Life & Health

THE NATIONAL HEALTH MAGAZINE

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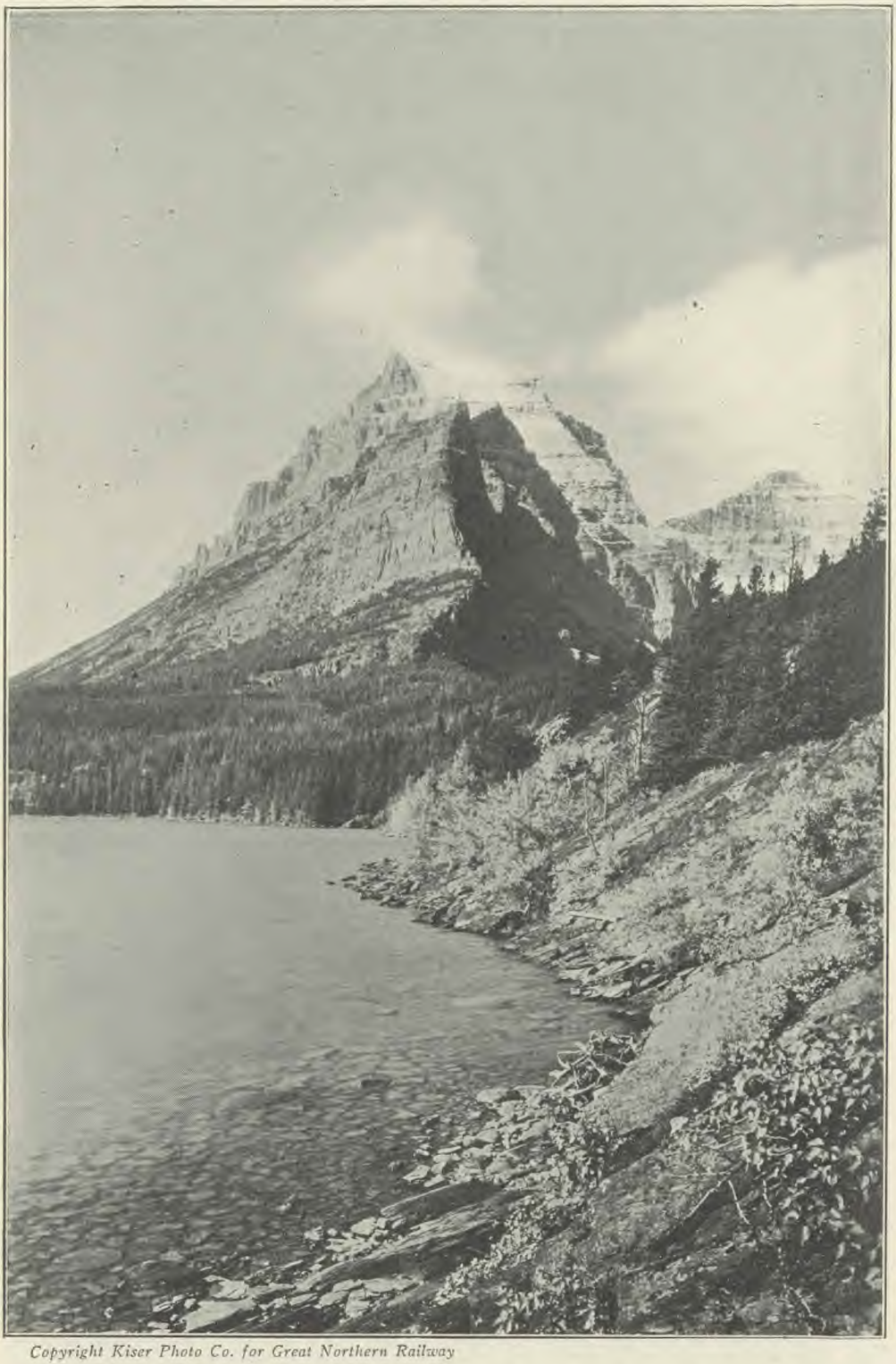

GOING TO THE SUN MOUNTAIN, GLACIER NATIONAL PARK, MONTANA

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Life & Health
THE NATIONAL HEALTH MAGAZINE

AUGUST
1913

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

George Henry Heald, M. D., Editor

IN A NUTSHELL

No scourge of the human race afflicts man more persistently or more annoyingly than **digestive disorder.** Dr. Kress, who has chosen this topic for discussion in this issue (page 342), has for years made a special study of the disturbances of digestion, and is therefore well qualified for his task. The editorial article, "The Prevention of Digestive Disorders" (page 366), from a slightly different angle throws additional light on the subject.

Physicists, physiologists, and physicians are carefully investigating the **properties of light,** and little by little, man is wresting from nature her secrets regarding this powerful and pervasive form of energy, and it is known that light rays may have a potent influence on the body for good or ill. Dr. Abbott (page 346) has given in simple language some interesting and important facts regarding "Sunlight" in its relation to the body.

Every cell of your body, every muscular act, your every thought, represents some food eaten by you; and **how** you grow, **how** you act, **how** you think, is determined to a certain extent by the nature of the food you have eaten. The question, **"What shall we eat?"** then, is, physiologically, one of the most important that we can ask ourselves. "The Staff of Life" (page 348) gives in simple language a résumé of the subject, about which food experts are by no means yet at an agreement, showing that, after all, the cereals form the great basis of human nutrition. Very appropriately the article by Mr. Cornforth is on "A Few Wholesome Breads" (page 361).

Is alcohol a food? Some scientists have asserted and some have denied that it is. Perhaps the difference lies mainly in the definition of what constitutes a food. Dr. Hirshberg (page 356) shows **why** alcohol cannot be a food in any true sense.

Emergencies considered in this issue: Hay Fever, Drowning, Burns (page 365).

THE NEXT ISSUE

In continuation of the topic "The Staff of Life," in the September issue we shall take our readers with us to witness the various methods of making flour and of baking bread in different countries, and in different ages as far back as we can trace the records on the monuments and in the caves of ancient man; and we shall see how modern primitive man, as well as civilized man, prepares his bread.

Dr. Kress will continue his consideration of digestive disorders, paying particular attention to treatment.

Mr. Cornforth will give an excellent illustrated article on the preparation of hygienic "coffee cakes."

The October Issue Will Be a Fruit Number

Don't Miss It!

DIGESTIVE DISORDERS

D.H. KRESS, M.D.

VERY few reach adult life without the consciousness of possessing a stomach. The average boy or girl is able to locate accurately the organ without the aid of an anatomy. Americans possess the reputation of being a race of dyspeptics. It is safe to say not less than seventy-five per cent of them are afflicted with some form of digestive disorders. Many of the bodily and mental maladies find their true explanation here, for these digestive disturbances are not merely responsible for numerous aches and pains, but for much of the unhappiness found in our American homes. Back of nearly every form of digestive disorder is the food, and back of the food is the cook. What the inmates of the home are physically and morally may usually be determined by what the cook is. Give us thoroughly trained and intelligent cooks and the cure of nine tenths of all the dyspeptics may be assured without medicinal treatments.

DOCTOR D. H. KRESS

Liebnitz, the German philosopher, said: "As regards internal medicine, I hold that this is a mere art like that of playing backgammon. I have often wished that a skilful physician would write a book about curing diseases by means of the diet." "A good cook," said Dr. Andrew Boorde in 1536, "is half a physician." The importance attached to this art at one time may be judged by the following: John Evelyn, in his "Acetaria" (1699), says, "We read of divine popes and emperors that had sometimes learned physicians for their master cooks." Sidney Smith in 1837 wrote: "I am convinced that digestion is the great secret of life; and that character, talents, and virtues are powerfully affected by beef, mutton, pie crusts, and rich soups. What God has joined together, ill-cooked joints and badly boiled potatoes have often put asunder."

At the International Health Exhibition, London, 1884, Dr. Andrew Blyth, in his Authoritative Manual, issued by the council concerning "Health by Diet," said: "When by successive researches the science of diet has become better understood, without doubt a school of physicians will arise, discarding all drugs and treating all maladies by cutting off certain foods and by surfeiting with others." "There are diets," he said, "for every age, for every climate, for every species of work, physical or mental; there are diets by which diseases may be prevented and cured, there are diets fitted for some constitutions, injurious to others; diets which make the skin glossy, the frame vigorous, and the spirit joyous; others which mar the face with wrinkles,

speckle the body with eruptions, and make the form lean, hollow, and prematurely old." A well-known authority has said: "Only one man in a million dies a natural death. We should live until one hundred forty years of age. A man who expires at seventy or eighty is the victim of an accident, cut off in the flower of his days; and he unconsciously resents being deprived of the fifty or so which nature still owes him. Leave him awhile longer, and in due season he will desire to depart, as a child at bedtime desires to sleep."

It is not the food but the poisons that are formed in the alimentary canal resulting from its indigestibility, or improper combination, that are responsible for ill health and bad tempers.

Digestive disturbances are not *always* due to dietetic errors; mental influences play an important rôle in digestive process. Faith, courage, and hope act as a normal stimulus to digestion. Anger, fear, worry, and anxiety act as depressants.

They lessen the production of gastric juice and inhibit the mechanical movements of the stomach. Dr. Cannon was able to arrest entirely the rythmical muscular movements of the stomach of a cat by annoying her. Dr. Pawlow found he could check the flow of gastric juice of a dog by similar means.

Good cheer is a most potent aid to the digestive organs, for "a merry heart maketh" not merely "a cheerful countenance" but a cheerful stomach, capable of doing its work well. There is a class of dyspeptics who are constantly worrying or giving anxious thought of what they should eat or drink. With such a state of mind, no matter how simple the food, the chances are it will cause distress. "As he thinketh in his heart, so is he." Job said, "The thing which I greatly feared is come upon me:" many a dyspeptic since Job's time could truthfully testify to the same fact.

A violated conscience, disappointments in the home or in business life, often result in the most aggravated forms of indigestion and dyspepsia, which, of course, can never be cured by diet alone.

Some years ago a patient came to me for an examination. I found on analyzing his stomach contents after a test-meal, that he had an excess of hydrochloric acid, indicating excitation of the walls and glands of the stomach. A few days later, on giving another test-meal, I was surprised to find free hydrochloric acid almost absent. Upon inquiry, I ascertained that on the evening before the second test-breakfast was given him, he had received sad news from home. In this case and in other cases I have been able to observe that mental influences play a very important part in the digestive process. In all such cases there must be a change of mind in order to make possible a change in the digestion.

The form of dyspepsia most prevalent in the United States up to the age of about forty years is known as hyperhydrochloria. This is a condition in which the stomach is in a state of chronic irritation, which is aggravated by the excessive production of a highly acid gastric juice. Naturally the condition goes from bad to worse, unless it is recognized and the causes are removed.

At the beginning of this disorder, or while the irritation is still mild in character, there exists an exceptionally good appetite, which is usually regarded (especially in the young) as an indication of robust health. The large quantity of gastric juice present enables the one having this disease in a mild form to digest all he eats, and as the result, he may put on weight. As the disease progresses, there will appear an all-gone or a gnawing sensation, at first three or four hours after meals, and later one or two hours after meals. The desire for food becomes more pronounced. Children who have this form of disorder beg for food long before the regular time for meals. The husband comes home with a voracious appetite, and if everything is not in readiness, he becomes impatient.

Extreme hunger is never an indication of health; it is unnatural and is always

an indication of stomach irritation. In time pain takes the place of, or is associated with, the feeling of hunger, and usually makes its appearance from one to two hours after meals. Then the discovery is probably made that relief may be obtained by eating a little food occasionally. As a consequence, this leads to frequent meals or eating between meals. It may also be found that bicarbonate of soda affords relief, and this may be resorted to to obtain temporary relief. The temporary relief obtained is due to the absorption and dilution of the acid by the food and by the neutralization of the strong acid by the soda.

While these afford temporary relief, they stimulate the production of gastric juice and therefore intensify or aggravate the existing condition. The pain, after a time under such treatment, comes on earlier and becomes more piercing. Later an ulcer may form which may result in a hemorrhage. Most cases do not end in this way, but at the age of thirty-five or forty the glands of the stomach become exhausted from continuous irritation and overstimulation; this is followed by a diminution of gastric juice, slow digestion, and fermentation or putrefaction of foods. The stomach pains disappear and a cure of the former trouble seems to have taken place. While not experiencing so much local unpleasantness, the latter state is worse than the former, for it is really an advanced form of the old disorder.

So long as there was an excess of gastric juice, the stomach was able to keep itself clean and prevent putrefaction of the albuminous foods. In the presence of an excessive quantity of acid, even foods that are partially putrid are capable of being rendered almost harmless by disinfection. During the second state, known as hypohydrochloria, in which there is a deficiency or entire absence of free hydrochlōric acid, the albuminous foods readily undergo decay, and poisons often of a deadly character are formed. These are absorbed and carried by the circulation to the liver, kidneys, and other glands of the body. These glands by continuous irritation slowly undergo degenerative changes. They are then no longer able to neutralize or eliminate the poisons, and the system becomes flooded with them, or a state of continuous autointoxication exists, which brings about rapid changes in the heart, blood-vessels, and other tissues of the body, of a degenerative nature.

The symptoms associated with hyperhydrochloria are red tongue, extremely good appetite, gnawing sensation at the pit of stomach, and later on pain coming on about one or two hours after meals, usually relieved by taking food or by the use of soda. The person is generally on a high tension and is irritable. Neurasthenia is common in this condition. There exists a general state of stimulation.

In hypohydrochloria the tongue is coated and the breath is bad. There is a bad taste in the mouth, especially in the morning, and a feeling of pressure in the head. There is a feeling of drowsiness, lack of ambition, during the day. If the person puts on weight, it is due to degeneracy of the glands. This is shown by the pale waxy or dingy skin. Cold extremities, moist, clammy hands and feet, with a tendency to take colds, are other symptoms associated with this form of stomach derangement.

In coming to the physician, these patients seldom complain of having anything the matter with the stomach. They may say, "Doctor, my stomach is all right, I can eat anything [and frequently they do]; it is my nerves or my head that bothers me:" or they may complain of rheumatic pains. It is difficult often to convince them that the real cause of these symptoms lies in the stomach.

Last year there were over thirteen thousand cases of acute ptomain poisoning reported in the United States from eating canned salmon, chicken or ham sandwiches, etc. Over three thousand of these died within twenty-four hours after infection occurred, but for every death from the poisons formed in these

foods outside of the body, one hundred died from the putrefaction of the same kind of food in the stomach and colon. These poisons may not be formed or absorbed in sufficiently large amounts to cause death or serious symptoms, but they are formed in sufficient amounts to cause mental depression, headaches, and other ill feelings, which are usually ascribed to everything but the true cause. The continuous absorption of poisons from the alimentary tract is chiefly responsible for premature decay. It shortens life, and in part explains the rapid increase in the mortality rate during the past thirty years.

Not only does the absence of free hydrochloric acid encourage in the stomach the cultivation of germs of putrefaction and disease, but should meat from a cancerous creature be eaten, the cancerous tissue coming in contact with the diseased walls of the stomach, and possibly the base of an old chronic ulcer, may develop cancer. It is well known that cancerous tissue can be transplanted in this manner. Cancer is always preceded by hypohydrochloria. For this reason it seldom makes its appearance in the young, who nearly always have an abundance of gastric juice, and seldom appears before the age of forty. It makes its appearance after the glands of the stomach are disabled. Cancer seldom appears at points remote from the stomach until the stomach glands have lost their ability to produce a sufficient quantity of gastric juice to prevent decay of foods and autointoxication. The poisons absorbed from the alimentary canal lower the vitality of the tissues remote from the stomach and pave the way for this abnormal growth at any point.

Autointoxication due to hypohydrochloria is responsible to a great extent for the rapid increase in the mortality rate from Bright's disease, heart failure, and apoplexy the past two decades. So long as there is a normal or an excessive production of gastric juice, putrefaction of albuminous foods is impossible, and cancer seldom if ever appears either in the stomach or parts remote from the stomach.

Stomach irritation is usually the first step in the causation of ulcer of the stomach and later cancer. It marks the beginning of Bright's disease and degenerative diseases. If stomach irritation can be prevented, we shall be able to prevent the maladies which today are carrying off the masses. It is important to ascertain the cause of stomach irritation.

Why is irritability of the stomach so common? The primary trouble lies not with the stomach, but with what is put into it. If the stomach bothers an individual, it is because he has for a long time probably been bothering his stomach.

Stomach irritation is due to errors in eating and drinking. From infancy up children are given indigestible foods, and these foods are usually bolted. The presence in the stomach of indigestible foods causes mechanical irritation, and later, when fermentation has occurred, chemical irritation from the acids which are formed.

Children are permitted to eat freely of cane-sugar, fried foods, and fats, all of which favor fermentation and the formation of irritants. Meats also contain acid wastes which irritate and stimulate the production of highly acid gastric juice. The pepper, mustard, Worcestershire sauce, and other irritating substances usually eaten with meats still further aggravate this condition.

I attribute largely to the free use in America of meats, sugars, fats, condiments, and tea and coffee the prevalence of stomach disorders and their consequent evils.

SUNLIGHT

G. K. Abbott, M. D.

LIGHT — that marvelous medium of energy, the symbol of truth, morality, intellectual advancement, and of life itself, that form of energy which has been most studied and about which most is known — is after all the thing about which most remains yet to be discovered as to its ultimate nature and workings. It is truly a marvelous thing. No wonder the sun, the great luminary, was deified by the heathen who had lost all knowledge of the origin of things.

The Creator has seen fit to sustain the life of plants and animals by the material things and appreciable forms of energy whose workings we often find it impossible to separate from the matter in which they are manifested. Indeed in the last few years scientists have been led to doubt the essential distinction between matter and energy, which every schoolboy learns as his first lesson in natural philosophy. This has come about through investigation of the phenomena displayed by the X-ray and by that wonderful form of matter, radium.

But it is not our purpose to treat of this phase of the subject of light. It is rather to call attention to the benefits to be derived from living in the sunshine. Much has been said along this line, and in a general way every one knows that sunshine is better than shade and darkness, and that light is essential to the highest development of life. However, if one may judge by the way in which we build our houses, with windows small and few, and with heavy lace curtains, not to mention heavier shades, hung over even these, it must be confessed that the great importance of sunlight has not made an adequate impression upon us. Let us for a few minutes consider in some definite, concrete way a few of the effects of sunshine and of other forms of light.

Vegetation

It is only in the sunlight that plants take up carbon dioxid from the air and manufacture it into plant tissue. This is done by the green coloring-matter of the leaves and stems, which itself is dependent upon sunlight for its rich green color, and in the absence of which soon becomes pale and sickly in appearance. The carbon dioxid, which as a poison is exhaled by animals, thus becomes the food of plants, which they in turn make over into food for animals.

Some plants display such an affinity for light that they become veritable sundials; such is the case with the sunflower. Even certain of the minute plants which make up the green scum on stagnant water are able to turn themselves about toward the sunlight, executing a pirouette upon one extremity. Certain small plants by a feeble light may be called to the surface of a ditch and by a sudden increase of the brilliancy made to rebury themselves. By electric light plants may be made to grow by night, and so by a twenty-four-hour period of growth attain a greater size than other plants. An electric center of light equal to fourteen-hundred-candlepower, six and one-half feet from growing plants, appears to be equal in effect to average daylight in March. Certain plants turn their leaves broadside to ordinary sunlight, but if it is too strong, they turn edgewise as a means of protection. Strawberries exposed to strong electric light twelve nights showed, after fourteen days, a rich coloring, while the fruit on plants exposed to sunlight only, had hardly begun to show a sign of redness.

Bacteria

By means of an ordinary arc lamp bacteria may be killed in from five to eight hours, and by arc light concentrated through condensing lenses of quartz, they may be killed in as many minutes. A French observer has shown that exposure to sunlight checks the growth of the diphtheria germ. The physician to the Sherman Institute (an

Indian school) has utilized this method, along with antitoxin, in treating an outbreak of diphtheria in that institution. A five-minute exposure of typhoid bacilli to the light of an iron electrode lamp destroyed them completely. It is the blue and ultraviolet light which accomplishes this result. The red or heat rays have little effect. It is these active rays that are made use of in treating lupus (tuberculosis of the skin) by the method of Finsen. This disease, so common in the northern countries of Europe, where sunlight is not so abundant as in southern Europe, has lost much of its terrors, thanks to the labors of Nels Finsen.

It has been shown that the concentrated sunlight may influence a bit of sensitive chemical, even after passing through the entire thickness of the chest. The use of sunlight concentrated upon the chest by a large concave mirror of blue or violet glass is an approved method in the treatment of tuberculosis of the lungs.

The bactericidal action of sunlight is greatly enhanced by the presence of an abundant supply of oxygen. In fact, this action is very feeble without oxygen, hence the importance of much fresh air in tuberculosis and other germ-diseases as well as of sunlight.

Animals

Frog spawn kept under opaque glass die, while spawn under a transparent glass develop normally. Of three tadpoles kept for a month in a red aquarium, one had feet feebly developed but retained its tail, the other two had no limbs at all and still breathed by the fish method instead of the lungs. On the other hand, three tadpoles raised in blue-violet light showed only a little disappearing stump of tail, they had each two pairs of completely formed feet, and breathed by the lungs. This greater growth is due to the fact that violet light stimulates cell multiplication, as shown by the following observation: The larvæ of a certain tadpole were kept in blue and red aquariums for three weeks, at the end of which time cross sections of the tails were made and examined microscopically. In those raised under the blue glass, 4,154 cells were counted, 52 of which were in the active process of dividing, while in those raised under red glass, 2,613 cells were counted, only 14 of which were found dividing. Such is the influence of the active or chemical rays of light upon animal growth.

Blue light has also been shown to stimulate muscular activity, while red depresses it. One experimenter found that muscles already fatigued were, after exposure to blue light, not only able to perform a normal amount of work, but actually accomplished more than normal. Light enhances digestion and assimilation. It stimulates glandular activity. Nerve force is increased by proper degrees of light. One of the most interesting and useful effects of light in the treatment of disease is its ability to stimulate the process of the formation of red blood-cells and increase the amount of coloring-matter they contain. It is thus a great boon to the anemic and to chronic invalids. This effect is doubled by the greater cheerfulness of those who live out of doors in the sunshine, and thus in another way nutrition is promoted.

In a brief article like this I have not the space to even mention all the beneficial effects of light upon the human body, either physically or mentally. While sunlight fades the carpets, it brings roses into the cheeks of the children. Perhaps the few facts here recited may give us a greater appreciation of the value of sunlight in the treatment and especially in the prevention of disease, so that we shall think more of the color of our children's faces than of the color of our carpets.

"Clear the darkened windows,
Open wide the door,
Let a little sunshine in."

Loma Linda, Cal.

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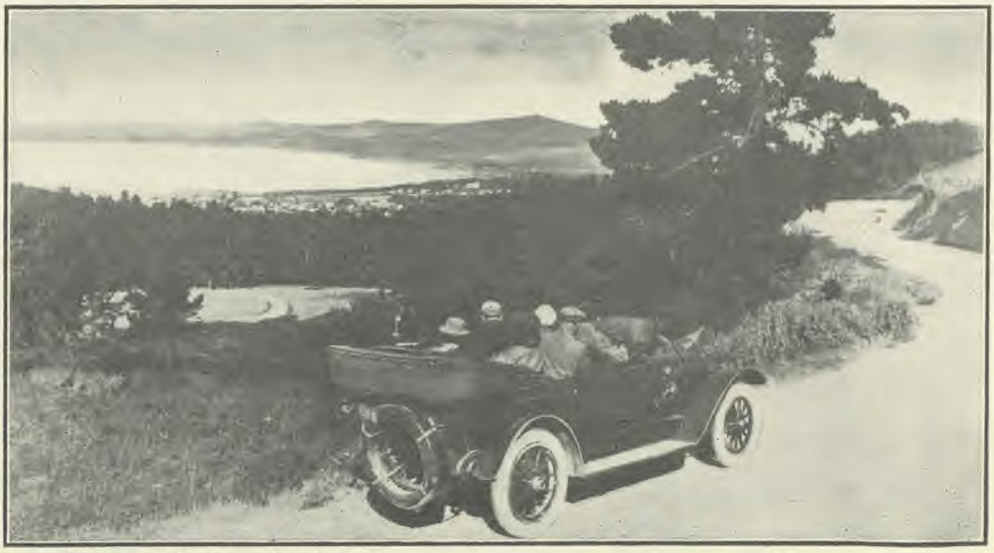
THE STAFF OF LIFE

G. H. Heald, M. D.

The Importance of Fuel

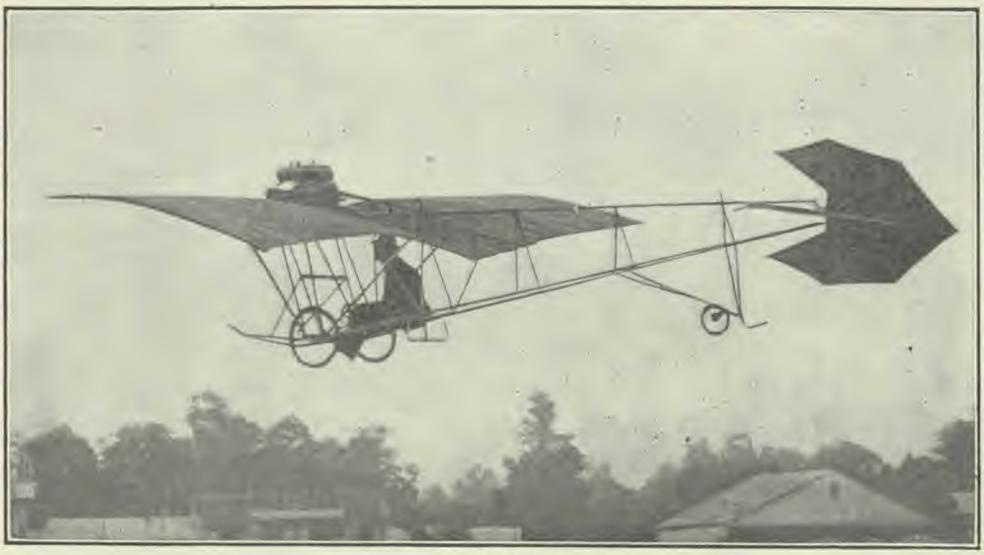
HOW far could you run that auto of yours without gasoline? Given the very best high-power six-cylinder car made, and you out in the middle of the Arizona desert with your supply of gasoline exhausted, perhaps miles from your nearest supply of the precious liquid, what would you do? What *could* you do? You would much prefer to run out of your supply of drinking-water; for with gasoline,



Courtesy of the Locomobile Company

THE SEVENTEEN-MILE DRIVE, MONTEREY AND MONTEREY BAY, CALIFORNIA

The beach is one that is dear to the admirers of Robert Louis Stevenson.



Fuel is a vital necessity.

you could in time get to a supply of water (or drink something else!), but without gasoline, there you are — stalled! Gasoline is the source of energy without which the powerful engines that surge the car forward with great bounds would be as worthless as so much scrap-iron. Let the world supply of liquid fuel be permanently exhausted, and every such engine would be worth just exactly what it would bring as old iron — no more.

Men have actually proposed to go to the moon in an aeroplane, taking along enough gasoline to last for the trip, a requisite quantity of food, and liquid air to evaporate for breathing purposes. Of course such a scheme is the height of absurdity, and possibly the one who made it was doing it merely to excite comment; but the proposal to cross the Atlantic in an aeroplane is not beyond the bounds of possibility. One needs but to calculate the number of hours he will require for the trip and take along sufficient gasoline to keep his motor going till he reaches land on the other side. It were better for him to figure short on the amount of food than on the amount of gasoline, for when *that* is exhausted, his joy ride comes to an end. The finest motor in existence, without the fuel, might as well be a lump of pig iron.

And what is this wonderful fluid — gasoline, or petrol, as our British friends call it? — It is simply a fuel, but one that is very easily exploded, or united with oxygen, thereby liberating the energy which runs the car or the airship or the plane. The engines are merely contrivances for harnessing the energy and applying it to the work of moving the vehicle.

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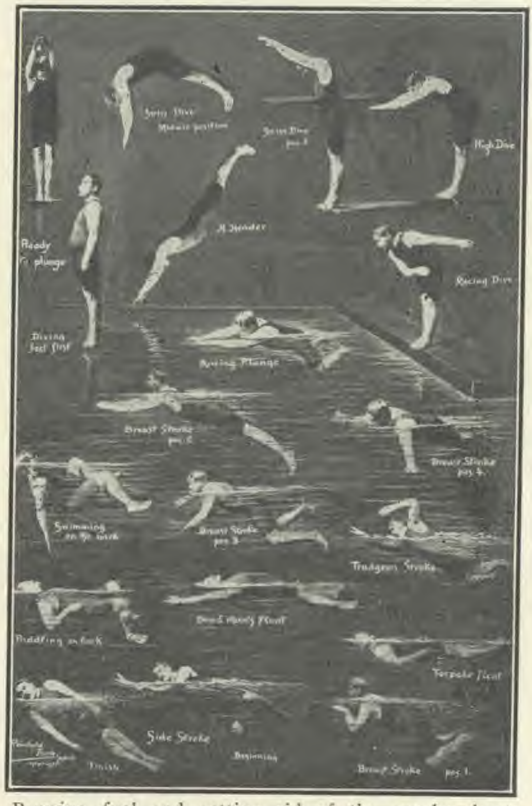
The Body a Fuel Burner

Every person is a motor-car, not a six-cylinder, but a multicylinder; for every muscle cell is a cylinder — there are millions of them — for the explosion of fuel, not gasoline, but sugar! Do not be surprised; we cannot make metal cylinders that will so utilize sugar, but that is because we are coarse and crude machinists at the best, and we can make no such engines as those in the body. The fact is, these millions of microscopic body engines are capable of utilizing a fuel that no internal-combustion engine can use, and they use it without a tithe of the mishaps and accidents that befall the artificial engines with which we are better acquainted. There is, for instance,

a system of engines that pulsates sixty or seventy times a minute, and pumps the blood current of our bodies, ceasing not while life lasts. Other systems at the rate of about sixteen throbs a minute, furnish the motive power for the bellows that renew the oxygen supply. Fortunately for you, you do not have to crank your heart and lungs when you awake in the morning. If they should fail, you would go to the scrap-heap. And there are thousands of other groups of engines that in various ways minister to the necessities and the comfort of the body, and all these depend for their efficiency on — **sugar!** Well might we say, "Great is *sugar,*" for it is the combination of sugar with the oxygen taken in by the breath that furnishes all the energy which makes possible the series of functions and activities we call life. Shall we say, then, that life is the oxidation of sugar? — Hardly. Sugar oxidized otherwise than in these living engines cannot produce life.



Burning fuel and getting rid of the surplus heat generated.

At each meal we take in fuel. This fuel is converted in the digestive tube into readily combustible sugar. With each breath, we take in oxygen with which to explode the sugar. We carry only a small surplus of oxygen, so small, in fact, that if we make a little unusual exertion, such, for instance, as running upstairs, the supply is partly exhausted and we have to work the bellows harder for a fresh supply; and if for any reason the bellows cease entirely for fifteen or thirty minutes or even less, life may be extinct. There is a larger supply of fuel than of oxygen in the body, so that every extra exertion does not cause a food hunger, as it causes air hunger; but a few hours' exercise will develop a healthy appetite, which is a demand for more fuel to replace that which has been burned.

Heat Elimination

One of the problems in the construction of motor-engines is the dissipation of the heat which is always a by-product of the combustion of the fuel, even when the fuel is being burned entirely for power; and this is accomplished by the use of radiators. The body has the same problem, and its radiator is the skin, with its water-cooler in the wonderful system of sweat-glands, which pour out a stream of moisture as needed to carry off heat by evaporation. Every little extra exertion, or use of the cell engines, causing increased combustion and increased heat, brings into increased action the radiator system, so that exercise is followed by perspiration.

Thus be it understood, the body is a system of myriads of minute engines, which, working together, unite the sugar

and the oxygen, and liberate energy in the form of motion and heat. Or in brief, our bodies are sugar-burning compound engines.

The Human Compound Internal Combustion Engine

This means, then, that our food should consist largely of materials convertible into sugar? — Most certainly; and the great bulk of most dietaries is composed of carbohydrates; that is, sugars, and starches, dextrins, and other substances convertible into sugar. Even the protein and the fat are to a certain extent convertible into sugar. There was a time when it was thought that the carbohydrates were used only for the production of body heat, and that the energy by which the cells contracted was furnished by the proteins,— the albuminous parts of the food, such as are found in the white of egg, the curd of milk, the lean of meat, and the gluten of wheat; but later research demonstrated to a certainty that all the energy of the body, whether heat energy or muscular energy, is the result of the combustion of fuel, just as it is in the motor-car.

For a time it was still thought that a large proportion of protein is needed for the repair of the tissues. And, moreover, does not the composition of milk — nature's own food — contain a large proportion of protein?

It is now known that although protein is needed in the work and repair of the cells, the requisite quantity is much smaller than was formerly supposed to be necessary. This has been pretty definitely settled; though there is undoubtedly a minimum below which it would not be safe to go, and until we know exactly what the safe minimum is, it is probably the part of wisdom to use more protein than the minimum amounts proposed as adequate for health. It is true that the milk contains a large proportion of protein, but it should be remembered that milk is intended for animals at an age when their principal function is to *grow*, and so during growth they need a larger proportion of tissue foods than is needed when that growth is consummated.

With these facts before us, we are not so surprised and mystified that the cow, on a diet comparatively poor in protein, not only finds sufficient protein for the needs of the cells of her body, but is also able to elaborate protein in large quantity, which we appropriate for our use. It is a lesson our physiologists have been a long time learning, and they have not entirely learned it yet, that the body is essentially a fuel-burning machine.

Malnutrition From Lack of One Food Constituent

It is quite true that on a diet composed entirely or largely of carbohydrates, there would be immediate evidence of malnutrition, and we know that it is impossible to live entirely on such foods; but it may be the absence not of the protein so much as of some other needed constituents — certain mineral salts — that determines the malnutrition of the body. It has been found that an animal may be fed a complete dietary in ample amounts, — protein, fat, and carbohydrates, in proper proportion,— with perhaps one salt or one element lacking, and the animal will grow progressively worse until the needed constituent is supplied.

In fact, it would seem that the disease beriberi, which has been such a scourge in the Orient, is caused by the absence of some constituent removed in polishing the rice; for animals fed on the polished rice develop the disease, but escape it if in addition to the polished rice they are given the polishings removed from the rice. In Labrador, those who for long periods were on a diet of white bread developed a disease very similar to beriberi, which they escaped when they had Graham bread or whole-wheat bread. Evidently there is something in the outer part of the grain which the body needs, and which a diet consisting of the inner part of the grain lacks. And yet the inner part of the grain is perhaps as rich

in protein elements as the whole grain, or at least a larger proportion of the protein of the interior of the grain is utilized in the body, for the protein of the outer part is encased in a woody envelope, rendering it difficult of access by the digestive fluids.

Formerly persons who were on long voyages with a limited variety of food contracted scurvy. When such persons have access to fresh vegetables or fruit-juices, the scurvy is avoided; and where the disease has been contracted, a supply of fresh vegetables will effect a cure. There is evidently in the vegetables or fruits something that the body needs, and which was lacking in the preserved foods of these long voyages. As a rule, vegetables are extremely poor in nutrients, if by that we mean proteins, fats, and carbohydrates; but they contain certain elements which the body seems to need, as is shown by their almost universal use, and by the fact that restricted dietaries containing no vegetables do not give such good results in nutrition and freedom from disease as do those in which vegetables are used to at least a small extent.

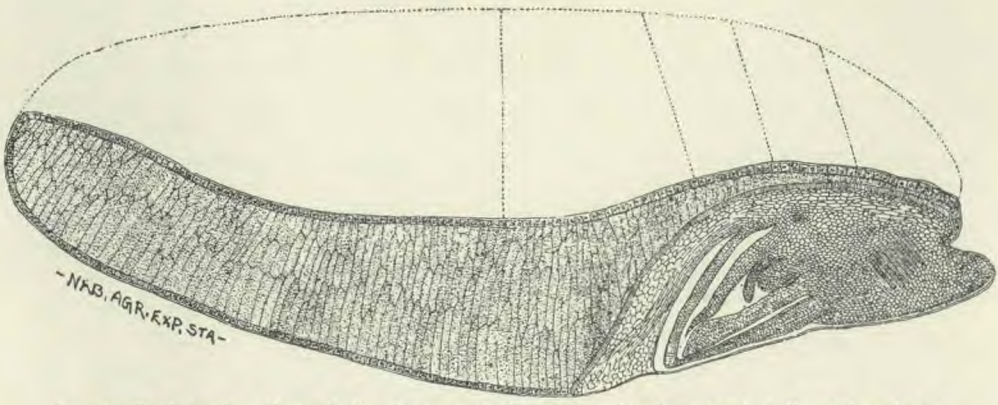
So let us grant that a certain amount of protein is necessary for the body, and that we must have a certain minimum of various salts and elements, and that we can best secure this by having a variety of foods. Having granted that much, we must come back to the proposition that the body is essentially a fuel-burning machine. There is need of material for lubrication, repairs, and the like; but for fuel with which to run the machine, we need a constant and liberal supply of sugar, or sugar-making foods, just as we need a constant and liberal supply of oxygen to burn them.

Why Not Live on a Diet of Sugar?

A very natural query arises here. In the gasoline-engines we do not attempt to use crude petroleum, but the refined fuel. Why, if sugar is the fuel used by the cells, do we not take all our fuel food in the form of sugar, and thus save the energy necessary for its transformation in the body? There are several reasons; first, the digestive system was established, evidently, to handle starches, and it is questionable if there is an advantage in taking away the necessity for the functioning of any organ. An arm kept permanently in a sling will eventually waste away and become useless, and the energy saved thereby would not pay for the loss of function. We may save considerable energy by living a sedentary life, taking as little bodily exercise as possible, but the failure to use the body will end in general weakness. In fact, experience shows that the failure to use certain parts of the body causes not only a failure in the development of the part, but a possible disarrangement of the entire body. At any rate, we know that one who is vigorously expending energy in the form of muscular exercise is thereby building up a stronger body, better able to resist disease. Analogy suggests that in the same way, the use of foods that take away the necessity for digestive activity, though it might lessen the expenditure of energy, would likely be to the general disadvantage of the body as a whole.

We know, moreover, that the use of concentrated sweets, such as would be necessary were one to use sugars instead of starches for his entire supply of carbohydrates, would be irritating to the intestinal tract, and that there would be much more fermentation on a diet of sugar than on a diet of starch; and there is at least one physician[1] who believes that much of the trouble in the intestinal tract, and, in fact, of practically all disease, is due to the fermentation of sugars. Probably he has overdrawn the matter, but it cannot be denied that the sugars in quantity in the food passage greatly increase the tendency to fermentation and indigestion. When the food

[1] Dr. W. Plönies, Hanover, Germany, see article in *Medical Review of Reviews*, January, 1913. We expect to discuss Dr. Plönies's views editorially in the November LIFE AND HEALTH



Longitudinal section through the furrow of the grain, showing starch cells and embryo. The curved dotted line shows the outline of the whole grain.

is taken in the form of starch, it is transformed into sugar only about as fast as it is absorbed; but when it is eaten as sugar, fermentation is apt to start on a large scale and breed mischief. Another advantage of starch over sugar is that part of it is carried some distance down the intestinal tract as starch, and in the lower levels is transformed into sugar, where it prevents the putrefaction of the proteins.

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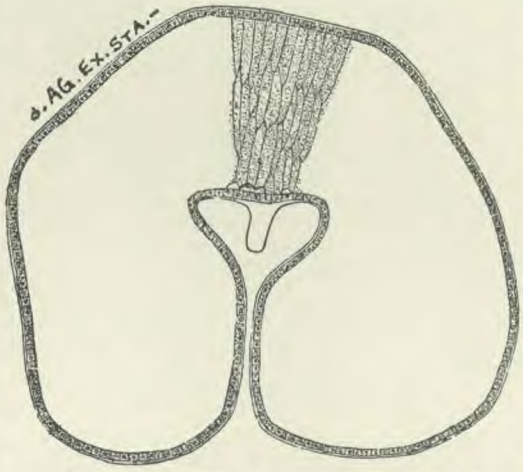
The Raw-Food Dietary

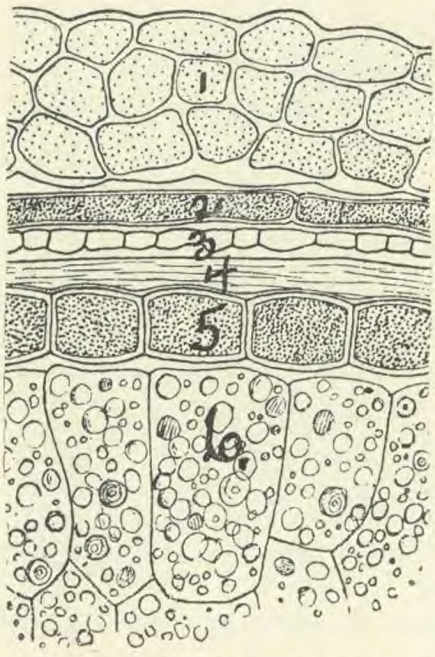
There is no doubt in the mind of the writer that here lies the secret of the raw-food diet, which has had such vogue, and which certainly has accomplished great good in some cases. The reasons given by the raw-food advocates in favor of uncooked foods are some of them childish, and nearly all are unphysiological, and one would not pay attention to them were it not that such a regimen sometimes gives remarkably good results. Understanding the function of untransformed starch in the lower levels of the intestines, one can appreciate how a dietary consisting of raw wheat may cure dyspepsia of long standing. Dyspepsia means fermentation or putrefaction or both. Raw grain furnishes little or nothing to ferment, is carried down where it inhibits putrefaction, and by its mechanical action sweeps out the tube, carrying out whatever putrefactive elements may be present. Is it not logical? And undoubtedly the coarser breads, like the Graham, do good work in this way: for whereas the flour from white bread is almost completely digested, microscopical examination shows that Graham bread passes entirely through the intestinal canal with part of the starch still undigested. Probably on its way through the tube, the cellulose walls are to some extent broken down, thereby liberating at least a small quantity of starch in the re-



Outline of a transverse section of a grain of wheat. The rim is the branny part. Only a portion of the starchy structure has been indicated.

gions where starch is most needed to prevent the activity of the putrefactive germs, which our readers will remember are supposed to hasten arteriosclerosis and senility.

Undoubtedly there are circumstances in which sugars may supply a need that cannot be met by the starches. This would be especially the case in healthy men who require a larger amount of fuel food, and faster, than could be supplied by the digestion of starch. Davis, in his book "Diet in Health and Disease," tells of a crew of Holland oarsmen, "who, while in training, began to show signs of overwork, loss of flesh, a lack of ambition and energy, and disinclination for study and work. By eating sugar as freely as they wished, sometimes as much as a third of a pound a day, they were refreshed and enabled to win a race against antagonists who did not believe in its use." They made an intelligent use of fuel.



This is a very much magnified section of the outer part of a grain of wheat, showing at the bottom (6) starch cells, above them the layer of cells containing gluten granules (5), still farther above the successive outer layers of the grain; (1) is the outermost layer. Layers 1 to 5 constitute the rim in the previous figure, from which come the bran and coarser products when flour is made. Pure Graham flour includes all these layers. These outer layers are largely indigestible, and even the neutrient part, like the protein, is partly lost in digestion because it is enveloped in cells of woody fiber, and also because the irritation caused by the rough particles hastens peristalsis, and hurries the food mass through the intestines.

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Structure of Wheat

A wheat grain is really a seed surrounded by a pod, like the peanut, for instance, but the seed so fully fills the pod that it appears to be one structure. The seed proper consists of the embryo, or young plant, together with its food supply, principally starch and gluten.

Flour, as originally made, was a coarse unbolted meal. The bolting process has made possible a whiter and lighter loaf, but it has robbed the flour of some constituents which, according to many authorities, are needed for the nutrition of the body. Others maintain that though valuable ingredients are thrown away with the outer coats, they are difficult of digestion, and can be replaced by the use of other foods. Undoubtedly Graham flour has its advantages and disadvantages.

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Graham Flour

The name comes from Sylvester Graham (1794 to 1851), an American, a Presbyterian minister, who lectured on temperance, and advocated the cure of intemperance by the use of a vegetarian diet. Many of the ideas for which he stood have since been generally accepted.

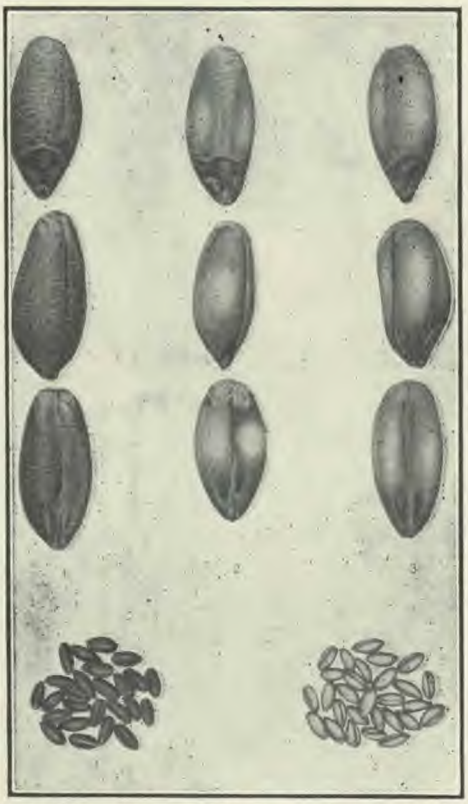
According to Graham, the ancients maintained that whole-meal breads are more healthful than white-flour breads. The athletes of those times, he says, used coarse-meal bread in preference to fine-flour bread; and Hippocrates, the father of medicine, who lived several centuries before Christ, favored coarse bread because of its laxative effect. It

would seem from this that even in those far-off days, the people had been caught by the lure of fine flour. Since the advent of fine flour, it cannot be said that the coarse flours have ever been popular; and they are used not from a natural preference, but because of their laxative effect, or because they are believed to be more nutritious and more healthful, or because in some places they are cheaper.

It is true that Graham flour contains a higher percentage of gluten, phosphates, iron, etc., than the white flours, but it is a matter of dispute not yet settled how much of these the body is able to use.

It is significant that dogs and cats often eat Graham when they refuse white bread; but this may be an acquired taste, for there are some animals that prefer the white bread, at least to the so-called Graham now obtainable at the bakeries.

As has been said before, it appears to the writer that one advantage of the Graham or unbolted flour may be that a portion of the starch, being carried to the lower levels of the intestine and there turned into sugar, may thereby inhibit the putrefactive process. In the white bread, it is probable that the starch is practically all digested and the sugar absorbed quite high up in the intestines.



(1) Flinty, (2) half-starchy, and (3) starchy wheats.

* * *

Imitation Graham Flour

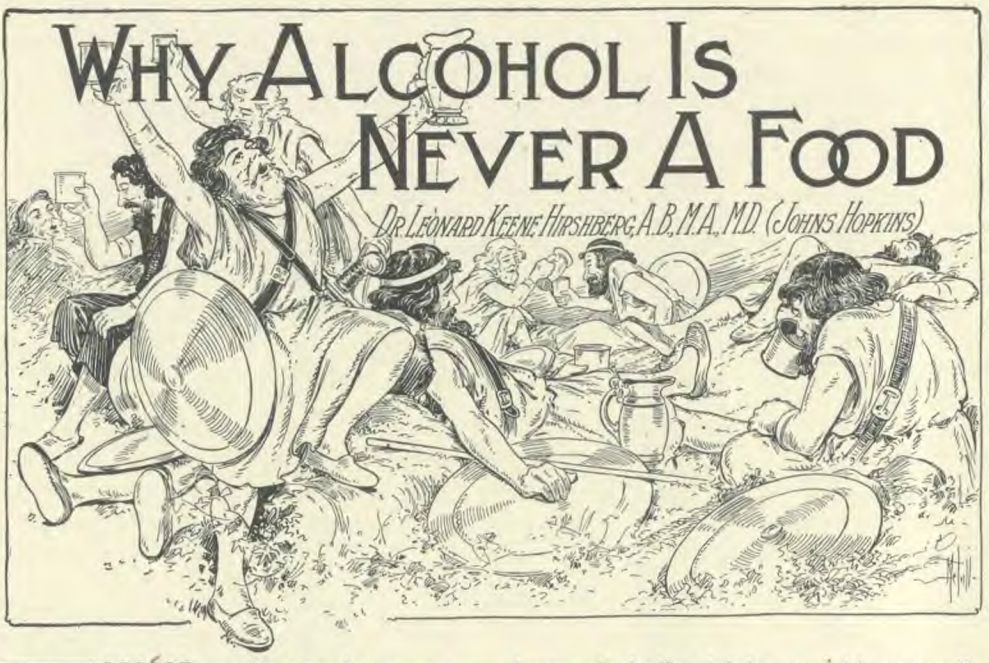
For a long time it has been known that not all Graham flour is Graham. Recently two workers of the Plant Industry Laboratory, United States Department of Agriculture, made an investigation which developed the fact that a certain number of mills continue to make true Graham flour in the old way; but many mills make, instead, a mixture of bran or other feed with flour, using sometimes a high-grade flour, often a low-grade flour, and sometimes there is included even the sweepings of the mill.

These men (Le Clerc and Jacobs, in the United the necessity for of Agriculture, Bureau of Chemistry Bulletin No. 164, "Graham Flour") suggest the necessity for more accurate definitions of these coarse flours, retaining the name Graham flour or whole-wheat meal for the unbolted whole-grain products, using the term "bolted wheat meal" for those from which a portion of the bran has been removed, and "imitation Graham flour" for the mixtures. They say: "Such labeling of wheat products is absolutely essential in order that the consumer may know what he is buying, and furthermore the millers and jobbers should hold to this form of branding in order to maintain the integrity of the trade."

At the present time, when one goes to a store and buys Graham flour, he has no means of knowing what he is getting. It is just as likely as not a mixture of low-grade flour and cow-feed.

WHY ALCOHOL IS NEVER A FOOD

DR. LEONARD KEENE HIRSHBERG, A.B., M.A., M.D. (JOHNS HOPKINS)



LIQUOR, as its popular name — *spirits* — indicates, has come down to us from the primeval days of mysticism and superstition. Together with fairies, gnomes, talismen, tree gods, storm gods, and sacred animals, the use of alcoholic beverages has been handed down from the ages of benighted savagery to semi-civilized or effetely civilized nations. Like the lingering customs of those peoples who still see ghosts, who believe in the occult, or who worship golden calves, the imbibing of beer and wine, whisky and alcoholic liquors generally, is a dark survival left over from the times of Bacchus and the Pharaohs, the sun-worshipers and magicians.

Wanting as the Huns and Goths, Picts and Celts, were in such originality of invention as is constantly necessary to stimulate the palates of vigorous races, it was not unnatural that they should drink fermented juices of one kind and another as incentives to an artificial feeling of courage and daring. While in the case of such smug, sleek, effete people as the Egyptians, Greeks, Romans, and other advanced nations of yesteryear, the superficial appearance of animation, strength, and contentment that comes from alcoholic drinks, would naturally militate against any abandonment of them, even had they realized the consequences of their use.

The decadence of Eastern splendor, the disappearance of the pomp and circumstance of Egypt, Babylonia, Greece, and Rome, has been attributed to many causes, one of the most recent of which, especially in the case of Rome, is malaria. No less an authority than Sir Ronald Ross maintains that the malaria mosquito and the germs of ague that were injected into the natives by it, were the real, responsible sources of the decay of the Roman Empire.

Well, all I have to say is that if the poisons of paludism could sap the virile manhood of Cæsar's legions, then the poisons of alcohol, because the men and women of practically the whole ancient world stood not on the order of their drinking, is even more to blame.

In the light of the laboratory, hospital, and life-insurance researches of the past twenty-odd years, it may be safely said, without the risk of a challenge, that we are only at the threshold of our knowledge of the various and complex injuries that result in both temporary and permanent crippling of

the living tissues from beers and wines. Poison squads may prove that infinitesimal fractions of alcohol are oxidized by the body as a food, yet it is easy to demonstrate that many foods, which both nourish the body and are oxidized completely by the tissue ferments, simultaneously irritate the nerve-fibers, harm the brain cells, overwork the kidneys, and raise the blood pressure tremendously. Hence it is by no means favorable to alcohol that it is acknowledged as poisonous in moderate doses, and conceded to be "a bit of a sort of food" in minute amounts.

As examples of foods and tonic edibles that raise the blood pressure, overwork the kidneys, and irritate the nervous system to the point of ultimate disease, mention may be made of cresses, paprika, pepper sauces, rich meats, beans, and even bread, eggs, tomatoes, and all nitrogenous victuals when taken too often or in too large quantity. On the other hand, there are many much more powerful poisons than alcohol — to wit, strychnin, arsenic, hydrochloric acid, and quinin — that are relatively less toxic, if taken as long as beer or whisky.

The fallacies about the enjoyment(?) and dangers of a mug or stein of beer once or twice a day have been perpetuated ever since the papyrus of Seti I, written in picture language about thirteen hundred years before our era, which described a slave far gone in liquor. After the slave had sufficiently imbibed to be noticeably drunk, he was said to be possessed of Beelzebub. Perhaps the similarity of the first syllable of the arch-enemy's name is more than a coincidence. The modern fallacy of newspaper men and *literati* who point their polemical pens in frequent defense of malt liquors is that gulping down a quart or two of Muenchener or light beer each day not only nourishes them, but tones their cerebral cells to greater mental activity. Such absurd reasoning is like that of the Irishman who prayed: "Dear Lord, take a bit better care of Mary, and never mind about taking care of me now. I've got my life insured." For as a matter of actual scientific measurement, in every liter or seidel of the weakest beer, there is never less than an ounce and a quarter of pure one-hundred-per-cent alcohol. If an ounce of absolute alcohol were dumped undiluted into the blushing, pink-lined pouch of a healthy American stomach that had never before had first-hand acquaintance with the article, as a responsible physician I should hesitate to take the consequences upon my shoulders. Diluted as this ounce of absolute alcohol is with nearly thirty-four times its own weight of water and salts, nature merely saves the one organ of the individual, namely, the stomach, and permits the diluted ounce or more of pure alcohol to permeate the stream of life and stick its withering, blighting finger into every other tissue of the human body.

The modern fallacy of newspaper men and *literati* is that gulping down a quart or two of Muenchener not only nourishes them, but tones their cerebral cells to greater mental action.

"What of that?" says the infrequent

and moderate beer drinker. "Suppose it does scratch a brain cell or two," said a brilliant critic to me the other day. "Nature will wash away the sore cell, and replace it with a fresh one, and my mind will be the fresher and wittier therefor." Unfortunately for him, like many other apparently iconoclastic thinkers, he failed to carry his logic to its inevitable conclusion. True enough, your body is being made over physiologically every instant. The skin peels off, only to leave a cleaner one beneath it. Your nerve tissues shed their scaly raiment constantly. As long as nature is compensated in its accustomed manner, as long as assimilative material makes up the nutrition that leaves the body, no trouble follows. Insult, however, ever so small a nerve-fiber by cutting, tearing, or poisoning it, or burn the surface of the smallest fragment of skin, and nature will not restore the same kind of healthy, useful cells. Sores, scars, tumors, or holes take the place of the poisoned area. And though you may take very small quantities of alcohol to add to your nutritive processes, the tiny ultramicroscopic, invisible scar will just the same be present either in your stomach, in your kidneys, or in your brain. Your vital powers, while seemingly a bit sharper from overstimulation, will have received none the less the bit of cereal that will ultimately break your mental and physical, even if not your moral, back.

The apparent quickening of the mental and physical forces of men after a drink of beer or whisky, remained, until a few years ago, a citadel of opposition to medical admonition against the use of alcohol. Then the newer methods of clinical and laboratory research with numerous instruments of precision put an end to such arguments. It is true that here and there sleek and fat magazine and newspaper contributors, who really know better, still cling, from long habit and an *entente cordiale,* to the delusion that a daily liter or two of malt liquor has not harmed and never will harm them or anybody else. To such it is a food, a tonic, and "it cools them in summer and warms the cockles of their hearts in winter." To these the experiments of the physiologists and Dr. G. Sims Woodhead, of Cambridge University, England, may mean nothing. To those of us who see Bright's disease, cirrhosis of the liver, coagulation of the cerebral tissues, dissolution of the nerve sheaths or coverings, epilepsy, apoplexy, paralysis, alcoholic dementia, fatty accumulation, neuritis, excessive blood pressure, and tuberculosis as the results oftener of alcohol than of other physical errors, Dr. Woodhead's experiments are weather-vanes.

He fitted himself and some students with a device that would steadily register the amount of heat and cold both on his skin and in his internal organs simultaneously. It was a sort of double thermometer arrangement. Then very slowly he drank a minute amount of liquor — less in fact than the alcohol-food squad of Dr. Wiley — and carefully noted down the results.

He at once observed a sensation of increased ability to work, a kind of exhilaration, and a warm glow all over his skin and stomach. His eyes and ears seemed more alert, and the cold room seemed comfortably warm. What then was his surprise — as it used to be to Dr. Cushny of this country and Dr. Smiedeberg of Germany when they first discovered the fact — when the instruments showed without a doubt that his internal temperature had gone down, had fallen, in fact, definitely and conclusively. Moreover, that part of the apparatus that measured muscular power and mental activity, also proved that he was, even with a bit of sipped whisky and water, below par mentally and physically.

The delicacy of such an apparatus may be appreciated when it is realized that Professor Woodhead's mental "below par" is equivalent to rare brilliancy and cerebral solidity indeed.

Thus it is easy to demonstrate that the casual and complacent *rare* drinker, the

gentleman who prides himself upon the tang and pleasure of one indulgent mug of beer, is always deceiving himself. One of the tricks of beer and small doses of alcohol is that the nerves and skin and muscles shunt a false report to the brain. You feel superior to your fellow men, when you are really less than your usual self. You feel warm and brilliant, when you are cold and ridiculous; and if your friends are indulging at the same time, you are surrounded by a band of admiring buffoons feeling much as you feel, and laughing uproariously and flatteringly at your worst sallies. Mind you, none of you are drunk,— not at all, far from it. One glass of beer makes the whole world kin, and levels all creeds. It makes of mortals fools indeed.

You feel superior to your fellow men, when you are really less than your usual self.

But if the complacent and educated *camaraderie* fail to realize that even bird-like amounts of wine, whisky, or beer play on life's stage dual rôles of food and poison at the same time, like Stevenson's Dr. Jekyll and Mr. Hyde, yet the imperial government of the very nation that is held up by your Boniface as "the greatest beer-drinking people of the world, who notwithstanding lead in the sciences, industrial arts, and military prowess," has already set its machinery in motion to forbid its soldiers, sailors, and civil employees from indulging in beer.

Germany, the land that twenty or so years ago consumed per capita two or three times as much beer as America, has so lagged behind in the consumption of beer recently, as the result of the kaiser's better knowledge, his application of medical discoveries about alcohol, together with the warnings of her scientists and the enlightened selfishness of her old-line life-insurance companies, that she has practically allowed the "freedom-loving" Americans and English to catch up with her. The wisdom of the Prussian paternal policy of reduced alcohol allowance has already shown itself in more military endurance,

better marksmanship, decreased hospital sick-list, and particularly more initiative, a faculty hitherto noticeably lacking in Germans as a race of beer drinkers.

While the Berlin government with its *ipse dixit,* its last word in the way of command, could in a way bring about the contracted consumption of malt liquors, as a matter of fact it has really resulted from a nation-wide educational propaganda by officials, doctors, scientists, and teachers, which brought about evident improvement in mental and physical standards. The English and the land of the free have lagged backward. Moreover, various bizarre moral questions injected into the rights of individuals who imbibe have not interfered with a fair-minded, just consideration of the question in Europe.

It is certainly unfortunate that bigotry, and petty religious controversies, and moral questions should be confused in the public mind, with the potential dangers of "small doses of '*food*' alcohol." It matters not to me, since our central government is neither paternal nor religious, what plan is finally adopted to eliminate the occasional use of malt or fusel-oil liquors. To my mind it is strictly the need of teaching man, even against his will, the harm he is working to his own efficiency and upgrowth. If he is an excellent writer, worker, or weaver, daily taking only "a bit of a drop," then he must be taken to a scientific Missouri, and shown how much more efficient he would be if he ceased his libations.

Then, as he becomes educated, that is, acquainted at first hand with his inherent capabilities without a daily glass of beer, there will be no misdirected or misunderstood resistance on the fallacious plea of "freedom and trampling upon his rights," whether local option or prohibition is the outcome.

You are surrounded by a band of admiring buffoons, who laugh uproariously at your worst sallies.

HEALTHFUL COOKERY

A FEW WHOLESOME BREADS (*Continued*)

George E. Cornforth

IT is well to have a large variety of breads, thus adding to the variety of the meals. We may say that bread is bread; but if it is served in many different forms and varieties, it almost *seems* like a different food, and gives zest to the appetite.

In this lesson, I wish to urge the use of Graham and whole-wheat bread. The superior value of these over white bread has been emphasized in several articles that have appeared in this magazine in the past few months. Most of the recipes in this article are for breads made from other than white flour. In the previous lessons on bread, the recipe for Graham bread called for one-third Graham flour and two-thirds white flour. I would urge our readers to try making entire Graham bread, using Graham flour only. This bread will be dark and coarse, but will contain much more of the mineral matter of the wheat — the phosphates, the lime, the magnesium, the potassium — than is contained in white bread, and more than is contained in whole-wheat bread. It is an interesting fact that while one thousand parts of wheat contain seventeen parts of mineral matter, one thousand parts of white flour contain only five and one-half parts of mineral matter. It would be a blessing to all of us if we could take wheat to the mill and have it ground into flour, as was done in our grandfathers' days, and take it home and make it into bread; for all commercial flours, including Graham and whole-wheat, have the germ of the wheat, which is the best part, removed, because its presence in the flour would cause the flour to spoil in a few weeks.[1]

Buckwheat Puffs

1 cup milk, or part milk and part cream
1 egg
¼ teaspoon salt
1 cup sifted whole-wheat flour
About ½ cup sifted buckwheat flour

Separate the yolk from the white of the egg, putting the white into a small bowl. Put the yolk into a mixing bowl with the milk and the salt. Beat the milk and egg yolk together a little, then with a batter whip stir the flour into the milk-and-egg mixture, using enough

[1] There are a few mills that grind wheat into fine meal without taking anything from it, and sell the meal for immediate use; but they do not call the meal Graham flour, and it is quite different from what is called whole-wheat flour and from the common Graham flour, but it is the best flour to use, because it contains everything that the wheat contains.

MAKING PUFFS — BEATING THE BATTER

flour to make a batter which will pile up slightly as it flows from the batter whip to the batter in the crock when the whip is lifted out of the batter. Beat the batter vigorously for two or three minutes, till it is perfectly smooth and free from lumps. Beat the white of the egg stiff and dry, then carefully *fold*, not beat, it into the batter. Pour the batter into a quart measure or pitcher, then pour it into hot, oiled gem irons, filling the irons level full. Bake thirty or forty minutes in a hot oven, or till the gems are nicely browned. All the ingredients for the making of puffs should be *cold*.

Citron Puffs

Follow the preceding recipe, using all whole-wheat flour instead of part buckwheat, and folding in ¼ cup of finely cut citron when the whites of the eggs are folded in.

For making coconut puffs use one large tablespoonful shredded coconut in place of the citron.

Crumb Puffs

1 cup milk, or part milk and part cream
1 egg
¼ teaspoon salt
½ cup zwieback-crumbs
¾ cup whole-wheat flour

Beat together the milk, egg yolk, salt, and flour till the batter is smooth, then fold in the crumbs, and lastly fold in the stiffly beaten whites. Bake in hot gem irons.

Squash Puffs

1 cup milk, or part milk and part cream
1 egg
½ cup mashed squash
¼ teaspoon salt
Sufficient whole-wheat flour to make a stiff batter, stiffer than for other kinds of puffs

Add the egg yolk to the milk, with this blend the squash, add the salt and flour, beat till batter is smooth, fold in the stiffly beaten whites, and bake in hot gem irons. The exact quantity of flour cannot be given because this will depend upon the dryness of the squash.

Another way to make the squash puffs is to follow the recipe for citron puffs, using in place of the citron cold steamed squash that has been cut into one-fourth-inch dice.

Oatmeal Bread No. 1

The day before the bread is to be made, cook six ounces (three scant cups) of oatmeal in one pint of water in a double boiler four or five hours. The next morning warm the oatmeal mush to lukewarm, and add to it —

1 tablespoon oil
1 teaspoon salt
1 compressed yeast cake, dissolved in 2 tablespoons water
¼ cup molasses
14 oz. white bread flour (3½ cups measured after being sifted)

This may be mixed in a bread machine or kneaded into a dough by hand. Allow it to rise till light, which will require about three hours. Mold into two loaves. Let rise again, not too much, and bake.

This is the usual method of making oatmeal bread, but there is so small a proportion of oats that one can hardly tell by the taste what kind of bread it is. A larger proportion of oats can be used if the dough is made from raw rolled oats and flour, but the objection to this method is that the oats, not being sufficiently cooked, taste raw in the bread. This difficulty can be obviated by steaming the bread for a sufficiently long time to cook the oatmeal before baking the bread. Steaming before baking is a good way to cook any kind of yeast bread, because it more thoroughly cooks the bread, and kills all the yeast germs. Following is a recipe for making oatmeal bread by this method: —

Oatmeal Bread No. 2

1½ cups lukewarm water
1 yeast cake dissolved in 1 cup water
1 teaspoon salt
1 tablespoon oil
¼ cup molasses
¾ lb. rolled oats
¾ lb. white bread flour

Combine the ingredients into a dough, knead well, allow to rise, mold into two loaves, putting into tins that can be lightly covered, like brown bread tins. After the loaves have risen, — do not allow them to become too light, — put them into a steamer and steam three or four hours, then bake from one-half to one hour.

If rolled oats ground to flour in a coffee-mill are used in making this bread, the bread will get cooked enough by baking alone so that the oats will not taste raw, though, by steaming, the bread is cooked more thoroughly.

Brown Bread

In previous articles I have given two different recipes for brown bread, but it seems to me that this is an improvement over them. This recipe contains the same ingredients, with the exception of the soda, and in almost the same proportion as the real Boston brown bread.

In the evening set a sponge of —

1 cup warm milk
½ cake compressed yeast
1 cup Graham flour
1 cup rye-meal (not rye *flour*)

Dissolve the yeast cake in the milk, then beat in the flour and meal. Set in a warm place.

In the morning add —

¼ cup warm milk
½ teaspoon salt
⅓ cup warm molasses
1 cup corn-meal

Mix thoroughly and allow to rise. Then stir down and put into an oiled brown bread tin which can be tightly covered, and put it at once into the steamer and steam three hours, then put it into the oven for fifteen to thirty minutes to dry off. If a regular brown bread tin is not at hand, a round tin box or a tin pail with a tight-fitting cover will do. If the bread is allowed to rise after it is put into the tin before putting it into the steamer, it will rise too much around the sides after being put into the steamer, and will have a hole in the middle of the loaf.

Corn Bread

In a previous article on bread I gave a recipe for corn bread, the ingredients for which were as follows: —

1 qt. lukewarm water
1 compressed yeast cake
1 level tablespoon salt
½ cup oil
⅓ cup sugar
¾ lb. corn-meal
2½ lbs. white flour

The corn-meal in this bread does not seem to get cooked sufficiently in baking the bread, and it can be felt as hard particles when the bread is eaten. For this reason I think this bread is improved by steaming it as brown bread is steamed, and then baking it a few minutes. Another way to make this bread and have the meal well cooked is as follows: —

Pour one pint of boiling water over four ounces (three-fourths cup) of corn-meal, and cook over the fire till thick. Cool to lukewarm, and add —

1 teaspoon salt
1 cake compressed yeast, dissolved in 1 tablespoon water
3 tablespoons oil
2 tablespoons sugar
1 lb. white bread flour, or whole-wheat flour

When the dough is risen, mold into loaves; and when risen again, bake about one hour.

Corn Muffins

1 cup warm milk
1½ cups sifted bread flour
1 yeast cake
¼ cup sugar
¼ teaspoon salt
2 cups corn-meal

Dissolve the yeast in the milk, stir in the flour and beat well. While this is rising, emulsify one-third cup oil with one egg by beating the oil, drop by drop, into the egg as is done in making mayonnaise dressing. Add the sugar and salt to the oil-and-egg mixture, beat well, and when the sponge is light add this mixture to the sponge, and then stir in the corn-meal; mix thoroughly, put into pop-over tins, filling them two thirds full. Let rise ten minutes, then bake from thirty-five to forty-five minutes.

Though these taste very good, there is the same objection to them that there is to the corn bread; namely, that the meal is not sufficiently cooked. This objection may be removed by steaming the muffins for one and one-half to two hours before baking. Of course, this gives them a different flavor, on account of which they are not enjoyed by some as well as when simply baked.

Currant and Nut Rolls

1 pt. lukewarm water
1 cake yeast
½ teaspoon salt
¼ cup oil
½ tablespoon sugar
1½ lbs. whole-wheat flour

Dissolve the yeast cake in the water, and add the remaining ingredients to make a dough. (Whole-wheat bread is much more easily mixed in a bread mixer than by hand, whole-wheat flour being sticky.) When the dough has become real light, which will require from two to three hours, roll it out into a long strip about one-half inch thick and five inches wide. Brush it over with oil, sprinkle chopped nuts on it, then some currants which have been washed and dried, then brown sugar over all. With the palm of the hand press the sugar, currants, and nuts down into the dough firmly, then roll the dough up like a jelly roll. Cut into pieces one inch long, and place the pieces close together, flat side down, on an oiled pan. Allow to rise, then bake.

Whole-Wheat Buns

1 pt lukewarm water
¾ cup molasses
1 cake compressed yeast, or 2 cakes if it is desired to get the buns done more quickly
⅓ cup oil
1 teaspoon salt
2¼ lbs. whole-wheat flour

Mix into a dough, allow to rise, mold into one-and-one-half-ounce buns, allow to rise very light, then bake. These buns remind one of gingerbread.

The objection is sometimes made to Graham bread that the bran is irritating and acts as a "mechanical castor-oil." Others do not like such a coarse, strong-

flavored bread. There is a way of getting rid of these objectionable features and still have more of the mineral matter in the bread than is contained in white bread. This is done by making a liquid extract from bran and using this extract as the liquid in making bread. For every pound of white flour made from wheat there is about five ounces of bran. It is not possible to get all the goodness out of the bran in making the extract, therefore for each pound of white flour to be used in making the bread use about one-half pound of bran. Put the one-half pound of bran to cook in about one and one-half quarts of cold water. Bring it to a boil slowly, then let it simmer very slowly or cook in a double boiler for three or four hours. Then turn it into a jelly-bag to drain. Squeeze out all the liquid possible from the bran. If there is more than one and one-half cups of liquid, evaporate it to that amount. It will be thick and jelly-like when cold. The ingredients for one large loaf of bread are: —

1½ cups of this extract, lukewarm
½ cake yeast, dissolved in 1 teaspoon water
½ teaspoon salt
1 teaspoon sugar
1 tablespoon oil
1 lb. white bread flour

The ingredients are combined into a dough, the dough is well kneaded, allowed to rise, molded into a loaf, allowed to rise again, but not so much as white bread is allowed to rise, then baked. The bran extract being dark, this bread is about as dark in color as whole-wheat bread; it has a nice flavor.

Swedish Wheat Bread

One of our nurses in training whose home is in Sweden told us one day how much she used to enjoy a bread made in her country in which cardamon seeds were used for flavoring. We are always looking for new kinds of bread, and for this reason we were very glad to try some of this bread; we found it has a pleasant flavor. In Sweden and other European countries much rye bread and other coarse kinds of bread are made, and not so much fine flour bread as is used in this country. For our imitation of this bread we used a mixture of whole-wheat and white flour. Following is the recipe: —

1 qt. lukewarm water
1 cake compressed yeast dissolved in the water
½ tablespoon salt
1 tablespoon sugar
2 tablespoons oil
⅓ oz. cardamon seeds (1 pkg. contains 1 oz.)
1 lb. whole-wheat flour
2½ lbs. white bread flour

Shell and crush or grind the seeds, and add them to the liquid with the yeast, salt, sugar, and oil. Then add flour to make a stiffer dough than for ordinary bread. Knead well; or the dough may be mixed in a bread mixer. Let rise till it doubles its bulk. Mold into three loaves, put into pans, let rise again, and bake.

MAKING PUFFS — POURING THE BATTER INTO THE IRONS

WHAT TO DO FIRST

Treatment of Hay Fever

As some of our readers may be sufferers from hay fever every summer, we give herewith a quotation from the *New York Medical Journal,* which is, perhaps, as reliable a method for the treatment of this disease as any. It is well worth trying at least: —

"The first is readily met by applying epinephrin ointment, one to one thousand, now available in tubes supplied with a tip, which, introduced into each nostril, reaches to the inferior turbinate. A quantity no larger than a pea, projected over the latter and allowed to flow posteriorly by tilting the head backward, soon relieves the obstructed nostril by causing its swollen mucosa to contract. But even this powerful agent would prove useless were it alone depended upon, since the mucosa would none the less be exposed to the external irritants. To prevent this it should be protected by covering it, at frequent intervals, with a film of oil containing a mild anesthetic. A five-to-ten-grain-to-the-ounce solution of menthol in fluid petrolatum applied every hour with an oil atomizer, will sustain the effect of one application of the ointment for a considerable time, often several hours, even while the mucosa is exposed to quantities of irritating pollen and dust, as during a railroad journey."

For the itching in the eyes, this same authority suggests allowing cold water to flow freely into the eyes from the spigot through a small rubber tube, and also the wearing of blue glasses to protect against the distress of the eyes. He also advises against the use of meats, coffee, and tea.

Asphyxia or Drowning

If one has been asphyxiated from being under the water, or choked, or in an atmosphere lacking oxygen, as in a deep well or mine, the important thing is to get the patient into good air and then establish artificial respiration.

The clothing should be loosened, and if the tongue has dropped back into the throat, it should be grasped and drawn forward; otherwise it would act as a valve, preventing the entrance of air into the lungs.

The pulmotor, if accessible, is by far the most efficient means of inducing artificial respiration, and has doubtless brought to life those who would not have been saved by any other method. But more likely than not the pulmotor is not to be had when needed; and in any case artificial respiration should be kept up while waiting for the arrival of the pulmotor.

The mouth being cleansed of weeds, the tongue drawn forward, and the clothing loosened at the neck, the patient should be laid on his face, with some small object under the chest, perhaps a folded coat.

In order to practise artificial respiration, one should stand or kneel with one leg each side of the patient, facing his head, and hands on his chest. Press gently but firmly, and then relax the pressure, repeating this at the rate of about ten a minute, and keep this up as long as there is any hope, or until a pulmotor arrives. Patients are sometimes resuscitated after they have apparently been dead for a long time. Do not give up too quickly.

If the patient has been in the water or is cold, he should be surrounded with hot bottles and wrapped in blankets or coats, in such a way, of course, as not to interfere with the artificial respiration.

Burns

An engineer in a large plant used to keep close at hand a pot of shellac, and in case of burn, whether by steam or hot water or metal or what not, he immediately dipped the injured part into the shellac or applied the shellac to the injured surface. In case the skin is broken or destroyed over a large surface, it is preferable to keep the part in a water bath, and of course the patient should be under the care of a physician.

One of the best dressings for burns is a solution of picric acid, but this should not be used where the surface has been denuded, as it is poisonous and enough may be absorbed to cause disaster. A good preparation to keep for emergency is picric acid 1 part, alcohol 15 parts, water 200 parts. After cleansing the burned part of dirt, etc., soak strips of gauze in this solution and apply to the burn, and over it a pad of dry absorbent cotton, fastened on with a bandage. This will dry rapidly and may be left on for several days. To remove it, soften by moistening with more solution, and then if necessary apply another dressing. This dressing relieves pain, prevents the formation of pus, and lessens the liability of scar.

In case of severe or extensive burns a physician should be summoned at once, as patients are apt to die from shock where the burned area, even if superficial, covers a considerable portion of the surface of the body.

EDITORIAL

THE PREVENTION OF DIGESTIVE DISORDERS

THE previous article, based on the studies of Herter,[1] called attention to the apparent relation between the general health and the bacterial life in the intestines, and showed how this bacterial life changes with the age and habits of the individual. It was shown that the infant, especially the breast-fed child, has in its intestines a harmless, and even protective, bacterial growth; and that even the bottle-fed babies are comparatively free from putrefactive germs. As the child grows older, especially where there have been unwise dietetic practises, the picture changes, and a larger proportion of injurious bacteria are present; and it has been shown that considerable quantities of injurious bacterial products enter the blood current. This increase in the injurious forms is usually progressive, being more rapid where the dietetic and other habits are careless; and as age advances, a constantly increasing proportion of injurious forms is present. There are, however, some exceptional persons of superb health at the age of forty or fifty who show an intestinal condition very similar to that of childhood, while those in ordinary health show a smaller proportion of the injurious bacteria than those who are in failing health.

These facts, taken together, are strong presumptive evidence in favor of the proposition that the important, or at least one very important, factor in the inefficiency and premature aging of individuals is the bacterial condition of the intestinal tract. Herter further shows that in acute conditions, especially acute digestive disorders, the normal inhabitants of the tract practically disappear, being supplanted by some "wild," more toxic race, and that convalescence is signalized by the return of the normal bacteria.

The query might arise here whether the change in bacterial content of the intestines causes a change in health, or whether a weakening of the powers of the body, with the consequent change in the character of the intestinal secretions, furnishes conditions which enable some other than the normal inhabitants of the intestines to obtain a foothold. Doubtless the change in germ life is both an effect and a cause of changes in the bodily condition, sometimes forming part of what medical men know as a "vicious circle." Putrefactive germs doubtless hasten old age and death; but there must first be changes in the intestinal walls, usually brought on, perhaps, by dietary errors, which enable the putrefactive germs to gain a foothold.

We have said that the disorders of the intestinal tract are largely caused by the putrefactive bacteria, and have also stated that under certain circumstances the colon bacilli, though normally present in the intestines during life, and in a way helpful in preventing the encroachment of the putrefactive bacteria, may themselves become poison producers. Ordinarily the colon bacilli inhabit the

[1] "Bacterial Infections of the Intestinal Tract," the Macmillan Company, New York.

lower portion of the small intestine, but they may also be found above and below this level. The peculiarity of the colon group is that they cannot attack the native proteins, such as are found in meat and eggs; but if the proteins have been partly digested by the action of other bacteria, the colon bacilli are able to continue the breaking-down process, with the formation of indol and other injurious substances. To quote (page 155): —

> "If there is good absorption of proteins above the lower ileum, that is above the level where there is a predominance of colon bacilli, little protein material finds its way into the colon. Hence whatever may be the nature of the bacterial inhabitants of the large intestine, but little putrefactive decomposition occurs there. But if, owing to a superabundance of protein food, considerable native protein finds its way into the colon, its fate depends on the character of the flora there. In a normal intestine, containing few peptonizing bacteria, there will be little putrefaction, because the dominant races, members of the colon group, cannot initiate active putrefaction of native proteins. But if there are present also putrefactive anaerobes capable of peptonizing proteins, the colon bacilli take an active part in breaking down the hydrolized proteins with which they are thus supplied. In this way the colon bacilli frequently become active participants in excessive intestinal putrefaction."

It may be remembered that Metchnikoff found that the intestinal troubles bore a close relationship to the excessive use of proteins, especially the proteins of meat. The above observation by Herter would show one way in which the free use of meats increases the production of indol. In another study by Herter, in which he compared the bacterial flora of herbivorous and carnivorous animals, the fecal discharges of the carnivora were shown to be more toxic, and rich in the anaerobic putrefactive bacteria, while generally the herbivorous animals were practically free from the putrefactive germs. As a result of this study and others, Herter himself was led to question "whether the abundant use of meat over a long period of time may not favor the development of much larger numbers of spore-bearing putrefactive anaerobes in the intestinal tract than would be the case were a different type of protein substituted for meat." Again he says: "It seems not unlikely that there are cases of excessive intestinal putrefaction dependent on the excessive activity of anaerobes in which the conditions of anaerobiosis are distinctly favored by excessive meat eating."

Another important factor in preventing the excessive growth of anaerobic bacteria, according to the findings of Herter, is thorough mastication. On this subject, he says (page 99): —

> "It is almost self-evident that the prompt resorption of food from the small intestine is one of the most important factors in preventing the occurrence of excessive putrefactive conditions in the digestive tract. The passage of large quantities of partially digested protein material into the region of the intestine where anaerobic conditions prevail must necessarily greatly facilitate the bacterial decomposition of proteins in the digestive tract. As will be pointed out in dealing with the methods of diminishing chronic excessive intestinal putrefaction, those measures which are designed to secure prompt digestion and prompt absorption from the small intestine are of the greatest significance in limiting bacterial decompositions."

From this it will be understood that mastication is important, not only as a means of insalivating the carbohydrates, but also as a means of comminuting the proteins, so that they will be digested and absorbed high up in the digestive tract. It will also be seen that there is good reason for believing that it is wise to keep the protein consumption down somewhere near the actual needs of the system. If, as Chittenden has shown, the ordinary mixed diet gives more than twice as much protein as is required by the body, it cannot be consistently maintained that those who believe in and practise a non-flesh regimen are fanatics. They may have some argument on their side after all.

In justice to Herter and Chittenden, it is only proper to state that neither of them, so far as I know, advocated a non-flesh regimen; but both have shown, each in his own way, the possibility that the ordinary dietary contains far too much flesh.

Friedmann Treatment

BEFORE the bursting of the Friedmann bubble, we had prepared a number of articles cautioning against this new treatment, as being suspiciously like quackery; but when the newspapers all came out and showed the Friedmann fiasco in its true light, we destroyed the copy which we intended to publish, as being out of date.

Since that time a report has been made (*Medical Record*, June 7) by a physician who has conscientiously tried out the supposed remedy, and who summarizes as follows, after giving the details of the different cases: —

"In not a single instance of these eighteen cases was there definite improvement to date, attributable to the vaccine. In some cases the disease progressed evidently unchecked. In no instance did the temperature return to normal. Five of the eighteen cases developed abscesses."

It is to be hoped that the State boards of health will be able to prevent the establishment of the proposed Friedmann institutes, which would result only in taking money from tuberculosis sufferers, which they could use to much better advantage. Where the boards of health have not the power, legislation should be secured as soon as possible that will give them the necessary power to throttle such a scheme of money-getting.

In this connection it may be said that in his own country the physicians turned Friedmann down, and it was then that he turned his eyes to the "land of the free," which he seemed also to realize is the land of the sucker.

* * *

Human Carriers

MORE and more the theory of transmission of infectious disease by clothing, rooms, toys, books, and the like is being

disproved, and investigation is showing that the usual, if not the only, method of transmission is by means of the living carrier. Formerly it was supposed that a person must be ill of a disease in order to transmit it. Now we know that many persons who have recovered, or who have not yet come down with the disease, or even some who give no history of ever having the disease, may be harboring the germ, which, apparently harmless to them, may prove fatal to others coming in contact with them. That is to say, according to modern belief, the result of careful and painstaking observation and laboratory study, the point of danger is the living being (person or animal) and not the inanimate objects that have chanced to come into contact with the sick one. For this reason, much less importance is now attached to terminal disinfection than was the case formerly, and one day, terminal disinfection will, in the case of many diseases, doubtless be dispensed with entirely.

Meantime, we are learning that the throats of the children in a family where there has been one case of diphtheria, or in a school where diphtheria has broken out, will reveal the presence of diphtheria germs in many cases having no symptoms of the disease; and in some cases these germs may persist in the throat for long periods, being all the time a menace to playmates and classmates, and even to those coming casually in contact with them. In the case of diphtheria, we have a simple method by which the presence of the germs may be detected; and in case of an epidemic, the medical officers usually attempt to detect the carriers as well as those who actually have the disease; but in the case of some of the other common infectious diseases, such as measles and scarlet fever, we have no such simple method of detection, and yet it cannot be doubted that in the case of these the carrier plays as important a part as in the case of diphtheria.

And it is not only the exanthems — the diseases manifested by rash — and the throat diseases, but also the intestinal diseases as well, in which the carrier is an important factor. In fact, it was typhoid fever that first called our attention to the importance of the carrier, though it had been known for years that healthy persons may carry around in their mouths for months the pneumonia germ without themselves falling a victim to it. But somehow the idea was not grasped that these carriers of pneumonia germs might be the means of keeping the germ alive, ready to attack a susceptible person when opportunity offered.

The whole study ought to impress us more than ever with the importance of *keeping the germs from other mouths (and worse places) out of our mouths.* Such a thing as a common drinking-cup, or a glass at a soda-fountain that has been merely rinsed in cold and perhaps not very clean water, will, when we fully realize the importance of the mouth as an entrance for disease germs, become a matter of ancient history,— history of the barbarous middle ages, as it were, when we all thoughtlessly took into our mouths the germs from other mouths, and when, if an untimely death occurred, it was a "mysterious providence." And some day, when we are enlightened, we shall wonder at the ignorance or the stupidity of people who drank sewage-contaminated water, or ate vegetables raw that had been fertilized with human bowel discharges.

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The Nutrition of the People

MAX RUBNER is a name that carries weight in discussions of food and nutrition, and it therefore afforded great pleasure to have his participation in the International Hygiene Congress, held in Washington last September. In the *Journal of Home Economics*, February, 1913, his entire paper is given, and it is well worth a careful reading. We have space here only to call attention to certain features. Though he recognizes that "among the poorer classes in Europe the causes [of reduced body efficiency] are oftenest found in health impaired by the struggle for daily bread," he says: —

"Many sins have been committed in the study of the nutrition of the people; for instance, in starting with the statistical conception that a normal working man's ration might be determined, and then proceeding to the assumption that any diet below this must mean undernutrition and starvation diet. I have already shown at the Fourteenth International Congress at Berlin that such a procedure is purely arbitrary. For there is no normal ration for working men either with regard to the amount or the quality of the food, nor is the term 'working man' of any uniform significance."

From this it must not be inferred that Rubner does not believe many of the poor are underfed. That he realizes the dangers of underfeeding is amply shown in this statement: —

"Insufficient food leads to a decrease of the cells of the body, to a loss in muscle power, in consequence of which, at least in many trades, work cannot be accomplished except by extraordinary effort and by overstrain leading to anemic conditions, to loss of spirit, to discontent, to class hatred. Insufficient food may produce wasting in infants, and in adolescents a retarded growth which cannot be regained in a later period. Want of food reduces mental energy in children and renders education more difficult."

Among the remedies suggested by Rubner are: —

The building of *factories in the country*, in order to secure better housing conditions and cheaper food.

Reduction of liquor drinking. "The struggle against alcoholism is a factor of great importance. Millions of people could be well nourished if they would cease spending enormous sums of money for alcohol."

He finds that often, not only among the poor, but among those better circumstanced, "a want of knowledge on the part of the wife is the cause of poor nutrition," and consequently a most important part of every girl's education should be *instruction in domestic management.*

"The wife must know how to manage the income. She must know the food materials and their nutritive value, and how to produce good and nourishing food. . . . Nobody needs such instruction more than the wife of the working man, especially those girls who, early in life, undertake factory work, and early become wives and mothers without the least knowledge or experience in domestic management or in the care of children. It is unbelievable how foolishly small means are often spent. In thousands of families there would be adequate nutrition if the wife knew how to manage things."

He believes that the husband also needs to have a knowledge of diet in order that he may have a proper view of things. Thus he pleads for domestic science as a necessary study in the elementary schools. Doubtless if the poor knew how to manage, they could even now, with present wages and present high prices, live much more healthful and efficient lives.

Among some of the reforms necessitated would be the elimination of all useless or worse than useless expenditures for alcohol, tobacco, tea, coffee, and the substitution of less expensive proteids for meat.

This again would necessitate the bringing of new interests into the lives of these people, for to many of them the joys of a temporary pick-me-up by one of these stimulants or narcotics are about all the pleasure they get out of life.

It may seem strange to speak of teaching these babes in knowledge the science of nutrition, when such giants as Rubner, Chittenden, Lusk, Mendel, and Benedict are far from agreement. And yet there are fundamental principles that it is altogether safe to teach, the knowledge of which would mean much to the families of the poor, and consequently to the general welfare.

* * *

"U. S. Inspected and Passed" CAROLINE BARTLETT CRANE has been carrying on, through the press, through Congressional investigation, and in any way she could reach the public ear, a campaign against diseased meats. For some time she has been running a series of articles in *Pearson's Magazine,* which ought to make "mighty interesting reading" to every consumer of meat; for Mrs. Crane has fearlessly shown wherein the government regulations are lax, and wherein the inspections under those regulations are laxer still.

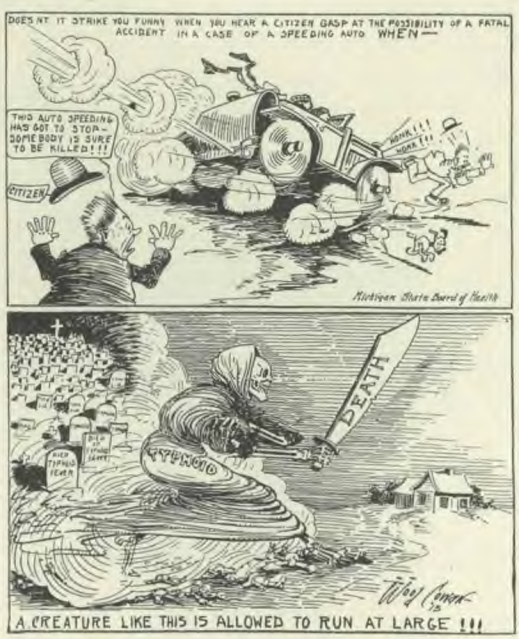
Some years ago the country, and in fact all civilization, was electrified by a story, "The Jungle," showing up the hor-

rors of the meat-packing business. There was a general investigation, and for a time there was a show of repentance and of reform. One wonders whether if instead of a novel, Sinclair had written the plain story of what he saw, as Mrs. Crane has written it, it would have had a serious reading. Perhaps to us "truth is" so much "stranger than fiction" that we are apt to take fiction seriously, when we pay no heed to truth even though it is howled into our ears. The things Mrs. Crane has to say are as startling as what Sinclair said in his novel, if not more so, and yet, how many heed it?

Pearson's some time ago had the audacity to say some things that offended "Big Business," and, as a result, its advertising contracts were lost. No doubt the advertisers thought that without the money from the advertising end of the business, *Pearson's* would have to go to the wall. The magazine simply reduced expenses, and continued publishing without ads, depending on its sales for its income, so now it is absolutely independent of the "Big Business" interests, and it dares publish articles that other magazines could not be induced to use. Here is what *Pearson's* says about Mrs. Crane's articles: —

"It is not probable that the following article would be published by any other magazine; yet it is full of facts that everybody ought to know. The editors of 'great' magazines were eager to publish it when it was suggested to them. But before a line of the article was written, each of them decided that it was not suitable for his magazine. THE TRUTH IS THAT NO MAGAZINE WHICH DEPENDS ON ADVERTISING FOR A LIVING COULD 'AFFORD' TO PUBLISH THIS ARTICLE. It will not please the big packing-houses — and the big packing-houses are big advertisers. The article is the third in a series that explains how the packers are permitted to send meat into our homes which they are not allowed to export. WE GET MEAT FOR OUR TABLES FROM DISEASED ANIMALS WHICH IS NOT CONSIDERED FIT FOR FOREIGNERS TO EAT. WE PAY FOR A GOVERNMENT INSPECTION TO SAFEGUARD FOREIGNERS, AND TO TURN DISEASED ANIMALS BACK TO US AS FOOD."

Those who desire to know the ins and outs of the meat-packing business will do well to obtain the March, April, and May issues of *Pearson's Magazine*. It also "lets the cat out of the bag" in regard to other matters besides diseased meat, but that is another story.



THE MEDICAL MISSIONARY AT WORK

POOR, DEGENERATE HUMANITY AT KALYAN, INDIA

M. D. Wood

I AM so profoundly impressed with the sad condition of the people of this place that I feel I must tell you about them. When I go to the railroad station, I am often hindered from crossing the bridge that leads to the cars, first, by an old man with a broken leg, sitting on the ground. He looks at me in a most pitiable manner, and says: "O, sir, I am so needy, please give me a pice!" I am in a hurry to catch the train, and perhaps have no pice to spare, so I feel compelled to leave the needy man without aid.

Before I get on the first step of the bridge, I meet a blind woman with nothing but dirty rags on her back, with a scrawny little waif astride its mother's hip, nursing for its life from an impoverished breast, while a half-grown, sad-faced girl leads her poor mother by a bamboo stick, and as she puts out her hand toward me, says, "Give me something; my mother is blind, and I am very hungry." A twinge of pain goes through my heart, and I push my way up through the motley crowd of dirty-clothed Hindus and Mussulmans and get to the middle of the bridge.

Here sits a blind Hindu, screaming at the top of his voice, and banging together a pair of cymbals. He calls out the names of the Hindu gods, and at least pretends that he is very devotional. He, too, is in dire need, and must rely upon the sympathetic charities of the passer-by.

With a sigh of relief I get through the long line of men and women, my fellow passengers, to the train, and find my seat in a third-class compartment. It is hot and dusty; the crowds of people shut out the fresh air, and I am restless for the train to start. But before the train has time to pull out, a young Mohammedan with but one arm, walks up in front of my carriage window, pulls up the sleeve of his shirt, and presents to me the ugly scar where once he had another arm. Doubtless he suffers no pain, but his pitiful look and sad voice appeal to my heart. I am indeed thankful I have the use of both my arms. By this time I cannot resist, and so I give him a copper or perhaps more, as I may feel disposed.

While in the city of Bombay, at the doors of the shops and offices about the public markets and at the street-car crossings, I am constantly surrounded by a throng of beggars and cripples, the halt and the maimed, all crying for pice. I look at them in pity. I wish I could help them, but I cannot. I tell them as kindly as I know how to go away.

Perhaps one daily used to such sad sights and pathetic sounds sees how they swarm my path, and in harsh tones, as to a brute, scolds them off to one side. At times they touch my feet and step in front to prevent my progress. They are so unclean and unkempt one dreads the contamination of their slightest touch.

At another time I leave my bungalow for the Kalyan market, but long before I get half-way there, I pass a camp of very poor people who live in low, grass

huts. Half a dozen or more of their naked little boys and girls rush out after my carriage. They chase after me in the dust of the street, slapping their empty little stomachs and crying for pice. I confess I wish I had all those children. I would put them in school and teach them their letters and how to work, so they might not always remain so poor.

Just before I come to the main street of the town, I see a poor sick man lying on the ground, with scarcely a cloth on his long, lean body. He, too, is a beggar, and has the mark of a Hindu. I wonder why those well-dressed grain merchants near by do not see their brother's condition and seek to help him. Then I remember it takes more than wealth to learn to give to the needy. It takes the love of God in the heart.

And now I am quite a way up the main road of the town, not far from the public library. There they sit in a long, black row, just like crows huddled on the limb of a tree, men and women all together. I see them there every day. They have photographed their faces in my memory, and I can never forget them. Their fingers are all gone, toes eaten off, faces puffed and swollen. O, how loathsome and unclean their appearance! In hope of a bakshish, they all cry out, "Salaam! O, sir, salaam!" But I must not throw money to such persons. Even the copper coin would become contaminated with the seed of leprosy. For these, my friends, are the lepers of the East. You find them wherever you go in this hot country. The sins of the fathers are visited upon the children unto the third and fourth generations.

But two rods away sits a young woman against the wall of the municipal office compound. She has no nose. The leprosy has destroyed it and is eating out her very life. With ugly stumps for hands, she holds them up to my view, and in most unnatural, guttural tones cries out, "Please have mercy on me and help." Did I not see several young children beside those lepers? — Yes, I did. And now they are "untainted," they say. But how long can they remain so, while they live, eat, and sleep with such wrecks of humanity? There are so many of them, too! Who can care for them all? They will fill the ranks in the long line of march to the grave. But O, what a wretched existence!

But I must get on to the market. Already we have spent too much time looking at all these people. The street becomes narrower, and it is not without difficulty that I drive through the crowds of people. The water-pots and baskets on the heads of the passers-by make it almost dangerous driving, so I constantly cry out, "To one side!" But, behold! beside the road in this crowd of people and in this narrow place, are two full-grown brothers. Their faces are so puffed out of shape everybody knows they are begging lepers. They, too, are looking for sympathetic hearts to help them.

Thus I press through the multitudes. Old men and women, blind, deformed, ragged, sick, and diseased,— the streets are lined with them. The sun is hot; the dust blows on them, and on us, too. We are all huddled together in the same street. But He who sent us here will care for us till our work is done.

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

1. That questions are *written on a separate sheet* addressed to the editor, and not mixed in with business matters.

2. That they are *legible and to the point.*

3. That the request is *accompanied by return postage.*

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

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

Consumption Cure Fake.—"I am one of that large class of people who are fighting tuberculosis right at home, and would like to inquire concerning ——, which is put out as a remedy for tuberculosis and weak lungs. It is guaranteed under the Food and Drugs Act, as Serial No. 16050B. I have taken the medicine and to all outward appearances have gained in every way. Have gained in weight and strength, cough less, have good appetite, and sleep better. If you can give me any advice, founded on reliable information as to the use or non-use of this remedy, I shall surely appreciate it, and thank you in advance."

Nearly every mail brings me similar requests to yours,—"Do you think such and such a remedy is good" for tuberculosis, or asthma, or indigestion, etc., notwithstanding that I have tried to make it plain that I know of *no* remedy that is *worth anything* as a cure for these diseases. *All* of them have cunningly worded advertisements that deceive the people, and *all* of them have splendid testimonials, but they *all* agree in one thing, and that is, they take the patient's money needed for something else, and for it give a temporary benefit, raising hopes which must later be dashed to pieces.

"Guaranteed under the Food and Drugs Act" means absolutely nothing so far as curative properties of the drug is concerned, and for a company to infer that it does, is deception pure and simple. The proprietors simply make before the government officials a statement that the remedy contains or does not contain certain substances, and they guarantee this to be a fact. In other words, they guarantee that the food or drug, so far as its composition is concerned, is what they claim it to be. It is a guaranty by the proprietors, *not* by the United States government.

Many consumption remedies cause a temporary benefit; in fact, one doctor, as a matter of experiment, found that by injecting glycerin, or pure water, or salt and water, or *any old thing*, and telling the patient it was some wonderful serum, he always got excellent results for a time, probably the effect on the mind of the patient.

It may be interesting to you to know that ——, about which you inquire, and which you say has been affording you at least temporary benefit, was at one time sold as an absolute cure for syphilis. Then when tuberculosis became a live question, the promoters thought that they could work it with better results as a tuberculosis cure, and they have since specialized in that line. As a syphilis cure it was put out as a vegetable remedy *versus* mercury and potash, although as a matter of fact it contains "potash," that is, potassium iodid. It is, in fact, practically an alcoholic solution of potassium iodid.

Trouble With Eyes.—"My husband has had trouble with his eyes. He lost his right eye from being burned with powder, some years ago. The eye was removed by an operation, and he wears a glass eye. The eyelids of this eye became inflamed, and the lashes turned wild, and he was compelled to pull them out. Quite a discharge oozes from the corner next to the nose. In a short time the good eye became inflamed, and the lashes became wild. They irritate the ball of the eye, and cause it to be very bloodshot and sore. There is no discharge from it. He has no eyelashes at all. It is nearly a year since this trouble began, and he can grow no eyelashes, for they are wild. Is there any simple home treatment we could use?"

Have your husband visit an eye specialist; I think this is not a trouble that you would be able to overcome by home treatment.

Meantime I will suggest the use of a saturated solution of boracic acid, dropped in the eyes, if it is necessary to allay present inflammation. You may also find it an advantage to apply either hot fomentations or cold compresses, or alternate hot and cold, as hot as can be borne and just as cold as you can

get. For the purpose of fomentation, it is better to have a piece of folded gauze or cheese-cloth, which, of course, should have been boiled and thoroughly cleaned.

Prohibit excessive use of his eye; do not allow much, if any, reading. If necessary have glasses fitted to his eye, which will relieve any strain. If there are scales between the eyelashes, these should be carefully removed, and a one-per-cent white precipitate ointment rubbed into the roots of the lashes. Crusts can be removed by using a one-per-cent solution of sodium carbonate; into this, pieces of absorbent cotton can be dipped and the eyelashes carefully swabbed in such a way as to remove the crusts. Every movement around the eyes should be made carefully.

I give these directions in case you are not able to see an eye specialist. Very little can be done by home treatment, and on the other hand, treatment by an eye specialist is often very tedious and expensive.

Malt-Extract.—"In a former number of your magazine there was an article on 'Starchy Food Indigestion,' which recommends the use of malt-extract. Please inform me what is the trade name of this preparation and where it may be bought in quantities suited to domestic use."

I know of no trade name for malt-extract. Malt-extract or maltose ought to be obtained through the brewers, at about ten cents a pound. I do not think it is usually to be obtained through the grocery trade. Do not let the brewers palm off on you the liquid alcoholic "malt-extract," for what you want is a sirupy food that contains no alcohol.

To Loosen a Cough.—"Tell me what would be good to loosen or help a cough. I have been advised to use ——'s Wonder and —— Sirup, but should like to have your advice."

I should let all these patent preparations alone in the treatment of cold. They practically all contain alcohol or some form of opium that gives present relief without doing permanent good. For the relief of a tight cough an inhaler, or rather a nebulizer, containing a solution of tincture of benzoin answers the purpose very well, or you can inhale steam from a vessel in which you have dropped a lump of gum benzoin. Pine-tar may also be put into a vessel, and when this is heated, the inhalation of the steam or vapor will prove very helpful for the relief of irritable throat conditions.

Bright's Disease.—"My daughter-in-law has chronic Bright's disease. For the last year her limbs would swell unless on a restricted diet. She is twenty-four years old, is rather thin in flesh, and has been on a diet of toasted bread and skim-milk, but she gets very tired of so monotonous a diet. Please suggest treatment and diet."

In order to prescribe for Bright's disease, one ought to make examination of the patient's urine from time to time and know what the condition is. I feel entirely incompetent to attempt to give any advice by mail. I think, however, that the patient may be on a fuller diet than she is now receiving.

Bright's disease is a term that describes conditions which are vastly different. In some cases the disease may be of minor significance, and in other cases it may be very grave.

Your daughter ought to be under the care of a competent physician who can make the necessary examinations and prescribe accordingly.

Liniment for Rheumatism.—"My mother, aged sixty-eight, has been suffering for three years. She is completely helpless,—has to be raised in bed and laid down by the nurse. Her limbs are drawn out of shape, and the doctors at the sanitariums say they cannot do much for her. A friend recommended a liniment, of which the ingredients are: olive-oil, turpentine, ammonia, camphor, chloroform. Is this harmful or not?"

I do not think there is anything particularly harmful in the liniment unless it injures the skin, and it may give temporary relief. I do not think that it can give any permanent relief.

The massaging to the joints which goes along with the liniment, probably has as much effect as the liniment itself. The important thing in rheumatic conditions of this kind is to establish a free circulation around the joints, and this is best done by massage.

The condition which you describe is probably progressive, and I know of nothing that will be of any permanent benefit to the patient. She will likely always be a cripple, no matter what treatment you use.

Lime in Foods.—"What foods contain lime or mineral? and are such foods strengthening to nerve and muscle? I have no muscular strength, a good deal of twitching of muscles, and at times a jerking of an arm; also just before going to sleep, when my body is relaxed, one twitch or jerk across the lower part of the back."

Milk contains all the mineral salts that the body requires, and usually the grain preparations, especially the whole-grain preparations, contain mineral salts. It is possible you do not get enough food. Very often this is the case. Or it may be possible that your weakness is not due to dietary conditions at all. The nervousness of which you speak is very likely due to some other cause, which I could not determine without knowing more about your case.

Primer of Physiology, by John W. Ritchie. List price, 60 cents. World Book Company, publishers, Yonkers-on-Hudson, N. Y.

This text-book, intended for use in the sixth, seventh, and eighth grades, treats physiology as a basis for hygiene, and is in every sense a modern book, emphasizing not only the importance of abstaining from alcohol and tobacco, but the value of an open-air life, proper body carriage, a low protein dietary, and other things now conceded by advanced physiologists, but not found in the older text-books.

The aim through the book has been, not to give a knowledge of dry physiology which will be of little use to the pupil, but to give such a knowledge as has a direct bearing on hygienic living.

In the articles on tobacco and alcohol, protein, etc., *facts* are given and figures, records of athletic contests, and the like, which are bound to carry conviction to the young student.

The topics tea, coffee, and soft drinks do not seem to have been touched, but, I understand, are dealt with in another book of the series, "Primer of Hygiene."

We heartily welcome the advent of this class of text-books.

The Posture of Schoolchildren, With Its Home Hygiene and New Efficiency Methods for School Training, by Jessie H. Bancroft. Net, $1.50. The Macmillan Company, New York.

The readers of LIFE AND HEALTH are aware of the great influence of posture on health and efficiency, and they probably know that the present school life, with the several hours' daily occupation in those strait-jackets known as school desks, is a prolific breeder of incorrect posture.

In almost every class one will see numbers of flat-chested and round-shouldered children or those with twisted and distorted spines or "angel wing" shoulder-blades who need, much more than they need book-learning, a system of physical education that will develop them into strong and straight men and women.

The first thing done with army recruits is to straighten them up. The same thing ought to be done with all children, to the end that we might have as the output of our schools, not a lot of deformed or half-deformed invalids, but of young athletes in the sense of possessing normal, straight, efficient bodies.

In some cities, as New York City, an effort is made to develop the body as well as the mind of the child. The author of the present book is the assistant physical director of the public schools of New York City, a specialist in these lines, who in this book gives to the public her ripe experience.

After describing various faults in posture and explaining the evil effects of these postures, the writer gives careful directions for improving the posture.

The book is intended not only for teachers, but for parents as well. It should have a large circulation.

The Unveiled Evangel, by Dinsdale T. Young. Net, $1.25. George H. Doran Company, publishers, New York.

This is the most recent of the "Preachers of Today" series of sermons by eminent ministers of the gospel, issued by Robert Scott, of London. The author of this volume of sermons is one of the old-fashioned preachers who has not yet learned that the Bible is superseded by modern criticism.

The following from his exposition of the text, "No prophecy of the Scripture is of any private interpretation," indicates the spiritual and practical character of these sermons: —

"Scripture is not a private interpretation. It is a celestial interpretation. That is the true view of the Bible. So the text, rightly understood, gives no death-blow to private interpretation. It asserts that Scripture is not human in its ultimate origin. It is God's interpretation, not man's. We often hear of certain statements of Scripture as representing David's opinion, or Paul's opinion, or Peter's opinion. Yet, strictly speaking, we have no *man's* opinion in those Holy Writings. It is all God's interpretation of things. No prophecy of the Scripture represents an individual's interpretation; men spake as they were moved by the Holy Ghost. That is, I believe, the noble thought with which this text is charged."

Our Neighbors: the Japanese, by Joseph King Goodrich. Net, $1.25; post-paid, $1.33. F. G. Browne & Co., publishers, Chicago.

Professor Goodrich, for many years a resident in the Orient and formerly professor in the Imperial University in Kioto, having an intimate knowledge of Eastern life and manners, has prepared a series of three books on our Oriental neighbors, of which the present volume is the first.

No matter how much one may have read regarding a foreign people, a new book by one who is familiar with the subject will always throw added light from a new angle, and so it is in this case; the present volume gives many new and interesting side-lights in the beliefs and practises of the Japanese, of their institutions, etc.

The following statement regarding some of the female Japanese clothing, adopted by Western nations, may be disconcerting to some of our American sisters: —

"Let me say that no respectable Japanese matron or young lady of over fifteen ever appears in public in one of the gaudy, brilliantly colored kimonos that is affected by ladies of America or Europe. The so-called 'Japanese tea-gowns' are unknown to Japanese ladies. They and the startling kimono mark an unfortunate class of women who are not mentioned in polite society."

Old China and Young America, by Sarah Pike Conger. Net, 75 cents; post-paid, 81 cents, F. G. Browne & Co., Chicago.

Those who have read Mrs. Conger's "Letters From China" or have heard her lecture on China, will not need to be informed that this is a particularly interesting series of sketches. It gives in language adaptable to children, and yet having much of interest for older folks, a series of life sketches in the oldest and in the youngest of nations. As the wife of the American minister to China, Mrs. Conger was familiar with the court life of the old régime, and knew personally the recent dowager empress, and was well acquainted with many who are now strong figures in the republic. The book is well illustrated; the chapters are short, and each contains some important lesson in patriotism or character building.

The Day That Changed the World, by the Man Who Was Warned. Net, $1.25. George H. Doran Company publishers in America for Hodder & Stoughton, London.

I began the perusal of this book rather curiously. It seemed to be a personal narrative by a man of somewhat mystical turn of mind. It was soon noted that the events dovetailed in a rather remarkable plot, for a true story, and suspicions were aroused until it finally developed that the story was evidently fiction after the manner of Bellamy's "Looking Backward," but with a decidedly religious cast.

Briefly, on April 23, 1913 (still future at this writing), every one in England who was in any way susceptible to the leading of God, was filled with a strong conviction, a *knowledge* that God exists, and was impelled to speak and act accordingly. Motor-cars carried hundreds of the wealthy of London over to the east side where they engaged in actual Christian Help work. Landlords who had never before been in that region, came over and ordered old shacks torn down and sanitary dwellings erected in their place. The "opposition" party in Parliament took the attitude of helper to the government, and decided to assist in carrying out the policies of the government. The preachers of all the denominations worked together (!) for the general uplift of the fallen and the salvation of souls.

In fact, it is a picture such as some perhaps expect of the ushering in of a temporal millennium. Among the doctrines which the writer apparently indorses, and which are nowhere to be found in the Scriptures, is the inherent immortality of the soul. Another doctrine, which I supposed was no longer taught, is made quite prominent in the book, and that is everlasting punishment. The object of the book seems to be a propaganda for righteousness in government, in politics, in social and commercial relations. The author certainly shows up present conditions and present ways of looking at things in a very bad light, and who can say he is wrong about it?

Divorcing Lady Nicotine, by Henry Beach Needham. By mail, 40 cents. Forbes & Company, Chicago.

This little book reminds one of Blythe's "Cutting It Out," which has proved so popular. Needham, like Blythe, apologetically says he is "not a fanatic — not a man with a message." Perhaps there would have been a gain if he had been, for with his magnificent command of language something would have been doing, but that expression "not a fanatic — not a man with a message"! Not an Abe Lincoln, not a Wendell Phillips, not a Harriet Beecher Stowe, not one of those folks who have jogged this world up to a little higher plane. Perhaps he was afraid such would be too bad company for him. Somehow these newspaper publicists have a terror of a man who thinks a little differently from the crowd and carries on a propaganda. But what would this world be without propaganda?

But whether Needham thinks it or not, he has delivered a message, and if one wants to see recorded in striking language some of the evils that are inflicted by tobacco, and some of the infernal tricks the habit plays on one who is sincerely trying to quit, let him read this book. This is an age of prevention, and Needham's book ought certainly to act as a preventive with any one who is contemplating forming the tobacco habit.

Thinking Black, by D. Crawford, F. R. G. S. Net, $2. George H. Doran Company, publishers, New York.

This is a book of surprises. One is surprised first to find that the writer, at least, is thinking white instead of black. One is surprised to find that a man who has been hidden away in the tall grass of Central Africa for twenty-two years can write the purest of English in a most charming literary style. Another surprise is the use of color illustrations on black mat. Another surprise is that the author should have hidden his African belles behind bulwarks of cloth, or perhaps he has educated them up to wear clothing. But these are just the externals; the real book after all is the expressed thoughts of the writer, and how he does express them!

One does not have to read far into the book to see that the name is well chosen, for the author attempts faithfully to put the reader in the place of the black man, with his education and his superstitions; so that thinking the black man's thoughts, he can the more readily understand the black man's acts.

Never have I read such terrible, relentless, though matter-of-fact descriptions of heathen depravity, the horrors of slavery, of polygamy, and heathendom! A grim humor pervades the whole book, and the descriptions are so realistic that one almost feels himself within the Dark Continent. The writer indulges a little too much in the use of alliteration, and quotes or else near-quotes Scripture texts occasionally in such a way as might give offense to some.

NEWS NOTES

Film Plays and Crime.— Within six weeks two Washington boys, aged eleven and seven, used guns, and the sister of one and the brother of the other narrowly escaped death. According to the stories of both boys, they were influenced to do the shooting by what they saw at the moving-picture shows. Either there should be a more severe censorship of the films, or children should be forbidden to enter these places. "By beholding we become changed."

Another Sensational Remedy.— If some of your friends have epilepsy, you are probably interested in the newspaper accounts of the cure of epilepsy by rattlesnake venom. But do not be too hasty because of newspaper reports. That in some cases a properly guarded and administered rattlesnake venom may be a cure for epilepsy, cannot be doubted, but the remedy as yet needs much more careful study before it can be recommended as a safe treatment.

Public Health Bureau in Wisconsin.— The State of Wisconsin is to have a public health bureau, which is to be placed under the university-extension division. The purpose is to provide the people of the State with authentic information, in intelligent form, regarding hygiene, disease prevention, and care of the sick. Popular educational health bulletins will be issued. We do not know whether this means that the *Crusader* (an excellent little sheet campaigning against tuberculosis) will be discontinued.

Medical Trade-Unionism.— The new socialist legislation in England, which has aimed to provide for the free treatment of laboring men, seems to be driving many of the British physicians into trade-unionism. Already there is a National Medical Guild and a Leicester Union, which are not organized on the lines of ordinary medical societies, but on the lines of the regular trade-unions. The *British Medical Journal* believes that the Insurance Act, and the attitude of the government and the friendly societies has increased the need of trade-unions in the medical profession.

More Daring Dress.— Worth, the Paris dressmaker, on a recent visit to New York, said that the gowns for women for the coming season would be more daring than ever. Even now, it is the testimony of policemen that on F Street, Washington, prostitutes from the Division now parade, but that the "supposedly respectable" women actually wear more suggestive gowns than these prostitutes. What will it be next year? I said "supposedly respectable," for no woman who is respectable and clean at heart will dress as some of the women now dress.

Sanitary Bread.— The following provisions passed by the city of Chicago might well be adopted by other cities: Bread must be wrapped in suitable paper. Bakers must wear washable suits and shoes when at work. The use of tobacco in bakeries is prohibited. No person with tuberculosis, scrofula, venereal or other contagious or infectious diseases, may work in bakeries. Foods must be protected from dust, flies, and contamination. Patrons must not handle foods on the counters. Delivery wagons must have canvas covers. The preparation of foods in basements is prohibited.

Try, Try Again.— "If at first you don't succeed, try, try again, . . . and if you will but persevere, you will conquer, never fear, try, try again." These verses must have been sung by his mother to a Swiss boy who, when he grew up, took a medical course, and trying for the degree at the age of twenty, failed. Thirty-seven times he tried, year after year, to pass the examinations, and thirty-seven times he failed; and now at the age of fifty-seven he has died, a prodigy of perseverance, who has proved the old jingle to be false. Perhaps that was what he was attempting to prove.

Hookworm Eradication.— During the first quarter of 1913 dispensary work was done in twelve counties in North Carolina. More than thirty-five thousand persons were examined microscopically, and more than ten thousand persons received free treatment. The total number of free examinations up to date in the State is more than two hundred sixteen thousand, and the number of free treatments approaches twenty-three thousand, the work having been done in sixty-five counties. What would we not give to have so sure a method of preventing and treating pellagra as we have of hookworm disease!

Branched Tubercle Bacilli.— Health Commissioner Dixon of Pennsylvania (*Journal A. M. A.*, March 29) reports work on the involution or branched forms of tubercle bacilli, first obtained by him in 1889, by growing the ordinary bacillus on glycerin agar subjected to great variations of temperature. Injections of these involution forms into guinea-pigs and other lower animals proved practically harmless, and developed in the animals a marked resistance to the virulent tubercle bacilli, whereas injection of much smaller doses of the original culture, from which the involution forms were cultivated into control animals, invariably caused generalized tuberculosis. It would seem that Dixon is on the way to a rational tuberculosis cure, which may prove beneficial without the necessity of filling the pockets of some Friedmann.

Storage Fish.— According to Dr. Wiley, no other article of diet deteriorates so rapidly in storage as fish. He said, "I should rather do without fish at this season of the year [April] than to eat that which had been kept in storage, no matter in what sanitary care."

Tincture of Iodin in Smallpox.— The *Indian Medical Gazette* is responsible for the following suggestion, which in cases of smallpox is certainly worth trying. Dr. Pedley had for some time been convinced that iodin would be an ideal local application in the treatment of smallpox, and that it would penetrate the vesicle and destroy the organism causing the disease. When the opportunity came to treat a case, he painted the spots as soon as they occurred, with equal parts of tincture of iodin and liniment of iodin, but after three days he changed to the pure tincture of iodin, using it twice a day. The rash was profuse on face, chest, arms, and hands. The application of iodin was so cooling and agreeable to the patient that he would ask to have it repeated. The treatment was kept up for six days, and the result was remarkable. There being absolutely no itching, discomfort, nor secondary fever, the vesicles collapsed and shriveled, and the skin peeled off, leaving a clean, white surface, free from marks or scars. Though Pedley believes that the course of smallpox may be much modified by the use of cold-water treatments, he feels certain that in iodin we have a most valuable remedy. It certainly can do no harm, and as in the case cited, may prove to be exceedingly valuable.

Abuse of Hypnotic Drugs in America.— An editorial article in the London *Lancet* of March 15 should give our law officers food for thought. It says: "In the United States the sale of poisons is the subject of legislation in every State, some of which is very drastic on paper, but is not properly enforced." Quoting the *Public Health Bulletin* of the United States Public Health Service, it states that since 1860 there has been an increase of 351% in the importation and consumption of opium in all its forms, as against 133% increase in population. During the last ten years there has been an annual importation and consumption in America of 400,000 pounds of opium, 75% of which is made into morphin. And it is estimated that 80% of this morphin is used by victims of the morphin habit. It is also said that 150,000 ounces of cocain are used illicitly, and in addition to this hundreds of pounds, or even tons, of other hypnotics are used. The *Lancet* comments: "The remedy for this abuse is not easy to find, but it is possible that much good might be effected by a greater uniformity in the poison legislation of the several States, and by a more careful administration of it." There is the rub. By our peculiar combination of State and national government, we have a lot of disjointed units that on such matters as this can pass any old kind of bizarre legislation; hence we see the greatest diversity in food, medical, drug, and other laws, allowing all kinds of loopholes through which those inclined to evil may work.

Significant, Is It Not? — The latest report of the Sceptre Life Association of England shows the following regarding death claims during the past year. In the general section there were 92 deaths out of 132 expected deaths, or 69.70%. In the abstinence section there were 53 deaths out of 139 expected deaths, or 39.13%. This is the lowest record of deaths ever made. During the past twenty years, the ratio of actual deaths have been in the general section 79.33%; in the abstainer's section, 51.68%. In all cases the total abstainers have lower death claims than those who are not abstainers, and it should be remembered that the company refuses to insure those who are confirmed heavy drinkers. So this difference is between moderate drinkers and abstainers.

Such Is Life.— The following item from Arkansas needs no comment: Following the passage of the bill creating a State board of health, a bill was introduced into the legislature appropriating the necessary funds for its operation. The day before the legislature adjourned, the house tabled the appropriation bill. A few hours after this action was taken, the governor began to receive telegrams from one of the northern counties of the State, saying that an epidemic of cerebrospinal meningitis had suddenly broken out, and asking the governor to send help at once. The governor immediately turned these telegrams over to the members of the legislature. By a peculiar coincidence the member of the House representing the county in which the epidemic had broken out, had been one of the most active opponents of the appropriation bill. On learning the situation in his county, he at once moved to reconsider the motion to table, and this was carried by an overwhelming vote. The next morning the appropriation bill was passed without opposition. It is wonderful how much a legislator can see when things begin to get near home.

Osteopathic Recognition.— Within twelve years osteopathy in some form has been recognized in practically all the States. The following twenty States have separate boards: Connecticut, Arkansas, Michigan, Minnesota, Utah, Tennessee, New Mexico, Montana, Idaho, Missouri, South Dakota, Louisiana, Georgia, North Dakota, Nebraska, Florida, California, New Hampshire, Pennsylvania, and Kansas. The following eleven have an osteopathic member of the State examining board: Iowa, Wisconsin, Kentucky, Indiana, New York, Oklahoma, Oregon, Texas, Utah, Washington, Massachusetts. In the following nine States osteopaths are examined and registered as osteopaths by the State board of examiners: South Carolina, Wyoming, Ohio, West Virginia, Delaware, North Carolina, New Jersey, Colorado, Virginia. There are no specific regulations regarding osteopathy in the District of Columbia and the following seven States: Alabama, Arizona, Illinois, Maine, Mississippi, Nevada, and Rhode Island. In Maryland osteopaths are exempt from the operation of the medical practise act. In fifteen States osteopathy is declared to be practise of medicine, and in twenty-one States it is declared not to be.

Treatment of Infections by Ether.— A Dr. Souligoux, at a recent meeting of the (Paris) surgical society, made an interesting report on the use of ether in infections. For more than twenty years he has been successfully using this method of treating wounds. In 1891 a man who had both legs crushed with a truck, refused amputation, and Dr. Souligoux dressed the wounds with ether and applied a plaster dressing. There was no infection, and the patient made a good recovery. Since then the doctor has used the method in hundreds of cases, including felons, boils, etc., with excellent result. He first cleans the part with soap and water, then applies a compress soaked in ether, covers with a pad, and binds tightly. He even uses the method in abdominal infections. In one case of perforation of the cæcum, where the abdominal cavity was full of pus and fecal matter, he repaired the perforation, bathed the cavity in ether, closed the wound with drainage, and had a good recovery.

Function of Periosteum.— Sir William Macewen, of Glasgow, has issued a little work, "The Growth of Bone" (James Maclehose & Sons, 1912), in which he shows quite conclusively that the periosteum is not essential to bone reproduction. Its function, as is the case with all limiting membranes, is to prevent the cancer-like growth of the bone tissues into the surrounding tissues. He shows cases where transplanted bits of bone have grown so exuberantly as to erode or eat out the adjacent or normal bone. Dr. Wetherell, of Denver, who describes Macewen's theory in the *Journal A. M. A.* of March 29, says: "The acceptance and practical application of this truth, if truth it be, must materially modify the surgery of bones," and that "the growth, the death, and the regeneration of bone have long been fearfully misunderstood, if the new theories of Sir William Macewen regarding these processes are correct." And Wetherell is very much inclined to believe that they are correct.

Disinfection After Measles.— As experience seems to have conclusively shown that there is little likelihood of infection from the sick-room after the convalescence of the patient, the New York Department of Health does not remove goods for sterilization when disinfecting for measles. The main danger is from fresh discharges, and this in the early part of the attack. It is said the public greatly appreciates the new attitude of the health board in this regard, as it causes much less inconvenience; and the absence of secondary cases justifies the change, that is, there are no more cases apparently resulting from the new method than there were during the old days of more strict sterilization. The abandonment of terminal fumigation after measles or typhoid, has decreased the work of the disinfecting corps 20%. The method now is after the recovery of the patient to scrub the woodwork with a hot soda solution, one-half pound to three gallons of water, and air the room for twenty-four hours before occupying it. If the patient is removed from the room during the height of the illness, or dies in the room, the room and contents are then disinfected.

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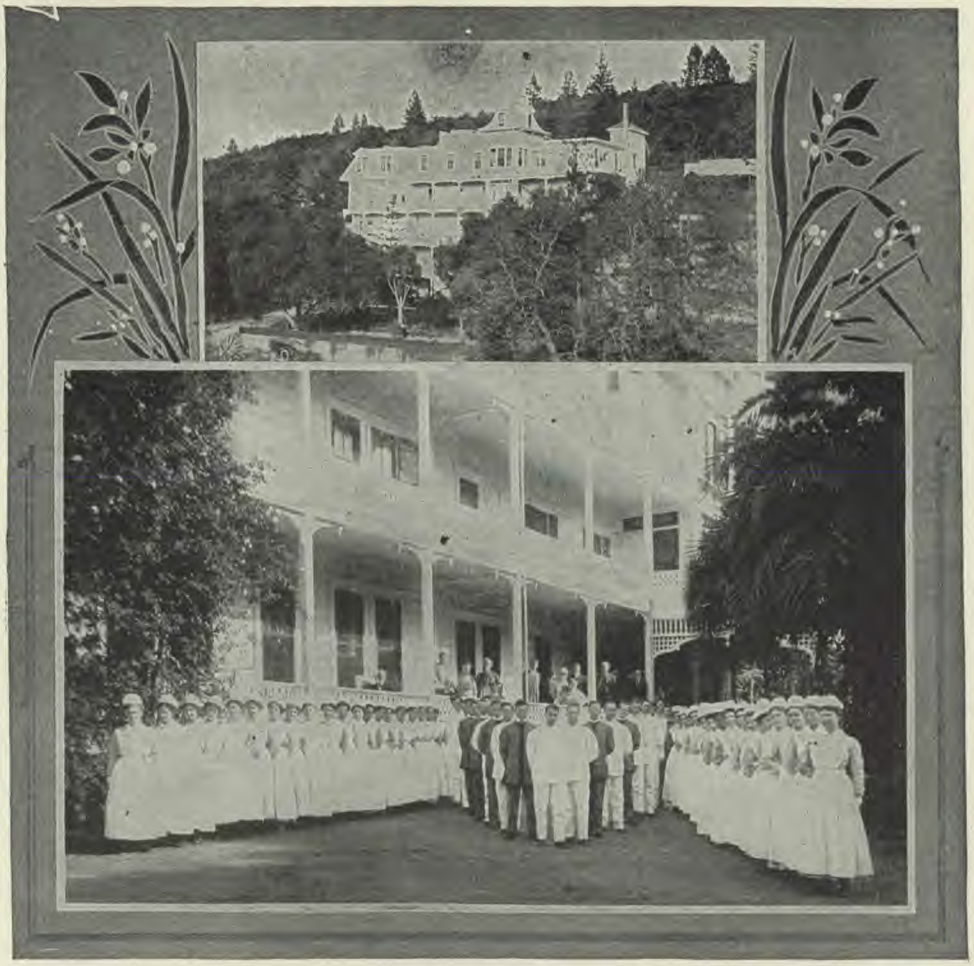

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