperature down to an average of not over 65° and the moisture as nearly as possible up to 80 per cent. This is an ideal rarely attained in winter.

Denominational Health Work

L. A. Hansen

CONVENTIONS of health organizations and meetings of medical associations are quite common these days, and many good health measures are adopted. But it is not common for religious bodies to give study to questions of health and pass recommendations on the same. The Seventh-day Adventist denomination is active in promoting health interests, and usually makes health a subject of careful study and legislation.

At the recent Fall Council held at Boulder, Colo., with a full representation from the United States and Canada, and with delegates from Europe, Great Britain, and the Orient, the body passed several recommendations looking to an extension of health and medical missionary interests. Among the measures adopted was one covering plans for making a larger use of the educational and training advantages of the many sanitariums and nurses' training schools operated by the denomination, with a view to serving general field needs:

(*a*) By adapting the training so as to qualify workers to act as school health supervisors, school health teachers, medical secretaries, medical evangelistic nurses, and instructors in cooking.

(*b*) By sending out small groups of medical workers to give practical instruction in disease prevention, home hygiene, sanitation, rational feeding, healthful cookery, simple treatments, and other problems relating to home health.

(*c*) By giving, in certain designated institutions, short courses of training to persons who desire special medical training, but who do not wish to qualify as regular nurses.

Another recommendation calls for active measures in time of epidemics or other serious health emergencies, for rallying and preparing the general membership to render needed help, calling

upon doctors, nurses, school-teachers, and other public workers to lead out in giving to all emergency needs their prompt and full attention.

Recommendations were adopted providing for the appointment of school nurses and health teachers in the larger schools of the denomination; also for giving closer attention in general to the health needs of the children and students in the elementary schools, academies, and colleges.

This health activity on the part of a religious body is perfectly consistent with its field of service. The Founder of Christianity ministered to every need of humanity. He "took our infirmities, and bare our sicknesses." Devoting more time to healing than to preaching, he gave an example of what constitutes true gospel work, and showed that the plan of salvation includes physical healing as well as that of the soul.

True religion comprehends the needs of the physical life together with those of spiritual living. Indeed, the association of the physical and the spiritual life is most intimate; in fact, they are inseparable. Soul development and character building are possible only through the right use of the physical powers. The appetites and passions are to be brought under control of a will that is ruled by reason and conscience.

As the conscience is awakened to the claims of God upon the whole being of man,— mind and body,— the duty of self-control is made clear. This calls for purity of living, victory over every bad habit, and a careful regard for that which tends to the highest development of body, mind, and soul. Gospel workers should be able to instruct in the principles of right living and should feel it a part of their legitimate work.

Medical missionary work is the most successful means of introducing the gospel; it is gospel work, or, the gospel in practice. The relief of physical suffering often is preliminary to the acceptance of spiritual truth. Whether in the foreign mission field or at home, the way to the human heart is often through the healing of a diseased body.

Instruction in the principles of health and hygiene is naturally a part of right teaching. Intemperance in eating and drinking have much to do with the increase of crime. Wrong habits of living are responsible for much distress and suffering. The church, if she does her full duty, cannot ignore the relation that the physical welfare sustains to spiritual living.

QUESTIONS AND ANSWERS

Answers this month by J. W. Hopkins, M. D., Washington (D. C.) Sanitarium

This is a service for subscribers to LIFE AND HEALTH.

For personal reply, inclose two-cent stamp, and address Editors LIFE AND HEALTH, Takoma Park, D. C.

If you are not already a subscriber, send also the subscription price with your question.

Replies not considered of general interest are not published; so if your query is not accompanied by return postage for a personal answer, it may receive no attention whatever.

Remember that it is not the purpose of this service to attempt to treat serious diseases by mail. Those who are sick need the personal examination and attention of a physician.

State your questions as briefly as possible, consistent with clearness, and on a sheet separate from all business matters. Otherwise they may be overlooked.

Inactive Skin

"How can I tell if my skin is active? Are senna and raisins proper laxatives?"

The action of the skin is determined by the freedom with which you perspire and also by the color and texture of the skin. An inactive skin is dingy, muddy, dry, and often mottled.

Senna and raisins are useful, but should be reinforced by a tablespoonful of Squibb's Mineral Oil at bedtime, and one tablespoonful of bran at meals, once or twice a day. Use a laxative diet also.

Deafness Following Mumps

"A few years ago I had the mumps, which left me hard of hearing. I have taken treatments from a specialist, but they do not help, and for the last few weeks I can hear only if the speaker shouts at me. Will you please tell me what I can do, so that I will not become totally deaf?"

Your condition demands treatment by one who is especially trained and equipped for that purpose. It will very likely be necessary to attend to some abnormal condition of the nose and throat. Begin treatment early and be patient and persistent. Keep the nose and throat thoroughly sprayed once or twice a day, and attend to your bowels. Avoid foods which produce sluggishness of the liver, as excess of sweets, butter, and all kinds of flesh foods.

Cigar Making — Dizziness — Constipation

"I am a cigar maker, 51 years old and under weight. Have acid stomach and constipation. X-ray shows normal shape of stomach and bowels, with normal emptying of stomach and a sluggish colon, but some thickening at the apices of the lungs."

The acid stomach, dizziness, and pains in the top of your head are undoubtedly due to your constipation and sedentary occupation, with the added handicap of cigar smoking and the inhalation of nicotine while at your work.

Relieve the constipation by the use of a laxative diet, abdominal massage given by yourself, warm saline enemas at night two or three times a week, and the use of one or two tablespoonfuls of Squibb's Mineral Oil at bedtime and a half hour before meals, twice a day.

The X-ray examination is quite favorable with the exception of the report on the lungs, which I think should lead you to secure as much out-of-door life as possible, with a diet which will increase your weight.

It is undoubtedly necessary for you to give up smoking, as it injures your stomach and bowels, poisons your heart, produces degeneration of the arteries with high blood pressure, and is harmful in every way. You should change your occupation.

Gastrointestinal Catarrh and Mucous Colitis

"Every three or four days I find it necessary to force my stomach to throw up large quantities of mucus, at times mixed with bile. When not too thick, it can be expelled through a stomach tube. Am dizzy often and troubled constantly with constipation in spite of drinking soft water, eating bran, prunes, and other laxative foods; taking mineral oil and cascara tablets; using enemas and cold compresses; and exercising in and out of doors.

"At periods ranging from three weeks to three months, I have very severe attacks of colitis, at which time it takes four or five hours to get a thorough evacuation of the bowels by purgatives, enemas, etc. I am gloomy and despondent. What can I do to prevent the formation of the large quantity of mucus in the stomach and to dilute it when there, so as to facilitate its passage through the stomach tube? What can I do to relieve gas pains? Will hard well water be preferable to cistern water for drinking? Should I drink lemon juice? What shall I take for constipation?"

You should have a thorough physical examination, including a barium meal and a barium enema, with the necessary X-ray examination. Your condition is spastic constipation and colitis, and in the case you will get better results from the use of agar-agar than from the use of bran. You should continue the laxative foods, mineral oil, enemas, and the cold compress, and add gentle abdominal massage three times a week to your treatment. Take fomentations to the stomach and abdomen before applying the cold compresses.

In order to facilitate the evacuation of the mucus from the stomach, wash out the stomach with water containing a teaspoonful of sodium bicarbonate to the pint of water. If you will successfully control the above trouble, you will

be relieved from gas pains. Drinking well water of ordinary hardness is preferable to cistern water. Lemon juice is beneficial unless taken in excess.

Fomentations to Abdomen for Soreness of the Chest

"For a sore chest you suggest fomentations to the abdomen. Why not fomentations to the chest, where the soreness is?"

The object of giving fomentations to the abdomen in chest and lung troubles is to increase the circulation through the abdominal viscera, thus relieving congestion of the chest. It is also a fact that many cases of chest trouble are complicated with stomach and bowel disturbances, and the fomentations are of great help in such conditions. These can also be given to the chest, but should not be very hot, nor applied very long. Each one should be followed by a short cool sponging. Mild, short tonic sponge baths or sprays, given to the whole body, with a carefully regulated dietary, including foods which are fattening and which build up blood, are also important. Endeavor to raise your general health to a much higher degree. Get plenty of fresh air and sleep.

Worms or Lung Trouble — Which?

"My little ten-year-old daughter awakens in the night and sneezes five or six times, and before she is fairly awake in the morning, she sneezes a half-dozen times or more, and during the day she will sneeze several times. Her health seems to be fairly good, but I sometimes fear she is not so well as she used to be. Quite often she grits her teeth at night, and her breath is offensive at times. It is just within the last year that she has sneezed so much. Do you think the sneezing is a sign of diseased lungs? If so, what would you advise in the way of treatment?"*

Keep your child's bowels regular. They should move at least twice a day. To do this, have her eat laxative foods, as whole-wheat bread, lettuce, celery, spinach, raw cabbage, etc., and have her drink plenty of water, especially in the early part of the day.

It is possible that she has worms, and for this you should give her an enema containing a tablespoonful of salt to the pint of water. Do this for two hours before bedtime every night. Let her go to bed early and get plenty of sleep. See that she has plenty of rest during the daytime and that she gets out in the fresh air as much as possible. Try to build up her general health, increase her weight, and overcome her nervousness. I do not think that she has diseased lungs. Have her nose examined.

First-Hand or Second-Hand Foods

"My little girl, nine and a half years old, has always been very thin and nervous. She is conscientious in her school work and in everything she does. She sleeps well and eats fairly well, but has a sallow complexion. Lately she has begun to have nosebleed. What is the cause of it? Should I take her to a physician?

"Her father thinks she is too thin, and insists that I get steak and cook it rare. He says that what she needs is more blood to build her up. I do not like the idea of giving her steak, and shall be very grateful if you will kindly advise me. Her tonsils and adenoids were removed when she was about six years old, but it did not make any difference in her physical condition."

The nosebleed in your child's case is possibly due to her being run down and anemic. In this case flesh is not the best diet to build up the blood; but if used, the flesh should be thoroughly cooked in order to destroy the disease germs and parasites, such as trichina and tapeworm, which are often found in the flesh. You had better give her green vegetables, such as spinach, celery, lettuce, string beans; whole grains, as whole wheat, rice, oatmeal; fresh fruits, milk, cream, eggs and nuts, which are the best blood-building and fattening foods. Have her nose examined by a specialist, as it may be that she needs treatment to her nose, such as washing and spraying it out once or twice a week.

Constipation in the Aged — Fallen Arches

"Can constipation be cured at my age — 59? I use three heaping tablespoonfuls of bran three times a day and sometimes three more at bedtime. Is agar-agar better than bran? Is paraffin oil good,— Russian oil, for instance? The rectum is tight. Should it be stretched? Is there any cure for fallen or weak arches?"

Constipation is a difficult trouble to cure, especially at your age. The bran is of great service, only you are probably using about twice as much as you should. It is all right to take it with other foods, as in mashed potatoes, cereals, milk, or cereal coffee, or the bran may be made into gems or biscuits.

Agar-agar is better in one way than bran, in that it does not irritate the bowel quite so much. It also retains the moisture longer and thus tends to produce a softer stool. The Russian oil of which you speak has no advantage over the American mineral oil. You should take one or two tablespoonfuls at bedtime and about half an hour before breakfast. You should also use laxative foods, as string beans, celery, lettuce, asparagus; whole grains, as whole wheat, rolled barley, etc. It is sometimes necessary to stretch the rectal sphincter. An enema taken at night once or twice a week is very helpful.

Fallen arches are best remedied by wearing proper shoes and sometimes by using supports in these shoes. Some mild exercise, as rising on the toes several times, is of much benefit. Massage to the feet helps. Visit a good orthopedic surgeon and have him fit some supports to your feet and perhaps strap them up for a week or two.

NEWS NOTES

Doctors to Combat "Flu"

Through the various State health departments, the United States Public Health Service has made a call for doctors to volunteer their services to prevent a recurrence of the "flu" epidemic. It is planned as far as possible to use physicians in their own localities. The pay will be $200 a month with $4 a day for expenses.

Nicotine Next

The first number of the *"No-Tobacco" Educator*, published at 1306 Liverpool St., Pittsburgh, Pa., the official organ of the No-Tobacco Army, is just out. It is a sixteen-page journal, well edited, nicely printed, and with a general appearance of making a formidable foe against the evils of tobacco using. The matter contained in the journal is rational and sensible. The subscription price is $1 a year.

Motherhood in Germany

It is stated that the Weimar Assembly has passed a bill placing maternity under the care of the government. All unwedded mothers are to be called *Frau* (i. e., Mrs.) and the children of such mothers are to be given the same education as is given to children born in wedlock. Government assistance is to be given to large families. All this, of course, is in the interest of building up the depleted population!

Low Birth and High Death Rates

The lowest birth rates and the highest death rates recorded for many years prevailed in New York State during the months of July and August. These are regarded by health officials as by-products of the war and influenza epidemic. New York State has lost about 90,000 in population in the last twenty months because of the great fall in the birth rate and the deaths due to the influenza epidemic, according to Dr. Herman M. Biggs, New York State commissioner of health.

Warfare Against the Rat

The rat has been so destructive in England that it has been thought worth while to enact a law making "further provision for the destruction of rats and mice." The rat is a pest, not only because it is the means of transmission of the disease known as "pest," or bubonic plague, but because it destroys countless millions of dollars' worth of food. In his own defense, man should cease to tolerate the rat. And as to the mouse, if it does not transmit disease, it destroys great quantities of food.

Physical Reconstruction

The first of July, there were 25,600 officers and enlisted men undergoing reconstruction treatment and training in twenty hospitals equipped for the purpose. The treatment will require a period of from two to four months.

Influenza in the Army Camps

Vaughan and Palmer assert that, so far as we have accurate statistics, the only epidemics in which the death rate exceeded that of Camp Sherman in the fall of 1918, were those of the London plague in 1665, which within seven months took one out of every seven of the population, and the Philadelphia plague in 1793. In the army camps as a whole, one out of four had influenza, one out of twenty-four had pneumonia, and one out of sixty-seven died.

Infant Mortality Rates

A report of the infant mortality rates per thousand of living births, prepared by the New York Milk Commission, shows the average for the registration area of the United States to be 104; for New York City, 92; for seventy-nine cities with populations under 50,000, 97.2; thirty-eight cities of 50,000 to 100,000 population, 113.8; forty-five cities of 100,000 population, 103.5. The lowest was Brookline, a suburb of Boston, 35.4. Boston has a high baby death rate — 114.9. Fall River, Mass., has the highest baby death rate — 161.3.

Cutting Shoe Bills

The following is recommended by a correspondent (F. W. Charles) in the *Scientific American* of Sept. 20, 1919: "For a pair of shoes that have the shiny dressing worn off the soles, put on three coats of paint,— ordinary, hard-finish, black paint will do,— allowing each coat to dry forty-eight hours before applying the next coat. That is all there is to it. If the shoes are new, with the sole dressing intact so that the paint will not penetrate, roughen the surface with fine sandpaper. The paint will soon wear off the soles, but that which has penetrated the leather will remain and continue to perform its good offices. Repeat the process once each season and the soles will cease to worry you; the life of your soles will be measured by that of the uppers, and this will be greatly prolonged by the elimination of the half-soling process with its great wear and tear on the edges of the soft leather." Mr. Charles says he walks fourteen or fifteen miles a day and he is yet wearing a pair of Oxfords, thus treated, for the third summer.

Limit Liquor Prescriptions

The British Columbia Medical Council has passed and forwarded to the Minister of Education a resolution to the effect that medical practitioners shall not issue more than 100 liquor prescriptions a month.

Ocean Flyer an Abstainer

Lieut. A. C. Read, who commanded the NC-4 on the first ocean flight ever made, said that there was no drinking of liquor by himself or any member of his crew, while preparing for the flight across the Atlantic, nor during the flight.

Cure for Ivy Poisoning

The following has been highly recommended: When one suspects that he has been exposed, or even after the rash has begun to appear, apply to the exposed portions of the skin a thick soap lather, allow to remain awhile, wash, and go over the surface with alcohol, or bay rum.

" Flu " and Grip the Same

Lewis A. Conner, M. D., in a paper read at the American Medical Association meeting, 1919, said: " For one who, as a hospital interne, had a personal experience with the influenza epidemic of 1889-90, it is interesting to review the clinical features of that epidemic and to compare them, one by one, with those of the recent pestilence. After such a review no one can, I think, have the least doubt as to the identity of the two epidemics. Not only is there a striking similarity in the modes of onset and in the symptoms of the disease proper, but, in the tendency to special complications, and in particular to pneumonia of an unusual type, the resemblance is extremely close. All the well-known diagnostic features of the present epidemic find their counterparts among those of the earlier one; the abrupt onset, the prostration, the pains, the injected conjunctiva and painful eyes, the characteristic skin rashes, the prevalence of respiratory symptoms — all these are features common to both epidemics."

Droplet Infection

J. B. Rogers, of the Cincinnati Tuberculosis Sanitorium, recounts in *American Review of Tuberculosis*, June, 1919, his experiments with guinea pigs, to determine whether they might be infected by atmosphere containing minute droplets of an emulsion of tubercle bacilli diluted to 100. Precaution was taken to prevent the bacilli getting into the mouths of the pigs. They were completely wrapped except the breathing space, and after each exposure, the mouths and noses were swabbed in alcohol and the animals given a complete bath in 1 to 5,000 bichloride. The exposures of 5 minutes each were repeated about once a week for from 6 to 9 weeks. All the animals developed tuberculosis of the lungs.

Ivy Poisoning

Recent investigation seems to indicate that the poison of ivy is never volatile (which is difficult to believe) and that in same way the plant must touch the skin or the clothing or some object which later comes in contact with the skin. If this be the case, then the important thing for those who are susceptible to ivy poisoning is to learn to recognize the plant, — and also its near relatives, poison oak, and sumac, — at a distance, and always give it a safe margin. Experience shows that usually the highly lauded treatments prove disappointing. Prevention is better than cure.

Rest in Tuberculosis

In the *American Review of Tuberculosis*, June, 1919 (Vol. III, No. 4), Hugh M. Kinghorn, of Saranac Lake, in the treatment of pulmonary tuberculosis, inclines to the most rigid use of rest, with practically no exercise to be allowed if the patient's temperature exceeds 99° F. Only the lightest exercise is to be permitted under any circumstances, until a long period has elapsed after complete disappearance of symptoms and the patient's disease has been arrested without question.

BOOK REVIEWS

Danger Signals for Teachers

by A. E. Winship, LL. D., editor *Journal of Education*. Price, $1.25. Forbes & Co., Chicago.

No teacher can read the book without feeling his need for better preparation for his work, or the inspiration to make that preparation. While the book is not written from the Christian standpoint,— i. e., no religious motive is set forth,— yet no one but a consecrated Christian would likely achieve the high ideal set for the teaching profession.

The Man Who Discovered Himself

by Willis George Emerson. Price, $1.50. Forbes & Co., Chicago.

Here are combined several elements of a good story. First, A ready command of words, carefully chosen, and not used as an end, but as a means to an end. Second, Fidelity to life. The native of Southern California will perceive that the author, like the author of "Ramona" is accurately familiar with the places he describes; and the shoemaker, the railway agent, the cattle man, the lawyer, the politician, will recognize the pen-pictures of their respective vocations to be true in the minutest details. Third, A well-developed plot, holding the interest of the reader from start to finish.

The story emphasizes the supreme value of manly self-respect and self-confidence, combined with generous appreciation of the good in others, and sympathy for the unfortunate.

To those, who because of a circumscribed view of life, limit themselves to the reading of fiction for their moral training, the book certainly has a mission. Its tendency, however, is to surround with a halo of respectability the free use of tobacco and the moderate use of light liquors — a teaching not needed by this generation; and it familiarizes one too much with the use of "unconventional" English — the half-swearing type too familiar in the West. The author, doubtless, felt it necessary to incorporate these details in order to make the story ring true to life.

The Health of the Teacher

by William Estabrook Chancellor, author of "Our Schools," etc. Price, $1.25. Forbes & Co., Chicago.

The author, because of his many years' experience repairing the health of broken-down teachers, and lecturing to teachers, speaks with a certain authority.

He shows how and why even the teachers of hygiene and physical training often need medical help. They have not made intelligent and practical application of the knowledge to the regulation of their own lives.

He reduces the diseases and difficulties of school-teachers to a few types (of which he gives illustrative cases), depending largely on the physical type of the teacher, each type requiring its own special treatment, change of habits, environment, etc.

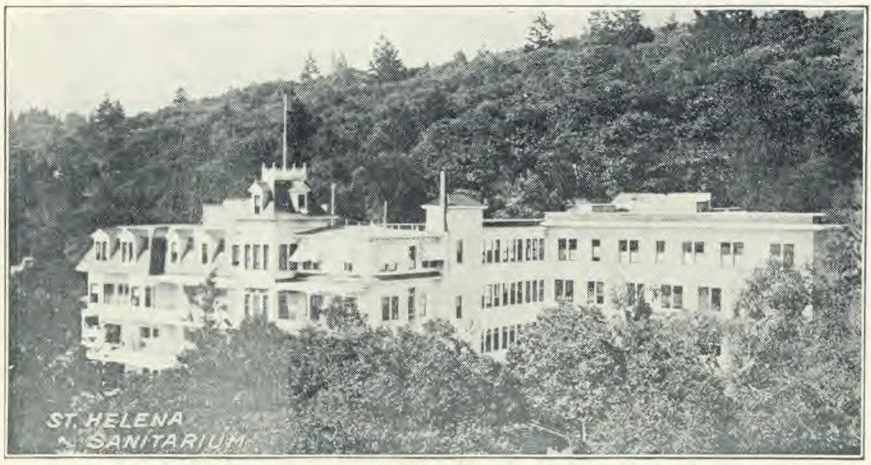
The second part of the book, "The Rationale of Health Control" is an excellent short course in personal hygiene, particularly adapted for teachers, but useful for all.

The Home Study Habit

THAT is the habit to form if you cannot go to school. And the Fireside Correspondence School was organized to help you form this habit. The president of the General Conference says, "I believe this school is conferring an unspeakable benefit upon our people."

For full particulars write today to the principal, C. C. Lewis, Takoma Park, D. C.

St. Helena Sanitarium



THE MAIN BUILDING—SHOWING THREE OF THE FIVE STORIES
New Concrete Hydrotherapy Building at the Right

¶ Away from the noise, excitement, and contamination of the city, and nestled close to the heart of nature, on a beautifully wooded slope of Howell Mountain, is situated the St. Helena Sanitarium.

¶ Its natural setting, in a forest of live oaks, firs, manzanitas, and madronas, together with an almost unending variety of flowers and foliage, gives a beauty and fragrance to the place that beggars description. It must be seen and enjoyed to be appreciated.

¶ Every modern facility favorably known to medical science in the treatment of curable conditions, has been incorporated into the institutional régime. Thus nature and science have combined to make the St. Helena Sanitarium all that can be desired by the diseased body or the weary mind.

Health Is Contagious at St. Helena

¶ Sixty-five miles from San Francisco, easily accessible by either steam or electric line; three and one-half miles from St. Helena; 750 feet above sea level; splendid climatic conditions at all seasons of the year; pure mountain water; beautiful view of valley, mountain, and plain; seven physicians, seventy nurses; excellent service, liberal cuisine,— these and many other advantages are to be enjoyed at this beauty spot of California.

The St. Helena Sanitarium

Sanitarium, Napa County - - - California