

Life @ Heald



"A Friend in the Kitchen"

If you cook, you will be interested in a little book that will show you how to cook healthfully and economically. These are two great essentials in these days of the High Cost of Living. The recipes are simple, practical, and satisfying, and the book is popular on this account.



It is divided into departments, so that recipes for certain dishes are readily found, and it is not heavy and cumbersome, but light and handy, and yet it contains 400 carefully tested recipes, as well as tables of food combinations, nutritive value of foods, rules for dyspeptics, household hints, etc.

The departments are as follows:

Soups

Cereals

Breads

Fruits

Custards and Creams

Pies

Cakes

Wholesome Drinks

Vegetables

Substitutes for Meats

Omelets

Puddings

Specially Prepared Health Foods

Simple Dishes for the Sick

Food for Infants

Miscellaneous

It is not easily mislaid, as its bright red covers insure quick discovery.

Cloth Binding, 112 pages - - 60 Cents

REVIEW AND HERALD PUBLISHING ASSN.

New York, N. Y.

Takoma Park, D. C.

South Bend, Ind.

CANADIAN PUBLISHING ASSN.

Oshawa, Ontario, Canada

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

MAY, 1920

No. 5

CONTENTS OF THIS ISSUE

EDITORIAL	131
The World's Need — You and I Can Help — The True Reformer.	
AS WE SEE IT	134
Food Restriction and the Death Rate — The Invention of the Stetho- scope a Fortunate Accident — An Encouraging Reduction in Infant Mortality.	
GENERAL ARTICLES	
Some Observations on Dietetic Customs	137
<i>L. A. Hansen.</i>	
How to Secure Health and Efficiency: I. A Healthy Mind	139
<i>R. A. Crawford, M. D.</i>	
First Aid in Accidents: Burns	140
<i>Loe A. Sutter, A. B., M. D.</i>	
The New Profession	143
<i>James Frederick Rogers, M. D.</i>	
Dietetics: The Food Requirement of the Body	146
<i>George E. Cornforth.</i>	
The Child's Teeth	150
<i>Rozette Runk, M. D.</i>	
Why Good Teeth Are Necessary	151
<i>William Curtis Dalbey, D. D. S.</i>	
Value of X-Ray Examinations in Tuberculosis	152
<i>Clarence F. Bull, M. D.</i>	
QUESTIONS AND ANSWERS	155
Sciatica — Mental Symptoms — Mouth Breathing — Gelatin — Piebald Skin — Internal Bath; Tyrrell's Method — Nervous Headaches — Pamphlets Wanted — Diet and Diabetes — Earwax — Adhesions — Sugar in Blood — Hot Water with Agar — Treatment of Piles — Cold Feet.	
NEWS NOTES	158

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.



“ Good Morning ! ”

Life & Health

HOW TO LIVE

EDITORS

L. A. HANSEN

G. H. HEALD, M. D.

VOL. 35

MAY, 1920

No. 5

EDITORIAL

The World's Need

PHYSICALLY, this world is full of disease, and is getting worse, in spite of all that medical science and public health measures can do.

Mentally, the world shows a wide streak of madness. Some authorities tell us that at the present rate of increase of insanity we shall all be crazy in about a hundred years.

Morally, our world is not getting better, the claims of overoptimistic idealists to the contrary notwithstanding; newspaper headings tell the story of increased wickedness and crime everywhere.

As for ills, there is a cause for this universal ailment. Getting down very close to the first cause, we can say that the innate selfishness of man is the evil germ that infects the whole body of humanity and manifests itself in many abnormalities.

Greed, ambition, lust, and love of pleasure are but the assertions of self in its seeking for satisfaction; and its seeking knows no end, it stops at nothing.

Health, mind, morals,—all break under the strain and pressure of men's efforts to get what they want. Man's inhumanity toward man stands as his greatest sin.

It is generally recognized that the world needs restorative treatment. Remedies are offered in number. But men's "sure cures" do not seem to cure. Mild medicines fail to ameliorate; drastic doses do not rejuvenate. Statesmen and would-be reformers try their skill, and alike fail to help matters much; the case is beyond them.

The world needs today just what it needed nineteen centuries ago,—the healing virtues of the teachings of Christ. The principles of truth and right and justice taught by the Great Teacher, the measures of reform applied by

the World Physician, are applicable to all men for all time and all places. They go to the very core of our troubles, reaching the heart of man and eradicating the evil at its roots.

It is no idler's dream, no idealistic theory—the idea that the gospel of Jesus Christ, believed, received, and lived by men, will prove an effective remedy for our world troubles. This is the only cure-all that has yet proved its value when applied.

You and I Can Help

ONLY in the church is it held to any extent that the principles of the golden rule and of the Sermon on the Mount should govern men; and it is generally conceded that even here the practice of these principles is little enough. In the business world, business is one thing and religion another. The social circle is usually indifferent or hostile in its attitude toward the teachings of Christ. Domestic affairs are generally run without reckoning religion as essential.

Yet if the simple teachings of Jesus were made the rule of our conduct, there would be none of the world evils that now beset us. Injustice, profiteering, hoarding, market manipulation, food adulteration, vice, intemperance, quackery, faking and frauds, with innumerable other evils, would cease to exist.

But the world as a world is not going to reform. The Word itself says so. Let us not wait for other men to do better, for Utopian dreams to be fulfilled and for a millennial reign of righteousness. We can do our individual part in applying the principles that will make things better whenever and wherever they are applied. And there is all the more need of our doing it when others fail to do it. If you and I do what you and I can do, we shall help that much.

The True Reformer

THE true-spirited reformer is not to be dreaded. He is all right.

He does not proclaim himself a reformer, so you may not always know him as such.

He is a modest man, and unobtrusive, for he is trying to win people, not drive them, either away or his way.

He is, of all people, the most unselfish, for he really wants to help others, and is willing to give all he is or has in order to do it.

He is willing to sacrifice convenience, time, and money, in order to help some one else. He will even yield his own opinion or the chance to win an argument for the sake of winning the other man's heart.

He tries to reach people where they are, and knows he must go to them in order to reach them.

He holds no exalted position of superior goodness to which men must come in order to be helped.

He does not make people feel that they are ignorant, unfortunate, and inferior subjects for missionary effort.

He does not ridicule others for what they are doing; he is too kind and courteous to do that.

He has sense enough to know that attacking others for what he regards as wrong practices will do more harm than good, and will not help the cause of true reform.

He does not criticize and belittle what others may have; he offers something better, if he has it to offer.

He is constructive, not destructive.

He does not become impatient with those who do not accept his views; he takes into account all the conditions involved.

He makes allowance for ignorance, early training, prejudice and bias, environment and existing circumstances; he knows these cannot be met by harsh dealing, and has no inclination to use it.

He is broad in his conception of truth, and never attempts to run it into grooves or ruts of his own making.

He does not go off on a tangent, nor does he work on an eccentric.

He takes no extreme position on either side, but follows a middle course that all can travel, and in which all must go if they get anywhere.

He does not condemn others for their wrong course, knowing that this is altogether out of his line.

He weighs carefully what he says, lest by some word he may offend another and drive him farther from the right.

He seeks to reach the heart first, and knows that love is the only power that can do it.

He tactfully leads others to see their need of help, and is able to point them to it.

He lives in his own life the truths he teaches, and his true goodness and unselfish deeds do more to win people to the right than anything else.

The true reformer is not to be feared, but deliver us from the other kind.

L. A. H.

HEALTH is a state of physical, mental, and moral equilibrium, a normal functioning of body, mind, and soul. It is the state when work is a pleasure, when the world looks good and beautiful, and the battle of life seems worth while. Health is the antithesis of disease, degeneracy, and crime. The laws of health are as inexorable as the law of gravitation, as exacting as eternal justice, as relentless as fate, and their violation is the beginning and cause of all disease, suffering, and sin. Health is the most desired of earthly blessings; when finally lost it cannot be purchased by uncounted millions, restored by the alienist, or returned by the pulpit.—*S. J. Crumbine, M. D.*

“HOW much less effort to go down than to ascend! How slow we all are in learning the invaluable lesson of life — the realization that endurance is won only by the overcoming of hindrances! The right path is always away from the valley of comfort and plenty.”—“*The Soul in Suffering*,” *Robert S. Carroll, M. D., p. 86.*

MODERATION is the silken string running through the pearl chain of all virtues.—*Fuller.*

AS WE SEE IT

Conducted by
G H Heald, M. D.

FOOD RESTRICTION AND THE DEATH RATE

WAR conditions furnished in Denmark, perhaps, the most favorable opportunity for observing the effect of food restriction, scientifically supervised, on a large body of people. In the first place, Denmark was not "starved out" as some of the other European countries were, and in the second place, there stands at the head of the nation's nutrition work, both for man and animals, Mikkel Hindhede, one of the world's great nutrition experts, a man with the courage of his convictions, who has proved to the world that it was wrong in some of its dyed-in-the-wool ideas on nutrition.

In an article which appeared in the *Journal A. M. A.* of February 7, Mr. Hindhede says:

"As research had also shown that man can retain full vigor for a year or longer on a diet of potatoes and fat and for half a year or more on a diet of barley and fat, reliance was placed on our potatoes and the large barley crop, which was given to man and not to the pigs, as heretofore, with the result that the pigs died of starvation, but the people received sufficient nutrition. Furthermore, we ate all our bran ourselves. We not only ate whole-rye bread, but we mixed all our wheat bran with the rye flour and were able to bake good bread in this way. The Germans were unable to bake good rye bread. Their bread was too sour and too soggy. We were fortunate in having had more than a hundred years of experience in this direction. Our principal foods were bran bread, barley porridge, potatoes, greens, milk, and some butter. Pork production was very low; hence the farmers ate all the pork they raised, and the people of the cities and towns got little or no pork. Beef was so costly that only the rich could afford to buy it in sufficient amount. It is evident, therefore, that most of the population was living on a milk and vegetable diet."

Food restriction began in Denmark in March, 1917, and became severe in October of that year. Then came the "flu" epidemic which was sweeping all Europe. During the time of severest food restriction there was a remarkable diminution in the death rate, particularly in the deaths from nonepidemic diseases. The death rate for Denmark during the most severe food restriction from October, 1917, to October, 1918, was 10.4 per thousand. Before this it had never been below 12.5 per thousand. Commenting on this Mr. Hindhede says:

"This result was not a surprising one to me. Since 1895, when I began my experiments with a low-protein diet (mostly vegetarian), I have been convinced that better physical conditions resulted from this standard of living. It may be said that a vegetarian diet is a more healthful diet than the ordinary diet. As the result of extensive studies in this field I am convinced that overnutrition, the result of palatable meat dishes, is one of the most common causes of disease."

He calls attention to the large quantity of bran used in Denmark as human food, during the period of severe food restriction. The bread was mostly made

of whole rye, to which was added all the wheat bran they had, adding 24 per cent of barley meal. This made more than twice the amount of bread they would have had by milling only to 70 per cent. And the bread made a good loaf. Hindhede says these findings agree with those of Osborne and Mendel, who found that bran is a very good food for rats, and that mixed with white flour, it can take the place of meat and eggs. Whence he concludes that man should use more whole-grain bread and less of the more costly foods.

In his concluding paragraph Mr. Hindhede says:

“While not all readers will agree with what I have said, no one can dispute the fact that the people of Denmark have no cause to regret that during the war their diet consisted mostly of milk, vegetables, and bran. If Central Europe had adopted a similar diet, I doubt that any one would have starved. It seems to me, however, that the German scientists, as represented by Rubner, have not learned anything from the war. Rubner writes about the ‘necessity of bringing the supply of live stock up to the pre-war basis. . . . From what I have stated, it follows that meat products must again form an adequate proportion of our diet.’ Rubner wants an abundance of meat in order that the people can be ‘aufgefüttert.’ I do not agree with him. The people must first have bread, potatoes, and cabbage in sufficient quantity, and then some milk. Meat is the last requirement to be met. If the people must wait until pigs and cattle have sufficient food, they will die of starvation one year before they can get an abundance of meat.”

THE INVENTION OF THE STETHOSCOPE A FORTUNATE ACCIDENT

A LITTLE more than one hundred years ago, some children were playing in the gardens of the Louvre, Paris. They were listening to the transmission of sound along pieces of wood. René Théophile Hyacinthe Laennec, who observed them, conceived the idea of utilizing this method for determining the condition of the lungs of a patient by listening to the chest sounds. Going home, Laennec made a tube of paper, something like a short mailing tube, and with this experimented in his ward at the Neckar Hospital.

Thus was born the modern stethoscope. In America we have a more elaborate affair with flexible tubes adapted to be used with both ears; but in Europe some still use the single tube after the manner of Laennec.

It might occur to some to inquire, Why not apply the ear direct to the chest? This is perfectly feasible, but in those days the condition of patients was so filthy that physicians would probably never have been induced to listen to the chest sounds, even through a clean towel, as is now sometimes done.

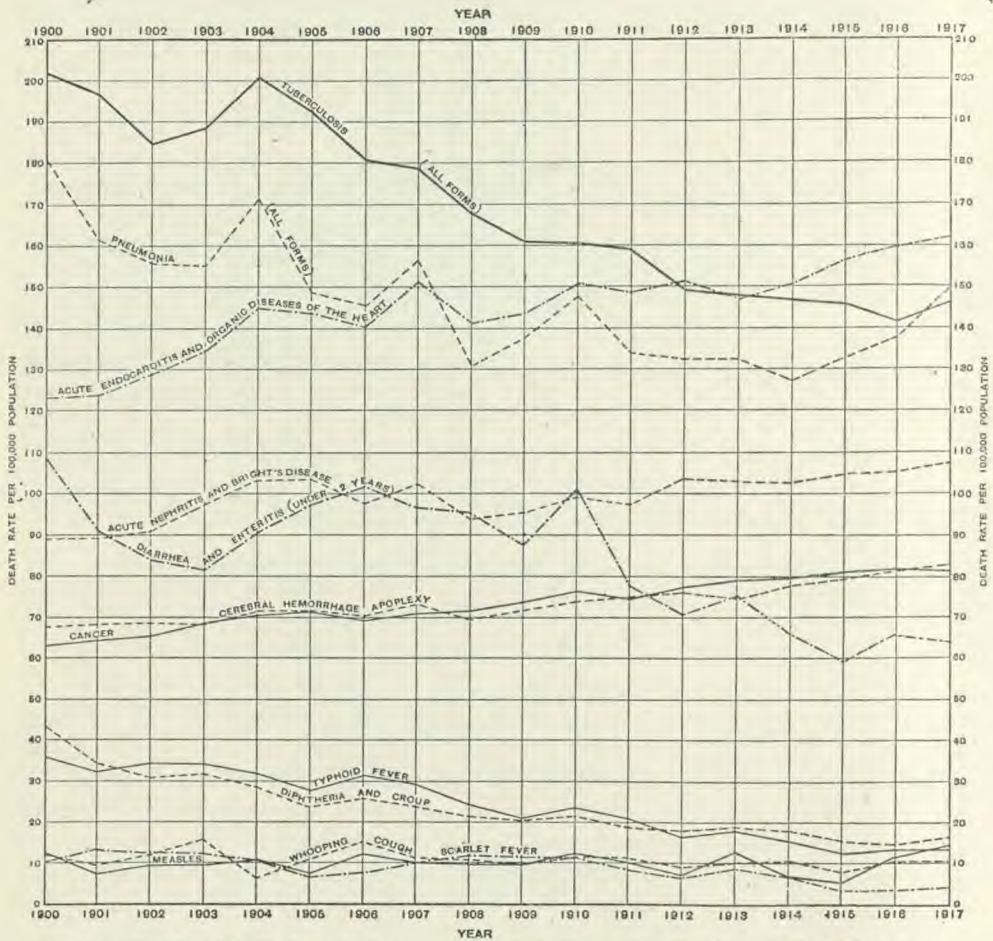
The modern stethoscope, improved to catch and to localize minute sounds, is the outcome of the Laennec instrument, which was the result of the children's play in the Louvre garden. As Galileo, by observing the swing of a chandelier, learned the laws of the pendulum; as Newton, by seeing the fall of an apple, was led to search out the laws of universal gravitation, so Laennec, from seeing the children's crude telephone, evolved the idea of the stethoscope.

PHYSICIANS, of all men, are most happy: whatever good success soever they have, the world proclaimeth; and what faults they commit, the earth covereth.— *Quarles.*

**AN ENCOURAGING REDUCTION
IN INFANT MORTALITY**

PUBLIC health measures have not yet done so very much to reduce the death rate among adults. In fact, some of the diseases which terminate the lives of adults (heart diseases, Bright's disease, apoplexy, cancer) are on the increase, as shown by the accompanying diagram. Tuberculosis and pneumonia have been decreasing, though pneumonia has shown a rise since 1914.

But infant diarrheal disease is showing a marked decrease. In fact, the death rate from this condition in 1917 was one third less than the average annual death rate for the five-year period 1906-10. The average annual death rate for these five years was 96.2. For the years 1911-17 inclusive, the annual death rates were 77.4, 70.3, 75.2, 66.0, 59.5, 65.6, and 64.0, respectively.



Death Rates from Certain Important Causes of Death in the Registration Area of the United States for Each of the Years from 1900 to 1917.

Some Observations *on* Dietetic Customs

L. A. Hansen

IN a New York City lunchroom I saw the crowds hurrying in and out, with never a slackening of their rush from the time they went in till they came out, except for the brief time it took for the "quick lunch" counter to fill their orders. The few hurried bites and gulps with most of them seemed more like a mechanical operation in a rush day's work than a meal. One man took such big bites that his mouth could not hold the food, so he actually forced it in with his fingers. I observed, too, that a bit of delay in the service, the slight jostling of a neighbor, the spilling of a little coffee, the inability to find a seat at once—any little thing was enough to cause considerable impatience and irritation.

In another eating-house I saw many young ladies, shopgirls, clerks, and others eating the most meager sort of midday lunch. A doughnut or a piece of pastry and a cup of coffee, sometimes a dish of salad, was apparently all many of these workers depended on for nourishment. Perhaps the lunch was supplemented later by candy or even chewing gum. At any rate, I observed that most of the young ladies had little natural color, and on the whole, they were a nervous lot.

In still another place, patronized by a certain class of foreign business men, I saw the diners ordering heavy meals of rich foods, largely meats. They took their time for eating, and ate plenty. I observed that these men, as a rule, were overweight; and while they were not pale, their color was not one of health.

In a Southern city I saw a number of men in a market block, waiting to sell their loads of tobacco. As some of them

had come some distance and had to remain a day or two, they were prepared for it. It was the noon hour, and they were getting their meal. Coffee was heated, bacon fried, and then large slabs of corn "pone" were heated by placing them over the fire in a skillet about half full of grease. The bread had been baked at home. It was in pieces about two inches thick. Of course it soaked up quantities of grease. I observed that though these men lived in one of the most healthful of mountain farming districts, a place to which invalids go for health, they were by no means the robust, clear-complexioned men they might be.

I listened to a man telling of the wonderful diet secret he claimed to have discovered, which, according to his story, afforded a complete food for himself and his horse, with a minimum of labor in preparation. Raw dried corn was his discovery and his dependence. Later he asked counsel regarding his domestic affairs. He could not get along with his wife and children. They had refused to comply with his feeding program; hence the trouble.

I saw a man who was full of zeal for a certain feature of diet reform, a principle quite consistent in its relation to all the other phases of the diet question. He urged this particular thing so persistently that the excellent merits of the thing itself were lost sight of by his hearers, and the whole question of diet reform became more or less a matter of ridicule to many. His apparant regard for careful living went way below par when he lost his self-control and yielded to temptation on a point of more serious concern than his own pet hobby

I saw a man so particular about calories, carbohydrates, proteins, and food values in general, that he ate with a little scale on the table. He would carefully divide little pieces of food into smaller bits in order to secure the proper weight of this and that and the other element. He is dead.

I know a man who is a tremendous worker. He can do a good man's turn at physical labor, and more than several average men's amount of brain work. He has given broad study to the diet question. He has ascertained what foods are the best for health, and which of these are best for him. He eats his food with enjoyment, free from worry as to whether it is going to hurt him. He does not choose to eat things that are inferior or harmful. He refuses to eat

concoctions that may pose as substitutes of harmful foods, but which may be worse. He makes it a point always to select the best. But understanding that eating is not the only factor in health, he does his best to conform to all health principles.

My observations lead me to believe that the course followed by the man in our last example is the rational one and the safest to follow. Common sense is one of the best elements when one begins to practice for health. Scientific deductions have their place. Individual preferences may be allowed. A well-developed conscience should be operative. But all these should work together to give proper balance and poise in the question of eating, as well as on other important points of living.



How to Secure Health and Efficiency

I—A HEALTHY MIND

R. A. Crawford, M. D.

FIRST of all, do some mental house cleaning. Get the broom of optimism and the dust cloth of good will toward all, and rout all morbid thoughts, be they little or big, and chase them out of their hiding places. Put them into the ash can and send them away on the first clean-up wagon that comes your way. Then put up a big sign on each corner of the lot, something like this:

“Notice to all envies, suspicions, jealousies, petty little neighbor knockers, useless little worries, complainers, glooms, the ever-to-be-shunned self-sympathizers, and all other morbid, unhealthy, and unwholesome thoughts—absolutely no trespassing allowed!”

Get rid of the whole family of these mean, horrid little thoughts, because they are little and mean, and unworthy of real men and women, no matter how big they may seem. Give them to understand that they are permanently disposed of—all these thoughts that so clog up the machinery of the mind and poison the atmosphere that decent, healthy, wholesome thoughts cannot even live respectably, to say nothing about thriving and growing and building up character.

Suppose you are not appreciated; why throw a wrench into the machinery and stop the production of worth-while thoughts in order to think of something just as mean to say about Mrs. Friend Knock-Here-Neighbor as she has said about you? Supposing you are out of luck and the wheel of chance always stops at the wrong place; supposing you are really down; at least you are not out as long as you can think worth-while

thoughts. As long as you can keep your mind producing good cheer and everything else elevating, you are still of use in the world; and who knows, perhaps right at that darkest hour, your sensible, sane, mental equilibrium and good sportsmanlike qualities are doing more real good in the world and producing more that is really worth while than all your gilded days put together.

Supposing your work is hard and a drudge. If it is a drudge, it is so because you make it so. There is no work so mean but that beautiful lessons and wonderful thoughts can be drawn from it. Christ used the lowliest duties from which to draw wonderful parables, which have lived and been dear to every heart for nearly two thousand years—yes, and will be throughout eternity. These lessons have enriched the world, and produced blessing to humanity as perhaps nothing else could. You can make your work, through its connection with the created things of God, a door by which your mind can take in of the real riches of life's true happiness, though you are ever so poor and live in a hovel; and by so doing you will develop character, strength, ability, and real manhood or womanhood. You cannot help but make a success of life, even though you always wear homespun.

How many of us so fill the house of our mind with rubbish that we haven't room for anything else! We keep our eyes to the ground while all about us is an infinity of all that is uplifting and ennobling literally inviting our attention.

Then let us clean house, sweep down the cobwebs, burn up the rubbish, chase

out the imps, scrub up, and then what? These devitalizing, demoralizing mental parasites do not pay much attention to signs, as a rule. They are as persistent as fleas in a dog kennel. What will you do to keep them out? Simply this—open the doors and windows, and gather in the sunshine and the fresh out-of-doors. In other words, so fill the mind with that which is worth while and good and ennobling that there is no room for the other. Put the mental factory to work producing something of value to yourself and those about you; let it turn out optimistic, healthy, wholesome thoughts—the kind that go one by one into the building of character, which is the one great possession, the pearl without price, the one thing really worthwhile in life, that toward which all other things in life are mere stepping-stones for the truly great man or woman.

It is marvelous what a change in one's life the transformation of one's attitude toward life, and his habits of thinking,

may produce. The mist is turned into the morning; the petty mountains which we build about us are made low, and the creation of God becomes filled with wonders. How many men and women are in the condition spoken of by Christ: "Having eyes, see ye not? and having ears, hear ye not?" the beauties and wonders about you?

Fill the mind with good thoughts, read books that will ennoble and enrich your character, study the lives of the truly great, come close to the heart of the infinite textbook of nature—the created works of God. Read the Bible, for there is nothing that so tends to enrich and strengthen our lives as communion with our Maker through his word and the privilege of prayer. Be cheerful, see the funny side of life, laugh at your blunders, but don't repeat them, and so go through life, being happy and healthy, and rich with the greatest possession of all—character.

FIRST AID IN ACCIDENTS

BURNS

::

L. A. Sutter, A. B., M. D.

A BURN may be caused by contact with certain gases, heated liquids and solids, flames, and radiant heat; for example, if steam from a tea-kettle or a boiler comes in contact with any part of the body, it produces a burn.

Burns from hot water may be caused by the explosion of a steam boiler or by the turning over of kettles or pans of boiling water from the kitchen stove. The face and hands are often severely burned by the explosion of lubricators or the turning over of pans or vats of hot grease. Critical burns are often caused by falling into a vat of hot tar.

Molten metals may be splashed against one, causing deep burns. There are many chemicals, such as acids and alkalies, that produce burns. Electricity causes some of the most severe burns. Burns from hot water bottles have caused the loss of limbs. The sun's rays will burn the skin that is unaccustomed to exposure.

Classification of Burns

A first-degree burn may be caused by the sun, slight contact with steam, hot water, or a flame. A burn from any of these causes, which produces a marked

reddening of the skin with burning and pain, but not sufficiently severe to cause a blister, is termed a hyperemia.

A second-degree burn is produced by contact with any heated object a sufficient time to cause the formation of a blister. This is called vesication. An example would be burning the arm on the stove or with the steam from a teakettle. Here the superficial skin is destroyed, and a blister forms in a few minutes and is filled with water.

A third-degree burn destroys the skin and the parts beneath it to a varying depth. This is called an escharation. It is a very serious burn, and if very extensive, will cause the loss of life.

A fourth-degree burn is one in which the tissues are burned to a charcoal.

Symptoms of Burns

1. *Shock*.—All burns produce more or less shock. If one third of the surface of the body is badly burned, the patient will probably die from shock. A burn causes more shock to a child than to an adult; and a burn on the head or the upper extremities causes more shock than a burn on the trunk or lower extremities.

2. *Fever*.—A lively reaction to combat the effects of the burn is set up in the system. This usually produces more or less fever, according to the severity of the burn.

3. *Increased Rate of Pulse*.—Along with the fever there will be an increased rate of the heart beat.

At times there is vomiting, and occasionally blood may be vomited. There may be symptoms of ulcer of the stomach. There is a decreased activity of the adrenal glands, which disturbs the whole body. Often there is diarrhea.

The kidneys are often seriously injured. The urine will be scanty, highly colored, and may at times contain blood. There may be so much poison produced in the blood stream that the body will not be able to throw it off, and the poor victim may die within from five to twelve days because of the accumulation of these poisons in the blood.

The local symptoms of a burn of the first degree are usually discomfort, as burning, redness, swelling, and heat, as in the case of sunburn from bathing at the seashore.

In the second-degree burns, along with the above symptoms we get vesicles and blisters of varying sizes, in which there is first clear water, then pus. These later form crusts or scabs.

In the third-degree burns, we get all the above symptoms besides the separating of the large pieces of dead tissue. Areas the size of a dollar may separate themselves from the surrounding tissue and drop out in the course of a few weeks. This will, of course, leave severe scars, and may cause extreme deformity, as, in a burn of the neck, the drawing of the head over to one side. In a burn of the chin, the mouth may be drawn down. Inability to use a leg or an arm may result from this scar formation.

Treatment of Burns

All burns should be taken care of as infected wounds. This is very important, because the germs from dirty clothing or dirty bandages or dressings will begin to grow immediately in the damaged tissues.

A comfortable dressing for a first-degree burn, as a sunburn, is to cover the part with sterile dressings, wet with a four-per-cent boric acid solution. This may be made by dissolving in boiled water that has been cooled, all the boric acid crystals the water will take up.

Another convenient dressing for first-degree burns is an ointment made by thoroughly rubbing together twenty grains of boric acid powder and an ounce of white vaseline.

A one-per-cent picric acid solution may be sopped on these first-degree burns, with gratifying results.

One of the most pleasant lotions to use on a sunburn is made by shaking together twenty drops of pure carbolic acid, one tablespoon of calamine powder, and one ounce of glycerin, in one-half pint of boiled water that has been cooled.

This lotion should be thoroughly shaken and sopped on the burn, using a piece of soft cloth.

In second-degree burns the blisters should be carefully opened with a needle that has been held in a flame for a moment. The blister should be opened at the point where it joins the skin. Then it may be painted with one-half strength tincture of iodine. The whole burned area may be covered with a dressing wet with boric acid or boric ointment. The dressings should be changed once or twice a day. Later, when the burned area is beginning to heal, it may be dressed with one-per-cent solution of balsam of Peru in castor oil. This can be poured over the burned area, and then sterile dressings put on.

One of the most satisfactory dressings for burns of the second and third degrees, is what is known as the paraffin treatment. Various manufacturing houses have put on the market, in cakes, this paraffin material under different trade names. A piece from one of these cakes can be put in a small pan, which is set in another pan of water, then placed on the stove and heated until thoroughly liquified. Then with a soft camel's-hair brush this warm paraffin mixture may be sopped on the burned area. This is a much better way to

put it on than by spreading it on after the manner of ordinary painting. Over the paraffin a thin layer of cotton lint is quickly applied. This dressing stops the burning at once, and is very easy to remove when the dressing is to be changed. This should be done once every day.

A short exposure of the burned area to the atmosphere and diffused sunlight hastens healing very materially. The length of time for exposure can be increased a little each day.

The severe deformity from the contraction of scars may be prevented to some extent by keeping the part on a splint so that it cannot contract; also by moving it a little each day. In the case of persons who already have deforming scars, great relief may be afforded by an operation. This is done by taking a piece of skin from some other part of the body, then removing the skin in the scar, and replacing it by the healthy piece of skin. It is unfortunate that any should go through life deformed as some do. They could probably be relieved to a great extent by a plastic operation by a skilled surgeon.

After a severe burn the patient should be encouraged to drink large quantities of water, and should take a light diet for a time.



The New Profession

James Frederick Rogers, M. D.

WHILE the number of those who are entering medical schools has been steadily growing less within the past few years, young men, and especially young women, are crowding into various schools for physical training throughout the country.

Although other causes have helped to discourage the study of medicine, there is less need now for the healers of disease, and more need for those who may help us to develop our bodies and so manage them that we will be able, not only to escape disease, but to make the most of our powers.

Muscular exercise is of especial importance for the development of the body and its maintenance in health, and the physical trainer has especially emphasized the need of such activity. Our ancestors of a few generations back were compelled, by the circumstances of their daily lives, to make an adequate use of their muscles — they needed no teaching along these lines: but we have become so cooped together in cities, and so robbed by machinery of bodily (and also mental) exercise in daily labor, that we need both opportunity for, and encouragement to, muscular activity.

The modern science and art of physical training dates back a hundred years to Friedrich Ludwig Jahn, who became known in Germany as "The Father of Gymnastics." Jahn took an important part in the wars against Napoleon, and it was from brooding over the many defeats the Prussians suffered at the hands of that conqueror that he conceived the idea of improving the physique (and with it the moral strength) of his countrymen by the practice of bodily exercises. Doubtless the wonderful fighting machine with which Germany con-

ducted the late war owes not a little of its efficiency to the enthusiasm and work of this patriot.

If Jahn was the father of physical training, Pehr Henrik Ling, a Swedish contemporary of Jahn, was the stepfather. Ling's health was injured early in life by hardships he was obliged to undergo. He found himself greatly benefited by the practice of fencing and other gymnastic exercises. As was to be expected, Ling was especially impressed with the value of muscular exercise for the development of the body and its restoration to health, though he also had in mind the making of soldiers.

Though they worked by somewhat different methods, the means employed by these pioneers were much the same, and the aim of both was the development of a healthier, stronger race.

It was but a question of time when enthusiastic representatives of these two schools of gymnastics should find their way to America, and plant the seed of these movements for better physique. In fact, our earliest teachers of gymnastics were exiles from Germany.

From about 1825 gymnastic exercises were introduced in some schools in this country, but conditions of school life, and of life in general, were not as yet such as to make physical education by any means imperative, and the interest in the subject proved transient.

About 1860 a stronger wave of enthusiasm for this subject made itself felt, and systematic work was introduced permanently into some of our colleges.

A higher and more sustained wave of interest came about 1880, when normal schools for the training of teachers of gymnastics were founded by Dr. Anderson, of Yale; Dr. Sargent, of Harvard;



quarters of the city tenements, and their children were showing the results of the change. School days also were growing longer, and school and public playgrounds were becoming fewer and smaller. The earnest preaching of the disciples of Jahn and Ling made itself felt, and by the beginning of this century the need of physical education as inseparable from mental education was generally ac-

and Mrs. Hemingway, of Boston. These, and schools of like kind started later in various parts of the country, had, for the next few years, their ups and downs with the fluctuations of public interest in the movement for physical improvement; but the tide of such interest was steadily rising, for conditions of living were becoming more unfavorable for bodily development. Men and women had been crowding from the muscle-using occupations and from the out-of-door life of the rural regions to the monotonous occupations of shop and office and the cramped



accepted, and a school without its "gym" was a curiosity.

The Young Men's Christian Association recognized the need of bodily development as an essential part of its scheme of unfolding the finest type of manhood, and it early established its own school of physical education, the students of which have spread the gospel of health and strength over this and other lands.

These schools of physical education have recently been growing by leaps and bounds, some of them doubling the number of pupils enrolled, within



three or four years. In most of them the course extends over two years, but there are summer courses and one-year courses; while, on the other hand, some schools require three years of study for graduation, and some colleges giving such courses require four years of study.

In the days when physical training was in its infancy, the ability to swing Indian clubs or to perform some



What the future holds for this line of work is not easy to foretell. That physical training has come to stay, and that its importance will be recognized even more, is not to be doubted. There will be changes in methods with changing public needs, and in the future the worker in this line will be some-

tricks on a horizontal bar, was about all that was required of teachers; but more and more is being demanded. Many of them are called upon to teach physiology and hygiene, and, indeed, some States now require of teachers of physical training that they pass examinations in these and other theoretical branches.

The development of summer camps and the rise of the playground movement have been met by courses adapted for such work, and each normal school of gymnastics has its out-of-door season for training in all out-of-door sports.

thing more than a teacher of gymnastics or an athletic coach—he will be a teacher of physical education in the largest sense.

The illustrations show some of the athletic and gymnastic work done by girls.



DIETETICS: The Food Requirement of the Body

George E. Cornforth

THE body is much like an engine: while it is growing, it requires a large proportion of building material, or building food, as metal is required to build an engine; but after the body reaches its growth, only a small amount of building food is needed to keep the body in repair, but plenty of fuel food—starch, sugar, and fat—is needed to support body activity, just as fuel is required by an engine when it is working; and the harder it works, the more fuel it needs; but not much metal is required to keep it in repair.

Carbohydrates and fats are the natural and convenient source of heat and energy for the body. Protein can be used by the body as fuel, but there are two objections to taking a larger amount of protein than is needed for building and repairing tissue:

1. Only the nonnitrogenous part of the protein can be used as fuel, and this leaves the nitrogenous part to be gotten rid of by the kidneys. This involves a waste of energy, and no doubt puts a strain upon those organs, which causes them to wear out prematurely. No doubt the large amount of meat consumed by the majority of people is partly responsible for the alarming increase in kidney disease.

2. The portion of protein which is not digested and absorbed, readily undergoes putrefactive changes in the intestine. This putrefaction produces poisonous substances akin to ptomaines, which are absorbed and require elimination by the kidneys. This also puts extra work upon these organs. Also the absorption of these poisonous substances produces auto-intoxication, and is a predisposing

cause of gout, rheumatism, migraine or sick headache, hardening of the arteries, and nervous troubles.

There is no doubt that vitality, endurance, and resistance to disease are better maintained on a diet in which the fuel foods predominate, and which supplies sufficient protein to repair broken-down tissue.

Only about one eighth of our food should consist of protein, another eighth of fat, and the rest, or three fourths, should consist of carbohydrates,—starch and sugar, mostly starch. Or, to put it another way, a person doing sedentary work requires about two ounces of protein, two ounces of fat, and twelve ounces of carbohydrate a day. Of course, the amount of food required increases with the amount of work done, but the proportion of the three different kinds remains about the same. This does not mean, for instance, that two ounces of beans, or two ounces of milk, both of which are protein-containing foods, will supply sufficient protein for a day, because beans and milk are not wholly protein. A table of food values will show that beans contain about 22 per cent of protein, that is, one ounce of beans contains 22/100 of an ounce of protein; therefore about nine ounces of dry beans would be needed to supply the required amount of protein for one day, if the protein in the diet were obtained only from the beans. Milk contains 3.3 per cent protein, therefore about sixty ounces, or two quarts, of milk would be required to supply the necessary protein for one day if no other food eaten contained protein. A larger proportion of protein than one eighth is required

during growth, and also in convalescence from wasting disease.

To be a little more definite, one or two eggs, a glass of milk, a helping of beans, one-fourth cup of cottage cheese, or three or four nuts, will furnish a sufficient amount of building food so that the rest of the meal may consist of the fuel foods and bulky foods, bread and butter, vegetables, salad, and dessert, or the dessert may be omitted.

One author says: "It is known that a relatively small and easily obtainable quantity of nitrogen is sufficient to repair the waste in the average individual, but the food required for producing energy is very significant in amount." "It has taken many years for us to realize fully that animal energy in all its forms is derived primarily from carbohydrate material, secondly from fats, and thirdly from proteins only in so far as they yield combustible, nonnitrogenous bodies."

Power to do work — power which we all must have — is called energy. Energy cannot be obtained from nothing. If we wish to get work, or energy, from an automobile, we must give it gasoline, through the burning of which energy is imparted to the automobile. If we wish to get energy from a steam engine, we must give it fuel, through the burning of which the power to do work is imparted to the engine. If we wish to get energy from a horse, we must give him food (fuel), through the oxidation (slow burning) of which energy is imparted to the horse. And similarly it is food which gives us the power to accomplish anything.

But there is a definite relation between the amount of fuel consumed and the amount of energy produced. A certain amount of food is capable of producing a certain amount of energy. It has been found desirable to have a unit to measure the energy value (or nutritive value) of food. This unit is called a calorie. It is a heat unit. The heat unit is used to measure the nutritive value of food, because the amount of heat produced by the burning of food outside the body is

an indication of the amount of energy produced by the oxidation of the same amount of food within the body. A calorie is, approximately, the amount of heat required to raise the temperature of four pounds (two quarts) of water one degree Fahrenheit.

The fuel value of food is determined by the use of an instrument called a calorimeter. In this instrument a weighed quantity of food is burned in an inclosed space so that all the heat produced by the burning of the food is communicated to water surrounding the space. By noting the rise in temperature of the water the amount of heat produced by the burning of the food is computed. To determine the energy value of the same amount of food *within* the body, the average amount which is lost in digestion, or which fails to be utilized before its escape from the body, is deducted from its fuel value outside the body. This gives the *physiological fuel value* of the food.

The following is accepted as the energy value of food in the body:

1 oz. protein yields	116 calories
1 oz. carbohydrate yields	116 calories
1 oz. fat yields	264 calories

Knowing this, it is possible to calculate the food value of a given amount of any food by referring to a table which gives the chemical composition of food, such as Bulletin 28, Office of Experiment Stations, United States Department of Agriculture.

For example, to find the nutritive value of bread, we get the percentage composition of bread from the bulletin referred to, which is:

Protein	9.3 per cent
Fat	1.2 per cent
Carbohydrate	52.7 per cent

This means that one ounce of bread contains 93/1,000 oz. of protein, 12/1,000 oz. of fat, and 527/1,000 oz. of carbohydrate. Therefore, to reduce from per cent to calories we multiply as follows:

9.3 × 1.16 =	10.79
1.2 × 2.64 =	3.17
52.7 × 1.16 =	61.13
Adding, we get	75.09

Therefore one ounce of bread yields:

Protein	Fat	Carbo.	Total
10.79	3.17	61.13	75.09

And a pound loaf of bread contains $75.09 \times 16 = 1201.44$ total calories.

Or we can find the nutritive value of a custard made from 1 cup milk, 1 egg, and 2 level tablespoons sugar, as follows:

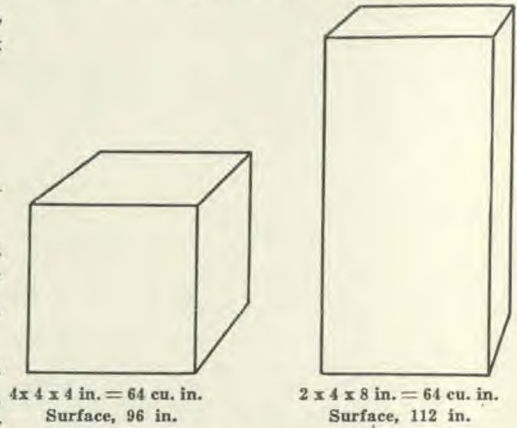
1 egg	= 79.5 calories
1 cup milk	= 161.6 calories
2 tablespoons sugar	= 77.6 calories
Total	318.7 calories

If this is baked in two cups, each contains approximately 160 calories.

To find the number of calories in a meal or in the food for a day, simply add together the number of calories in all the different articles eaten.

Of course the amount of food required is different under different conditions. A child needs less food than a young adult, and an old person needs less than a young adult. The greater the amount of work done, the greater the amount of food needed. The colder the weather, the greater the amount of food required. A person of nervous temperament may require more food than one of a quiet disposition. A tall, slim person requires more food than a short, thickset person. This is because the amount of food required varies with the amount of skin

area, since the greater the skin surface, the greater the amount of heat radiated from the skin. And a tall, slim person has a larger skin area than a short person who weighs the same. This is illustrated by the following diagram:



This explains why some tall slim persons eat much more than short fat people, but they cannot get fat.

A person weighing 150 pounds and doing sedentary work requires about 2,100 calories; doing light work, about 2,300 to 2,500 calories; doing hard work, about 3,000 to 3,500 calories.

Ten per cent of the total should be protein, and twenty-five to thirty per cent fat, the remainder carbohydrate.

TABLE OF FOOD VALUES

	CALORIES IN ONE OUNCE				AN ORDINARY SERVING	
	Protein	Fat	Carbohy.	Total	Measure	Ounces Calories
White flour	13.2	2.6	87.1	102.9	1 cup	4 411.6
White flour .....	.....	.....	.....	.....	1 tablespoon	$\frac{1}{4}$ 25.7
Graham flour	15.4	5.8	82.8	104.0	1 cup	4 416.0
Graham flour .....	.....	.....	.....	.....	1 tablespoon	$\frac{1}{4}$ 26.0
Cooked rolled oats	2.7	2.8	11.5	17.	$\frac{3}{4}$ cup	6 103.0
Cooked whole wheat	1.1	.9	17.5	21.	$\frac{3}{4}$ cup	6 126.0
Cornmeal mush	1.1	1.5	10.1	12.7	$\frac{3}{4}$ cup	6 76.2
Cooked rice	2.0	.02	20.4	22.42	$\frac{3}{4}$ cup	6 134.4
White bread	10.7	3.4	61.6	75.7	$1\frac{1}{4}$ oz. slice ¹	$1\frac{1}{4}$ 94.6
Graham bread	10.3	4.8	60.4	75.5	$1\frac{1}{4}$ oz. slice ¹	$1\frac{1}{4}$ 94.4
Baked beans	6.3	5.1	17.1	28.5	$\frac{1}{2}$ cup	4 114.0
Baked soy beans	13.2	21.3	13.0	47.5	$\frac{1}{2}$ cup	4 190.0
Cooked dried Lima beans	5.3	6.5	19.1	30.9	$\frac{1}{2}$ cup	4 123.6
Peanuts baked like beans	12.9	44.4	12.3	69.6	$\frac{1}{2}$ cup	4 278.4
Brazil nut meats	19.7	176.4	8.1	204.2	3 nuts	$\frac{1}{2}$ 102.11
Pecan nut meats	12.8	188.0	15.4	216.2	8 nuts	$\frac{1}{2}$ 108.1
Almond meats	24.4	144.9	20.1	189.4	14 nuts	$\frac{1}{2}$ 94.7
Walnut meats	21.3	170.0	15.1	206.4	3 nuts	$\frac{1}{2}$ 103.2
Pine nut meats	39.3	130.4	8.0	177.7	1 round tablespoon	$\frac{1}{2}$ 88.8
Peanut butter	34.0	122.8	19.8	176.6	1 level tablespoon	$\frac{1}{2}$ 88.3
Corn flakes	10.8	1.4	91.6	103.5	1 cup	$\frac{3}{4}$ 77.6

	CALORIES IN ONE OUNCE				AN ORDINARY SERVING		
	Protein	Fat	Carbohy.	Total	Measure	Ounces	Calories
Shredded wheat	12.8	4.5	87.6	104.9	1 biscuit	1	104.9
Eggs	16.2	31.7	.....	47.9	1 egg	..	79.5
Milk	3.8	10.6	5.8	20.2	1 glass ²	8	161.6
Thin cream (18 per cent)	2.9	48.9	5.2	57.0	½ cup	4	228.0
Granulated sugar .....	.0	.0	116.3	116.3	1 level tablespoon	⅓	38.8
Molasses	2.8	.0	80.4	83.2	1 cup	12	998.4
Cottage cheese	24.2	2.6	5.0	31.8	½ cup	3	95.4
Ice cream	2.5	33.7	25.7	61.9	½ cup	3	185.7
Dairy butter	1.2	224.4	.0	225.6	1 level tablespoon	½	112.8
Olive oil .....	.0	264.1	.0	264.1	1 level tablespoon	½	132.1
Potatoes	2.6	.3	21.3	24.2	1 medium	5	112.8
Sweet potatoes	2.1	1.8	31.8	35.7	1 medium	5	178.5
Green peas	7.8	9.0	16.9	33.7	½ cup	4	134.8
Spinach	2.4	.8	3.7	6.9	½ cup	4	27.6
Fresh tomatoes	1.0	1.1	4.5	6.6	1 medium	4	26.4
Lettuce	1.4	.8	3.4	5.6	4 average leaves	1	5.6
Celery	1.3	.3	3.8	5.4	3 sticks	2	10.8
String beans	9.0	2.9	2.2	6.0	½ cup	4	24.0
Radishes	1.5	.3	6.7	8.5	4 radishes	1½	12.8
Cooked beets, sliced	2.7	.3	8.6	11.6	½ cup	4	46.4
Canned corn	3.2	3.2	22.0	28.4	½ cup	4	113.6
Cooked green Lima beans	4.6	.8	16.9	22.3	½ cup	4	89.2
Cooked squash	1.0	1.3	12.2	14.5	½ cup	4	58.0
Ripe olives, as purchased	1.6	55.4	4.1	61.1	6 olives	1	61.1
Apples, as purchased .....	.3	.8	12.5	13.6	1 medium	6	81.6
Apples, edible portion .....	.5	1.3	16.5	18.3	..	..	.....
Bananas, as purchased .....	.9	1.1	16.6	18.6	1 medium	4	74.4
Bananas, edible part	1.5	1.6	25.7	28.6	..	..	.....
Blueberries, raw .....	.7	1.6	19.2	21.5	½ cup	3	64.5
Grapes, as purchased	1.2	3.2	16.7	21.1	1 small bunch	5	105.5
Grapes, edible part	1.5	4.2	22.3	28.0	..	..	.....
Grape juice .....	.0	.0	23.8	23.8	1 glass ²	8	190.4
Peaches, as purchased .....	.6	.3	8.9	9.8	1 medium	4	39.2
Peaches, edible part .....	.8	.3	10.9	12.0	..	..	.....
Plums, as purchased	1.0	.0	22.2	23.2	2 plums	4	92.8
Plums, edible part	1.2	.0	23.3	24.5	..	..	.....
Prunes cooked .....	.6	.3	25.8	26.7	5 prunes	3	80.1
Apricots, as purchased	1.1	.0	14.6	15.7	1 apricot	3	47.1
Apricots, edible part	1.3	.0	15.5	16.8	..	..	.....
Dates, as purchased	2.2	6.6	81.9	90.7	4 dates	1	90.7
Dates, edible part	2.4	7.4	91.0	100.8	..	..	.....
Dried figs	5.0	.8	86.1	91.9	2 figs	1½	147.8
Raisins	3.0	8.7	88.3	100.0	¼ cup	1	100.0
Blackberries	1.5	2.6	12.7	16.8	½ cup	3	50.4
Grapefruit, edible part .....	.9	.5	11.8	13.2	½ medium (pulp)	3½	46.2
Muskmelons, edible part .....	.7	.0	10.8	11.5	..	6	69.0
Watermelons, edible part .....	.5	.5	7.8	8.8	..	8	70.4
Oranges, edible part .....	.9	.5	13.5	14.9	1 medium (pulp)	5	74.5
Lemon juice .....	.....	.....	11.4	11.4	¼ cup	2	22.8
Pears .....	.7	1.3	16.4	18.4	1 medium	4	73.6
Raspberries, red	1.2	.0	14.6	15.8	½ cup	3	47.4
Raspberries, black	2.0	2.6	14.6	19.2	½ cup	3	57.6
Strawberries	1.2	1.6	8.5	11.3	⅔ cup	4	45.2

¹ A slice 4 x 4 x ½ inches.

² As usually served, one-half inch from top.

The prunes are the size of which it takes 40 to 50 to make a pound.

The grapefruit are the size of which there are 80 in a case. An average half of such a grapefruit weighs 6 ounces. The edible portion of such a half weighs 3½ ounces.



The CHILD'S TEETH

Roxette Runk, M. D.

ONE writer has said that a few decades hence, unless there is a radical change, we shall be a toothless race. It is a notorious fact that a large per cent of the children of the present day have decayed teeth. It is not uncommon to find little tots of two and three years with dental caries, suffering from toothache. These defective teeth often transmit the infection to the permanent set.

One can readily see how such defective teeth lay the foundation for future illness. The food is swallowed in an un-masticated state, throwing extra work upon the digestive apparatus, and the mass irritates the digestive tract, thus causing various digestive disturbances. Nor does the evil end here. The food that collects in these cavities is soon swarming with bacteria, a condition which lowers the vitality of the gums and produces greater havoc in the teeth. The bacteria find their way to the stomach and intestines, increasing the difficulty there. Tonsils often become infected from the teeth, adding more toxemia to the system. This toxic condition may manifest itself later in life by heart trouble, high blood pressure, rheumatism, colon trouble, and various other ills.

The child has an army to fight. If he is overtaken by one or more of the infectious diseases so prone to affect childhood, he falls an easy victim, and the little life may go out, all because of the ignorance or carelessness of its caretaker. Should it survive, it cannot build a strong constitution out of such stubble.

From the time the first incisor makes its appearance, the child's teeth should be regularly cleaned. In fact, before it has any teeth the mouth should be cleaned after each meal. One simple

method is as follows: Make a weak solution of boracic acid or common baking soda, cleanse the hands, then envelop the index finger with cheesecloth or any soft clean cloth, and wash the child's mouth with this solution. Make a clean home for the teeth before they make their appearance. If after all this precaution, the teeth decay, take the child to a dentist and have the teeth attended to. Some soft filling will perhaps serve the purpose, and preserve the milk teeth, till the permanent ones come.

The child will soon learn to brush his teeth himself. As he grows older, he will take care of his toothbrush and paste, if properly taught.

One cause of decayed teeth is eating too much candy, especially of the cheap variety. The consumption of an excess of sugar in the United States has led to a condition of lime starvation and premature decay of the teeth. Partaking of so much sugar not only deprives the teeth of lime, but throws extra work upon the liver and irritates the stomach. The craving for sweets is a normal demand of the child's system and should be satisfied, but not necessarily with candy. Supply him with figs, raisins, dates, and other sweet fruits, and occasionally, perhaps, with some home-made candy from pure confectioners' sugar. However, this should be given at the regular meals.

Another factor in dental caries is bottle feeding. The proteins in cow's milk are not so digestible as those in mother's milk. The infant's growth depends upon a proper proportion of carbohydrates, fats, proteins, and salts, with their assimilation.

Sometimes a child is born with a defective digestive system. He cannot assimilate the food that builds good bone,

and consequently the teeth are defective and may be late in putting in their appearance. In this case the diet should be looked after very carefully. Feed him food rich in phosphates and prepared in a way to be most readily absorbed and assimilated.

If the children were taught from infancy the importance of preserving the teeth and how to care for them, we should not see so many crowns, bridges, and false teeth in adults.

The teeth must be used to be strong. Therefore the food should not all be of the soft variety, but part should be so prepared that it will require real chewing before it can be swallowed.

Life insurance statistics indicate that persons with sound teeth live from ten to fifteen years longer than those with poor teeth.

Sound teeth are not only necessary for good health, but have an esthetic purpose as well.

Why Good Teeth Are Necessary

—William Curtis Dalbey, D. D. S.—

IT does not take a scientist to understand that good teeth are indispensable to a person who appreciates the value of charm and beauty, and who values correct enunciation in speech, and a healthy digestive system. That good, strong, perfect teeth are the prerequisite to health is not questioned.

Many otherwise homely faces are made beautiful by a full set of strong, regular teeth. Many a beautiful face has been made hideous when ruby lips were opened to reveal malposed teeth and decayed stumps.

A set of good teeth is an important factor in proper enunciation. The sounds known as "dentals" cannot be properly rendered without the aid of the teeth. When even one tooth is missing, there is a noticeable hissing, a discordant jumble, which is, in many instances, almost unintelligible. The loss of even a few teeth may cause such a deformity that one may be prevented from successfully following certain occupations. Clerks, ministers, colporteurs, and public lecturers, as well as teachers, should have a full complement of teeth.

Let it be understood, however, that the most important function of the teeth

is in their relation to digestion. When food is placed in the mouth, it is first cut, usually by the incisors, therefore, incisors are important; or torn by the cuspids, therefore, the cuspids are important. The food is then rolled back upon the molars and ground between these "millstones," therefore, the molars are important. If all the teeth, then, are important, what teeth would you have missing?

While the food is being crushed to a pulpy mass by the teeth, the tongue is holding the morsel between the teeth; and between the movement of the jaws and tongue the saliva is pumped from its glands into the food mass. These organs of the mouth mix the food into a homogeneous insalivated mass, which is then swallowed. If the masticatory function has been properly performed, the juices of the stomach will then be able to perform their part in extracting the vital essences from the swallowed mass, and preparing them for absorption into the body.

Good health follows good digestion. Badly broken down and decayed or missing teeth prevent good mastication. Poor mastication means poor digestion.

Value of X-Ray Examinations in Tuberculosis

Clarence F. Ball, M. D.

TUBERCULOSIS of the lungs is the most common disease affecting all mankind, and necessitates early diagnosis in order to prevent the frequent development, almost unobserved, of consequences of the most serious nature. Since ordinarily man is quite resistant to its inroads, he usually, having become infected, readily limits the disease to its place of entry. Many, however, do not possess sufficient resistant powers to confine the disease to one point or to prevent its further progress. In this class of cases occur all degrees of this disease, popularly known as the white plague. Accordingly, any measure offering in any way an aid to a definite diagnosis prior to the time when tubercle bacilli are found in the sputum, is of inestimable value, as their presence marks the time when the afflicted one becomes of particular concern not only to himself, but to society in general, for he is then a menace to others.

A modern X-ray examination, while it does not in any way take the place of older clinical methods of diagnosis, makes it possible to solve some problems and clarify many otherwise uncertain conditions connected with the study of tuberculous process. Its especial value is

that of clinching an early diagnosis or of being able more definitely to note the progress of the later stages of the disease. There may be some question as to the possibility of its being able to show conclusive evidence of involvement at a time when only a small group of air cells have undergone diseased changes (as is the case in a very early incipient tubercular process), but more and more distinctive signs are being recognized which make its use helpful even in such cases. Dr. J. Stuart Pritchard, in an article on "Differential Diagnosis of Pulmonary Diseases," says: "No physical examination or investigation of the chest is complete without a careful fluoroscopic observation, and stereoroentgenographic interpretation."

As indicated by Dr. Pritchard, two distinct procedures are essential to a thorough X-ray examination: *fluoroscopy* makes it possible actually to see the move-

ments of the chest, heart, etc., upon a sensitized screen held before the patient, and *stereoroentgenography*, or X-ray photography, makes permanent records, or pictures in perspective (in the form of shadowgrams on X-ray plates), of what has been actually seen on the fluoroscopic screen. With the latter no respira-

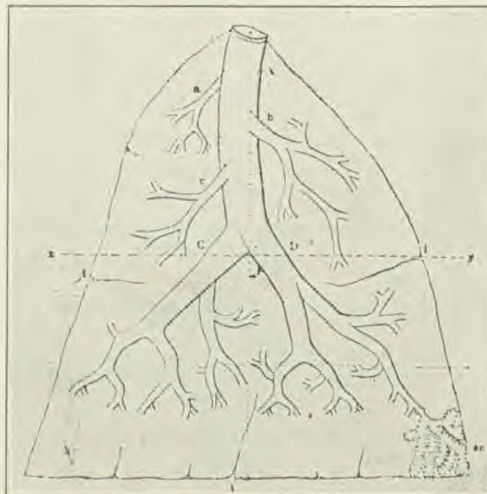


Fig. 1

tory movement occurs at the moment of exposure, whereas on the screen all movements taking place in the act of breathing, either normally or abnormally, are readily seen.

Neither of these examinations alone should be accepted as conclusive evidence in support or rejection of a clinical diagnosis. But when used together and found to confirm such clinical findings as obtained by inspection, auscultation, percussion, etc., a final diagnosis is at hand. If the results are at variance, a pathological process other than a tuberculous one is usually indicated, and in most instances the actual lesion is clearly demonstrated. A foreign body has been known to produce symptoms diagnosed clinically as tuberculosis, the true nature of which was determined only by an X-ray examination.

Fluoroscopy is the art of "looking through a person" by means of the X-ray. In making such an examination, the patient's clothing should be removed to the waist, the shoulders and chest being covered with one thickness of cloth, as a sheet or kimono. The patient is placed between the X-ray tube and the fluoroscopic screen in either a vertical or horizontal position.

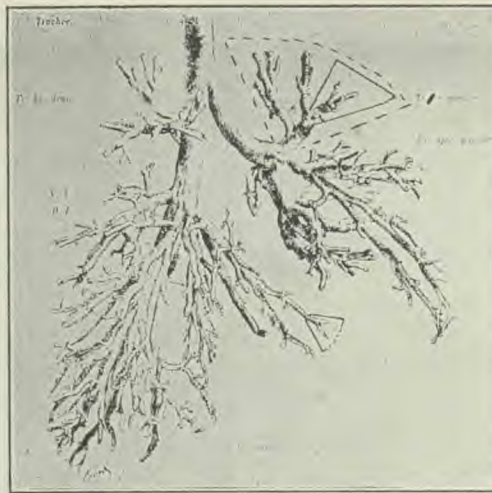


Fig. 2

Inasmuch as the X-ray cannot pass through bony structures so readily as through lung tissue, the bones of the chest stand out in a dark outline as against the lighter shadows cast by the lungs, through which the X-ray passes readily, producing correspondingly lighter shadows.

The pulsation of the heart is the first movement that attracts attention. Its position in relation to the lungs should be noted, as a displacement might indicate a pulmonary lesion.

Respiratory movements are next given attention; first, as to whether the upper portion of each lung is clearly illuminated or not; next, as to whether the diaphragm, the curtain between the chest and the abdomen, rises and falls normally with each respiration or not; and lastly, whether there are any evidences of thickening or cavity formation in any portion of the lung area. Accumulations of fluids or pus within the pleural cavity readily manifest themselves by obliteration of the normal lung shadow in direct proportion to their extent of involvement. There is always a certain amount of associated fixation of the diaphragm on the side of such involvement. Pock-



Fig. 3. Comparatively Normal Lungs of Young Adult

ets are also noted. The position of the heart is noted, as a displacement might indicate a pulmonary lesion. Respiratory movements are next given attention; first, as to whether the upper portion of each lung is clearly illuminated or not; next, as to whether the diaphragm, the curtain between the chest and the abdomen, rises and falls normally with each respiration or not; and lastly, whether there are any evidences of thickening or cavity formation in any portion of the lung area. Accumulations of fluids or pus within the pleural cavity readily manifest themselves by obliteration of the normal lung shadow in direct proportion to their extent of involvement. There is always a certain amount of associated fixation of the diaphragm on the side of such involvement. Pock-



Fig. 4. Tumor About Base of Heart. The Lung Is Normal



Fig. 5. Cancer Involvement of Lungs and Chest Wall. Lungs Not Tuberculous

ets of pus may gather between the lobes of the lungs and defy detection other than by the X-ray.

Roentgenography, the making of X-ray plates, is the second procedure to be employed in a thorough Roentgen-ray examination, and is absolutely essential for the making of a fine differential diagnosis. Single plates should never be relied upon when considering the possibility of an early lung involvement; but if two plates are taken at such an angle that when viewed through a special apparatus they are seen as one, the position of a tubercular process within the thickness of the lung is more accurately determined. Two plates so used are spoken of as stereoroentgenograms. X-ray shadows on a plate are viewed in opposite relation to those seen on the fluoroscopic screen, since development of the sensitized film of a plate reverses the light and dark shadows.

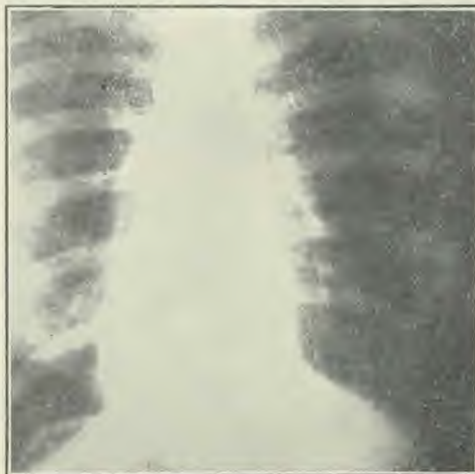


Fig. 6. Advanced Tuberculosis, Especially of Left Lung

Dr. William S. Miller, of the University of Wisconsin, in an article in the *American Journal of Roentgenology* for June, 1917, entitled, "Some Essential Points in the Anatomy of the Lung," used Figures 1 and 2 to illustrate in a schematic way the rough anatomic relations to be considered when reading a chest plate. Figure 3 is a roentgenogram of a comparatively normal chest. Variations from this are many and varied: Figures 4 and 5. Other diseases of the lungs produce plates often simulating tuberculosis of these organs. Especially is this true of some of the

pulmonary findings observed in employees in stone cutting or mining operations. The harder and sharper the minute fragments, the more serious the lung damage. For instance, a coal miner, slate or marble worker, may ply his trade for years and receive but little damage, though showing apparently serious gross

lesions on an X-ray plate. A granite worker with quite a similar appearing plate, or one even less suggestive, may be in a critical condition because of the greater damaging effects to his lung tissues of the harder and sharper particles of granite dust unavoidably inhaled.

Vermont statistics furnish a striking example of this difference. Barre, "The Granite Center of the World," has, according to 1917 statistics, a death rate from tuberculosis of 233.9 per 100,000 population as compared with 59.8 per 100,000 for Rutland, "The Marble Center of the World." This striking difference is attributed by vital statisticians to be due to the greater damage inflicted by the harder, sharper, granite dust. Granite workers frequently go down before this deleterious influence in a few years as compared to the longer term of years usually served by either marble, slate, or coal workers. The condition of the lung infiltration found in such

trades is known as pneumoconiosis. It is often difficult, if not impossible, to differentiate this condition from some forms of tuberculosis when a plate study only is considered. Here history must be the deciding point, as also in metastatic cancer involvement of the chest.

In conclusion, experience has proved that the X-ray aids in making a diagnosis earlier than can be done without its use. Further, its use is of distinct advantage in determining the exact location of a lesion, since there is no other method that indicates the depth within the lung tissue of the diseased process. There is no other one method so serviceable as the X-ray in demonstrating the progress of the disease toward recovery, and without its use it is impossible to differentiate tuberculosis from several conditions simulating it but of an entirely different nature. Therefore an X-ray examination is an essential part of any complete tuberculosis study.

QUESTIONS AND ANSWERS

ANSWERS THIS MONTH BY G. H. HEALD, M. D.

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.

Sciatica

"Please give a good treatment for sciatica."

Sciatica is not readily cured. It may be relieved for a time and return later. In some cases spinal adjustment seems to give relief, but often this relief is only temporary.

For general treatment, use various forms of elimination, such as sweats by the hot blanket pack, leg pack, electric light bath, or cabinet bath. Keep the bowels free by means of cathartics if necessary. Agar, or one of the mineral oils, especially the heavy oil from California, may accomplish all that is required in this direction.

For local treatment give fomentation, massage, vibration either by vibratory apparatus

or by the hand, and various forms of electricity, such as static, faradic, and sinusoidal, also cupping over the nerve. Sometimes cautery over the nerve has given good results.

It is possible, in a case of sciatica, that there may be some constitutional or dietetic trouble that helps to prolong the condition.

Mental Symptoms

"I am taking care of an old lady past eighty, who can go about, upstairs and so forth, but who thinks some one is overhead pouring down some hot stuff, as she calls it. She goes from place to place to get where it will not come on to her. What would you suggest in this case?"

The patient of whom you speak evidently has mental trouble. It would be well to have her examined by an alienist, that is, a person who makes a specialty of mental diseases. Conditions of this kind, if they are curable, are very much more likely to be remedied in hospitals making a specialty of mental diseases than at sanitariums which deal rather with diseases of the body.

Mouth Breathing

"I have formed a habit of breathing through my mouth when asleep. Is this a dangerous habit, and if so, how may I overcome it?"

Mouth breathing during sleep increases the tendency to pharyngeal trouble. I should suggest as a remedy that you lie on your side or your abdomen. Some physicians claim the latter is the position in which we should naturally lie. Babies usually take that position in sleeping. If this does not accomplish the desired result, you might make a little harness or tie a handkerchief around your chin in such a way that you will be unable to open your mouth.

Gelatin

"What is the objection against the use of gelatin?"

Gelatins are animal foods. They are a first cousin to glue. They are made from the cartilages at the ends of bones. If one has no objection to an animal dietary, including flesh food, I do not know that there would be any objection to the use of gelatin. Ordinarily, vegetarians use a vegetarian preparation made from agar, which has no food value whatever, but makes a fairly good jelly and also acts as an excellent laxative.

Piebald Skin

"Is there any cure for piebald skin, white spots on the neck and by the ears? There is no pain. The person afflicted has been a heavy coffee drinker all her life and is fond of sweets."

If I understand the condition you speak of, I believe those white spots are incurable. I do not think that tea or coffee or sweets have anything to do with it. If they did, there would be many more people in the world afflicted in this way. Doubtless it would be an advantage to her in other ways to give up the use of coffee. I notice you say that she has had severe indigestion for the past ten years. The use of coffee in excessive quantity would certainly have some influence in producing this condition, though it might not be the only cause.

Internal Bath; Tyrrell's Method

"What do you think of internal bathing, Tyrrell's method?"

Tyrrell's method is merely a special apparatus for administering an enema; the only

advantage that I see in it is that it puts money in the pocket of the manufacturer every time he sells one. I have never seen any advantage of this method over the ordinary enema, and I do not think the enema is something that should be used as a routine measure.

Nervous Headaches

"Is there any way whereby one's nerves can be made strong and healthy so one will not always be bothered with nervous headaches? Have tried hydrotherapy and osteopathy and find them beneficial only while taking the treatment. I live a quiet life on a farm and have not used tea, coffee, or meat of any kind for twenty-seven years."

Is it possible that there is some mental or nervous condition in your case that is causing the trouble? Are you living in a condition that is unsatisfying? Has some great disappointment come into your life? Is there friction or jar in the home relations, or some severe grief? Any of these things will cause a nervous condition that no amount of treatment or diet or anything of a physical nature would remedy. I am asking these questions because it seems that hydrotherapy, osteopathy, and a careful diet (as I judge) have been unable to relieve your condition.

It is possible, however, that the fault may be in your diet; that you are using combinations of foods that cause the trouble. It may be that by simply using one or two articles of food at a meal, masticating your food carefully, and especially seeing that your bowels move freely, either by the use of bran or mineral oil or agar, or some other preparation of that kind, you may be able to obviate all this nervous condition and live in comfort.

Pamphlets Wanted

"Do you have any pamphlets on diet for convalescent fever patients or any which give food value and which list rapid tissue-building foods? Have you any books on fever and treatment of such? Would also like something on digestion."

Replying to your inquiry regarding pamphlets on diet, I will say that we have no pamphlets on diet for convalescent fever patients. We have recently published a little book, "Epidemics," which contains some things which I think you will find valuable. The price of the book is twenty-five cents. You may obtain it from the Review and Herald Publishing Association. A book by Belle Wood-Comstock, M. D., that has been recently issued, entitled, "The Home Dietitian," may be obtained by sending \$1.75 to Belle Wood-Comstock, M. D., Pasadena, Calif. This book is intended to give the housewife a comprehensive knowledge of health foods and their preparation. It, however, is not a cookbook, although it does give quite a number of recipes, and with the recipes gives the food

value, which is unusual in books of this kind. I should also like to suggest another book, "A Friend in the Kitchen," which sells at fifty cents, and may be obtained from the Review and Herald Publishing Association.

Diet and Diabetes

"Kindly send me instructions as to my diet. The doctor here says I have sugar diabetes and that I must abstain from any starch foods. He advises that I use meat, but of course I do not wish to do so if there are other foods that are just as good."

Diet in diabetes requires the constant supervision of the patient. The doctor who is prescribing the diet ought to know from time to time how much sugar the patient is passing, in order to prescribe intelligently, and for that reason it would not be wise for us to attempt to give you a hard and fast diet.

I can say this much, though, that the modern treatment of diabetes places the patient for a time on the starvation diet, and after that the meals consist of a minimum of foods containing starch and sugar, with some fat and some protein.

In order that one may not feel famished when on a diet of this kind, it is well to eat very liberally of bulky foods that do not furnish starch, such as the green vegetables. Eggs will substitute for meat, and so will cottage cheese. Nuts also furnish protein, with not a very large quantity of starch. Milk contains quite a proportion of milk sugar, and for this reason should not be used too freely.

However, the only way to know what your diet is accomplishing will be to have your physician examine your urine from time to time to determine the output of sugar.

Earwax

"Please tell me what to do to remove excessive earwax."

The earwax should not be disturbed unless it is causing great inconvenience or deafness. When it is necessary to remove the earwax, it may be done by means of a syringe, but it is much better done by a physician than by some one who does not understand, for there is a danger that too strong a stream of water will cause damage to the eardrum. The water should have in it a little bicarbonate of soda in the proportion of about a teaspoonful to a pint, and should be just a little warmer than body temperature, as it will cool very rapidly in the tube. Such a douche may be administered by the use of an enema can hung, say about two feet above the head. This ought not to produce too strong pressure.

Adhesions

"What can be done for adhesions on the extreme left side of the abdomen, the result of two operations?"

I am afraid that very little can be done for the relief of adhesions except by the means of another operation.

Sugar in Blood; Hot Water with Agar

"What does it signify if there is an excess of sugar in the blood—say about four times more than normal—and but little or no traces in the urine tests?"

"Does it make any difference in the action of agar-agar if, when used for constipation, two glasses of very hot water are taken at the same time?"

I do not know that it is possible for there to be an excess of sugar in the blood without its showing traces in the urine.

I do not think it will make any difference in the action of the agar if you take the hot water at the same time, although I think it would be better not to put it into the hot water, for the reason that in that case it forms a kind of jelly which is not readily swallowed.

Treatment of Piles

"Is there a cure for piles (blind or protruding) without the knife or an operation of some other kind? I understand there is a method of burning them off."

The only real cure for piles is an operation. You speak of burning, but burning is an operation. The surgeon who is going to operate will naturally choose the best form of operation under the circumstances.

Sometimes you can cause a mitigation of the symptoms so that you may live comfortably the rest of your life, by certain changes in diet and by the use of certain measures to insure a full and complete evacuation of the bowels. I should suggest for the latter purpose that you use agar, which tends to make the movement soft and bulky, and in this way will tend to avoid some of the conditions which help to make the piles more painful. I should suggest also that during the time you have your greatest pain you try a hot sitz bath daily. If you do not obtain relief, you should have an early operation, and avoid the nerve-racking experience.

Cold Feet

"What can one do for cold feet? Mine are uncomfortably so even in the cool damp days of summer."

Exercise the leg and foot muscles vigorously. Practise rising on toes rapidly for two or three minutes several times a day. In the evening take an alternate hot and cold foot bath. Have two basins of water, one as hot as can be borne, the other as cold as you can obtain, and after dipping for one-half minute in the hot water, dip for a few seconds in the cold water. Repeat this alternation for about ten minutes, finishing with the cold. Then wipe with a coarse towel until the feet are thoroughly dry.

NEWS NOTES

High Mortality in 1919

The death rate in the United States for 1918 was the highest on record for this country,—18 per thousand population, or 1,471,367 deaths for the year, in the registration area, having an estimated population of 81,868,104. Of the total deaths, 477,467, or more than 32 per cent, were due to influenza or pneumonia.

Health Department Sells Milk

The health department of the city of New York has begun to sell grade B milk—usually sold by dealers at 17 and 18 cents a quart—at 15 cents a quart at some of its sixty milk stations. The purpose is to give poor parents an opportunity to buy good quality milk for their babies, and to force down the dealers' prices.

High-Priced Milk

Children's Bureau investigations in several cities indicate that the high price of milk is greatly reducing the milk supply to babies. For instance, of 728 Baltimore children between two and seven years of age only 29 per cent were having fresh milk to drink as against 60 per cent a year ago. Similar conditions were found in other cities. The Children's Bureau is working on a plan whereby mothers can be informed as to the child's actual needs, and the communities encouraged to see that mothers have what help they need in order that the babies and children may be properly nourished.

Midwives Attend One Sixth of All Births

Midwives attend 16 per cent of all births and 35 to 40 per cent of all foreign births, according to the New York State Department of Health. The custom of employing midwives has come from countries where midwives attend practically all births, and where a long period of training is required before these women are permitted to practise. In this country few restrictions have been placed upon the profession, with the result that many unqualified women have entered the field, have not been able to meet even ordinary emergencies, and have thus thrown this occupation into disrepute. In order to help to prevent the many unnecessary deaths of babies and mothers at or immediately after childbirth, the State Department of Health has required the licensing of midwives since 1914. This has resulted in driving out of business most of the incompetent and unfit, and of raising the standard of those who have shown themselves qualified to practise.

Palestine Medical Congress

The first congress of Jewish physicians in Palestine was held recently in Jaffa. Of the seventy Jewish physicians in the country, forty were present.

Milk Price and Malnutrition

Investigation shows that there are in New York many more poorly nourished children, owing to the fact that many families have had to discontinue using milk on account of the prohibitory prices.

Study of Tropical Diseases

A commission of medical men, sent by the British government to the Ellice and Gilbert Islands in the tropical Pacific, will make a study of tropical diseases, including filariasis, hookworm disease, and dysentery.

Trachoma

The State of Ohio, having appropriated money for the purpose, is inaugurating an extended campaign for the eradication of trachoma within the State. It has the co-operation and assistance of the United States Public Health Service.

Red Cross Work for 1920

According to Dr. Livingston Farrand, the \$30,000,000 available for Red Cross work in 1920 will be divided as follows: \$15,000,000 to European relief, \$13,750,000 for use in this country, and \$1,250,000 to complete the work in Siberia.

Anthrax from Shaving Brush

A number of cases of anthrax (carbuncle, or malignant pustule) have occurred in England as a result of using shaving brushes imported from Japan. Evidently the brushes had been made from the unsterilized hair of animals dead of anthrax. A bacteriologist found anthrax bacilli in six of the nine Japanese brushes examined.

Near-East Relief

A body has been incorporated by act of Congress to provide relief for those in Asia Minor, Palestine, and contiguous countries, who directly or indirectly, have been rendered destitute by the war. These unfortunates will be given aid in returning to and rebuilding their homes, in providing for the care of orphans and widows, and in promoting their social, economic, and industrial welfare. In Armenia 168 orphanages are now operated by the organization.

English Children Defective

Of 533,400 English children outside of London who were physically examined in 1918, 259,000, or 48.5 per cent, were found to be defective.

Professor Röntgen Resigns

The discoverer of the X-ray, having reached the age of seventy-five, has resigned his position as lecturer at Munich University and as director of the Physical Institute.

Conjugal Tuberculosis Rare

"Because a man died from tuberculosis, do not pronounce his wife tuberculous when she coughs, or loses in weight during the first few months of widowhood," says Professor Fishberg, an authority on tuberculosis. "Despite the intimate contact with a tuberculous person, conjugal tuberculosis is exceedingly rare. I have seen but few cases."

Not All Tuberculosis

According to Professor Fishberg, of the Bellevue Hospital Medical College, "There are many causes of mild fever, cough, emaciation, hemoptysis (bleeding from the lungs), singly or collectively, and pulmonary tuberculosis is but one of these causes." He warns against the danger of making a diagnosis of tuberculosis when tuberculosis is not present.

Diet and Health

A lack of knowledge of how to adjust income and food expenditures is holding many children back in normal development, and thereby decreasing the ability of future citizens. Oftentimes medicine can be of no lasting value until the diet is regulated, and quite frequently when the diet is regulated, medicine is unnecessary; but in the majority of cases the doctor has not the time to sit down and plan this adjustment with the mother, and the problem of food economics is a work apart from nursing, just as nursing is apart from the practice of medicine. To meet just such a situation as this the nutrition specialist in social work has come into existence.—*L. L. Gillett, in the Commonwealth, May-June, 1919.*

Mothers and Babies

In this country, every year, about sixteen thousand mothers die in childbirth, and nearly a quarter of a million babies die under one year of age. Probably the most of these deaths could be prevented by the use of proper means. At least thirteen countries show a more favorable death rate for mothers than the United States, and six show a more favorable infant mortality rate. We may be keen after the almighty dollar, and past masters in wooing material prosperity; but in the matter of human conservation, we have much to learn from other countries.

Tuberculosis

We are in danger of forgetting that tuberculosis is still with us and in about as great force as ever before. Moreover, instead of this disease being known in detail, it seems much more of a mystery than ever. Twenty years ago its origin and the method of stamping it out seemed solved, but not so today. We are not even certain as to how the disease finds entrance to the body, the relation of the bovine to the human bacillus has not been cleared up, and the cure of the patient is as uncertain as ever.—*Editorial, New York Medical Journal, Jan. 31, 1920.*

Influenza Does Not Increase Tuberculosis

The recent influenza epidemic has shown that this infection does not predispose to tuberculosis in the opinion of Professor Fishberg, who says: "Of the hundreds of cases which have come under my observation during the past year in which cough, expectoration, fever, etc., have persisted after an attack of influenza, only one turned out to be tuberculosis. The pulmonary sequelæ of influenza are hardly ever tuberculous in character."

Physical Examination Often Deceptive

While Professor Fishberg recognizes the extreme importance, in diagnosing tuberculosis, of studying the chest sounds, he says that "one who makes a fetish of physical diagnosis, and relies exclusively on signs of slight alteration in the resonance of the chest and modifications of the breath sounds, is liable to prove more mischievous to his patients than one who knows nothing at all of percussion and auscultation."

Sugar Substitute

Malt sugar sirup, now being made on a commercial scale, according to the Bureau of Chemistry, U. S. Department of Agriculture, promises to be a valuable substitute for sugar. It may be made from the grains used in the manufacture of beer, or, in fact, from any plant containing starch. The sirup resembles maple sirup in appearance and honey in flavor.

Adults Rarely Contract Tuberculosis

According to Maurice Fishberg, clinical professor of medicine, Bellevue Hospital Medical College, exposure of adults to tuberculosis patients rarely results in tuberculosis. Wives of tuberculous husbands rarely become tuberculous. Physicians and nurses in tuberculosis hospitals and sanitariums who are constantly attending tuberculosis patients, hardly ever contract tuberculosis while pursuing their vocations.

Wood-Alcohol Poisoning

The sanitary code of the State of New York has been amended by a resolution which requires that every case of poisoning by wood alcohol be reported to the department of health.

Mental Disorder Cured by Grip

A number of cases are on record where an attack of grip or influenza resulted in cure of mental disease.

Leprosy in Boston

Recently a case of leprosy — a worker in a chocolate factory — was discovered in Boston. Have a bonbon?

Arrival of Gum Opium

There recently arrived at New York two vessels from Turkey, having on board 75,000 pounds of gum opium, valued at \$556,800.

Antinarcotic Law Works

Eight doctors serving sentences in the Federal penitentiary at Leavenworth for violations of the antinarcotic law, attacked the law through the courts, but the United States Circuit Court at Kansas City, Kans., upheld the constitutionality of the law, and the doctors will remain where they are.

The Germ of Influenza

Martha Wollstein, in *Journal Exp. Med.*, December, 1919, reports the results of her laboratory investigations of the relation of the Pfeiffer bacillus (the so-called "influenza" bacillus) to influenza, concluding that Pfeiffer's bacillus is a common *secondary* invader in influenza and its presence influences the course of the disease.

Tuberculosis in Domestic Animals

Gabriel Petit, in the *Bull. Acad. Med.*, Nov. 18, 1919, calls attention to the fact that tuberculosis in the dog and cat are identical with tuberculosis in man, referring to the frequency with which dogs contract the disease from man and the possibility that the dog may be the means of infecting humans. The diseased animals cough, scattering the tubercle bacilli over furniture, clothing, and the hands of their masters.

Tuberculosis

Tuberculosis in its various forms caused 122,040 deaths in the United States in 1918, of which 108,365 were due to tuberculosis of the lungs. The death rate from all forms of tuberculosis was 149.1 per 100,000, and from tuberculosis of the lungs, 132.4. The rate for tuberculosis of all forms declined continuously from 200.7 per 100,000 in 1904 to 141.6 in 1916, the decrease amounting to nearly 30 per cent; but for 1917 and 1918 increases are shown, the 1918 rate being somewhat higher than the rate for 1917,

Malaria in Corinth

The Corinth of history and the New Testament is having an aggravated epidemic of malaria, fourteen children, out of a population of 1,000, having recently died there of black-water fever. The source of the malaria is the archeological excavations, abandoned in 1917, in which the accumulations of standing water have afforded an ideal breeding place for mosquitoes. The American Red Cross is now directing the sanitation of the town, supplying it with pure water and providing adequate drainage. Investigations have indicated that it was malaria that destroyed the ancient civilization of Greece.

Seven Beautiful Songs for Church and Home, with music for the Piano: "The Mountain Flower," "The Wonderful River," "The Christian Banner," "His Loving Voice," "The Fading Flower," "The Rosebud You Gave Me," and "The Flower Queen." Standard Sheet Music size, ordinary voice. All seven for \$1.00, postpaid. Order from OTTO LUNDELL, 728 Unity Bldg., Chicago, Ill.

Correspondence School Catalogue

The Fireside Correspondence School catalogue for 1920 is now ready. Besides the usual matter, it contains a new plan for ordering books, an announcement of new studies, and pictures of faculty and board of managers. Send for a free copy. Address C. C. Lewis, Principal, Takoma Park, D. C.

The Columbus Rural Rest Home

Rest, Comfort, Nutrition, and Pleasant Associations

CLOSE MEDICAL SUPERVISION

FOR THE NERVOUS

NOT THE INSANE

DR. G. T. HARDING, Jr., Attending Physician

318 EAST STATE STREET

COLUMBUS, OHIO

? Do You Have ? a Cold

Send for a copy of the little book,

“Colds : Their Cause, Prevention, and Cure”

by Dr. G. H. Heald, and learn how to cure it, or better still, how to prevent taking cold.

62 pages of valuable information, in dainty binding. Price, 35 cents.

ORDER OF THE
Review & Herald Pub. Assn.
WASHINGTON, D. C.

Vegetarian Cook Books

*Very Helpful in these
Times of Conservation*

Vegetarian Cook Book

A book of Practical Instruction, written by a cook experienced in Vegetarian Restaurant work, but adapted to the needs of the ordinary family. Cloth, 266 pages, \$1.

Food And Cookery

A Manual of Practical Help in Home Dietetics. Cloth, 163 pages, 75 cts.

A Friend In The Kitchen

Four hundred Thoroughly Tested Recipes. Cloth, 50 cents.

Send all Orders to
REVIEW & HERALD PUB. ASSN.
WASHINGTON, D. C.
South Bend, Ind. New York, N. Y.



THE HINSDALE SANITARIUM

Is beautifully located seventeen miles from Chicago on the Burlington Road, and is of easy access to the great metropolis of the Middle West.

Surrounded by spacious lawns and sixteen acres of beautifully wooded grounds, this institution provides a quiet, restful retreat for the chronic invalid.

The institution is also well equipped for the scientific and rational treatment of the sick, both medically and surgically, this equipment including Swedish movements, electric apparatus, radiotherapy, hydrotherapy.

Instruction in dietetics especially adapted to each patient, is part of the daily program; also individual physical training and mental diversion in the way of occupational therapy, both in and out of doors.

Private rooms with private telephone in each room and regular hotel service.

Send for booklet. Address

The Hinsdale Sanitarium - - Hinsdale, Illinois

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