Life & Health

WASHINGTON, D. C. ... TEN CENTS A COPY

BITTERNESS

in the mind, like bitterness in the mouth and stomach, produces a feeling of dissatisfaction, unrest, irritation, enmity, gloom, and despondency.

Small trials, little family troubles, and business difficulties are exaggerated beyond all reasonable limits. The victim dwells continuously among the shadows of life, shut away from the sunshine and flowers of a higher plane of existence.

MEANS

have been provided whereby this feeling of bitterness and the gloomy outlook on life may be eradicated from the mind.

Those factors which are undermining the physical health should be carefully searched out and eliminated, and in their place must be substituted thoughts, feelings, and activities which bring health, contentment, and happiness.

FAILURE

to exclude from one's life the things that are destructive to peace of mind and health of body, will deprive one of many of life's choicest blessings.

The famous system of treatments employed at the Sanitarium, combined with quiet, cheerful surroundings, a home-like atmosphere, and a well-regulated diet, are a wonderful aid in restoring the physical health and the joy of living.

For further information address,

Chamberlain Sanitarium and Hospital
Chamberlain, S. Dak.

Life & Health

Published monthly by the
REVIEW AND HERALD PUBLISHING ASSN., TAKOMA PARK, WASHINGTON, D. C.

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

CONTENTS OF THIS ISSUE

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

THE RETURN OF THE PRODIGAL

"The younger son gathered all together, and took his journey into a far country, and there wasted his substance with riotous living. And when he had spent all, . . . he began to be in want, . . . and no man gave unto him. And . . . he came to himself, . . . and he arose, and came to his father."

Life & Health

HOW TO LIVE

Editor H. W. MILLER, M. D | *Associate Editor* L. A. HANSEN | *Office Editor* G. H. HEALD, M. D

Vol. 33 | June, 1918 | No. 6

True Education

G. Henry Hale

THE aim of education is adjustment. Its object is to fit the individual to come into right relation with his environment, and to do this promptly, easily, and, as nearly as possible, spontaneously. True education prepares a person to do the right thing at the right time, and to do it as the most natural and easy thing to do. One who is well educated has behind his behavior such a mass of well-regulated habits, that he naturally and almost instantly does the right thing in an emergency, when the less fortunate person will hesitate and finally do the wrong thing.

Education in this sense has to do with every phase of one's life — his manner and time of sleeping, his toilet, his meals, his plan and schedule for work, his exercise, his recreation, his conversation, his method of approaching strangers, his method of doing his work, his attitude toward new and difficult situations, etc.

In all these matters there are right ways and wrong ways of doing things: there are best ways and not-so-good ways. A proper education is such a training that the best ways become habitual. Too often the haphazard training that one gives himself, results in a series of lifelong habits none of which are "best" and few of which can be counted as commendable. Note, for instance, how much the raw recruit at a training camp must unlearn about such common acts as standing and walking. I dare say that out of thousands of boys who go to a training camp, not one who has not had military training or its equivalent knows how to stand or walk. Their education is deficient to that extent, and this deficient education renders them to a certain extent inefficient. Military training is not merely a "course of sprouts" to make it hard for the men. It is a valuable part of their education which has been almost altogether neglected in civil life. And we might go on giving other examples, but will generalize by saying that there is scarcely a thing that the average person does in the best way.

One more example, however. The ordinary bricklayer who has learned his trade can lay a certain number of bricks a day. Scientific study of the motions of bricklaying has developed the fact that, as ordinarily performed, there is a vast amount of lost motion in laying bricks, and that by time and motion studies the method can be so improved that the same man can greatly increase the number of

bricks laid in a day, and can do it with less fatigue.

Perhaps there is no occupation or trade in which the same condition would not be found; namely, that the average man works habitually and constantly at a disadvantage, making unnecessary motions and accomplishing less than might be accomplished, and with more physical effort and tire.

In all these instances of occupation or routine, motion habits have been formed which nine times out of ten it is safe to say are not made to the best advantage.

And this goes through all the activities of the day — the sleeping, the toilet, the meals, the work, the recreation, the study. Every one of these activities might be done a little better, in some way, than it is done; but we have settled down into a groove; and even when we are shown that our methods are inefficient, we find it requires rare courage and an indomitable determination to reform them. Few of the soldier boys, in their own homes, and separated from others, could force themselves to take the setting-up exercises of the army. Habits of doing nearly everything we do in ways not the best, and the habit of being satisfied to remain inferior to what we know to be best, constitute a sort of dry rot that infects nearly all of us.

We might, then, amend or supplement our definition by saying that education is the formation of right habits. It is a training of the nervous system — the brain and the connecting nerves. As has been very aptly said, we should make the nervous system an ally, not an enemy. It is an ally when it enables us habitually to do the proper thing, the best thing, at just the right time. It is our enemy when it "balls us all up," causing us to blunder, to waste time, to squander energy in lost motion, to become "rattled" or stage frightened, so that we are unable to do what we know we ought to do. Few persons are at their best, for the reason that in one or more particulars — perhaps many of them — their nerves are enemies rather than servants.

A simple rule for making our nervous system a good servant is "to make automatic or habitual, as early as possible [in life], as many acts as we can which will promote our physical well-being, and to guard against growing into ways that tend to operate to our disadvantage."

In addition to the habits enumerated, there are others that directly weaken the character, and make for inefficiency. Among these are the use of alcohol or tobacco; the habit of overeating, or of indulging in sweets and rich foods.

We append a program of health habits, by W. H. Allen in "Civics and Health." The aim is so to train oneself that these activities will become habitual and spontaneous.

Health Habits

1. Throw the bedding over the foot of the bed.
2. Close the window that has been open during the night.
3. Drink a glass of water.
4. Bathe the face, neck, chest, armpits (finishing, if not beginning, with cold water), and particularly the eyes, ears, and nose. If time and convenience permit, bathe all over.
5. Cleanse the finger nails.
6. Cleanse the teeth, especially the places out of sight and hard to reach.
7. Breakfast punctually at a regular hour. Eat lightly and only what agrees with you.
8. Visit the toilet; if impracticable at home, have a regular time at business.
9. Have several minutes in the open air, preferably walking.
10. Be punctual at work.
11. As your right by contract, insist upon a supply of fresh air for your workroom with the same emphasis you use in demanding sufficient heat in zero weather.
12. Eat punctually at noon intermission; enjoy your meal and its after-effects.
13. Breathe air out of doors a few minutes, preferably while walking.
14. Resume business punctually.
15. Stop work regularly.
16. Take out-of-door exercise — indoor only when fresh air is possible — that you enjoy and that agrees with you.
17. Be regular, temperate, and leisurely in eating the evening meal; eat nothing that disagrees with you.
18. Spend the evening profitably and pleasantly and in ways compatible with the foregoing habits.
19. Retire regularly at a fixed hour, making up for irregularity by an earlier hour next night.

20, 21, 22. Repeat 4, 6, 8.

23. Turn underclothes wrong side out for ventilation.
24. Open windows.
25. Relax mind and body and go to sleep.

The Ladder of Health

R. A. Crawford, M. D.

Superintendent Chamberlain (S. Dak.) Sanitarium and Hospital

INTRODUCTION

THE gentle but somewhat unreliable stork seems to deal with mankind with much partiality. Some of us are left at birth perched high on the top round of the ladder of health, while others find themselves feebly struggling to touch the first round. In fact, nature endows some so generously with health that they seem to be capable of disobeying almost all the laws of healthful living with very few bad effects, at least for a time. With many, however, the spark of life is burning low, and is blown out by only a slight gust from the land of unfavorable conditions.

But to be born at a disadvantage from a physical standpoint is not a crime any more than it is a crime to be born poor in this world's goods. The halls of accomplishment and fame are full of the monuments of those who were born at a disadvantage. Lincoln was born at a disadvantage, but while he struggled with poverty, and did his arithmetic on a shovel by the light from the fireplace, he was developing in himself those sturdy qualities that fitted him to take one of the most glorious places in history.

The act of climbing is splendid exercise, and one who must slowly and persistently climb the ladder of health often acquires habits of right living and a ready reserve power that stay with him throughout life, making him more resistant to disease than one who was much better endowed at birth.

Demosthenes was provided by nature with a weak voice and a stammering tongue. Besides, he was so short of breath that at the end of each sentence he was forced to stop and rest. So every day he went to the seashore and matched his voice against the roaring of the waves. To overcome his stammering he spoke with pebbles in his mouth, and to relieve himself of his shortness of breath, and so to develop his lung power, he practiced his oration while running up the banks of the seashore. His persistence developed most wonderful characteristics within him, and he became one of the greatest of Grecian orators.

Emerson has said, "Nature, when she adds difficulties, adds brains," and it was Spurgeon who remarked, "Many men owe the grandeur of their lives to their tremendous difficulties." John Calvin, one of the foremost characters of the Reformation, was tortured for years by disease. Indeed it seems that to the man of determination difficulty is the most effective stimulant to effort.

There are many illustrious examples as evidence of what persistent effort will accomplish for those who are naturally endowed with poor health. Physical debility, like the disadvantage of a lack of early education, may take long years to overcome, but results can be obtained in the one case as surely as in the other. Theodore Roosevelt, whose public career has been so extremely active, and who has seemed to possess no end of reserve vitality, was, in his youth, so sickly that he was unable to attend the school where he had been sent, and was compelled to receive his further education at home. Years in the open, however, and unflinching perseverance, developed in him the rigid constitution which made his later strenuous career possible.

The Spartans, while surely not commendable in all respects, attained by their strenuous training, a degree of universal physical development probably never equaled before or since.

The giant trees of California did not attain their growth in a week, neither was Rome builded in a day. Health building is likewise a gradual process,

"The giant trees of California did not attain their growth in a week. . . . Health building is likewise a gradual process, and . . . is won only by persistence."

and, like everything else worth having, it is won only by persistence. Every day new stones must be put into the building. Every day one must ascend a little higher up the ladder till at last the top round is reached. And then — even then — a careful balance must be maintained, or there is danger of a fall.

The purpose of these articles is to aid those who desire to ascend to a higher position on the ladder of health and to help them to maintain that position. Well do I realize the obstacles with which some are confronted in their efforts at health building. Necessity for overwork, economic conditions, poor environment, business and social obligations, often appear to form an effective barrier to any

progress in this direction. But are these obstacles any more insurmountable than those that impeded Lincoln in the attainment of his early education?

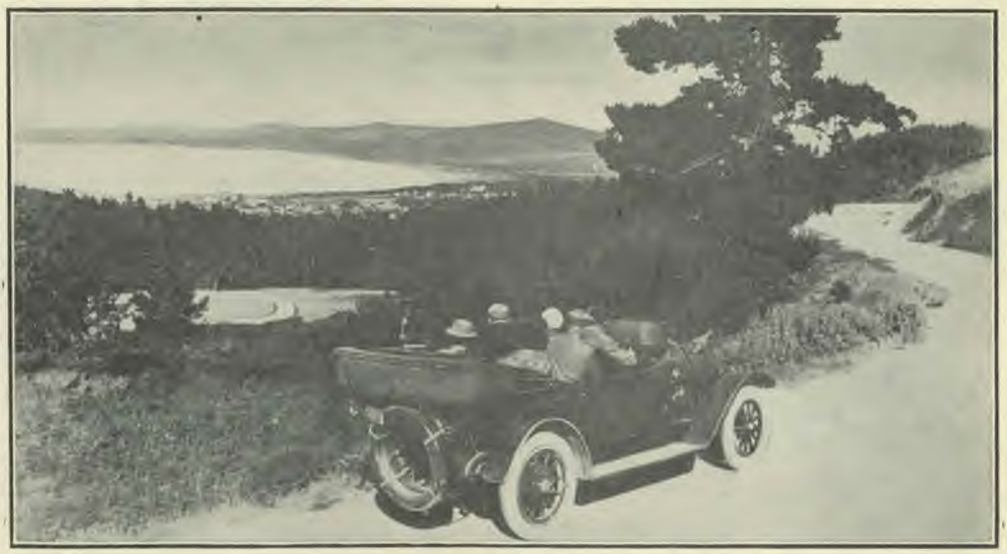
Remember that health is a necessity if you are to reach your highest development in life, and hence it is worth any sacrifice. Good health is your most valuable possession, although you do not often appreciate it till it is gone. Admitting of the obstacles, there are probably none of us who by persistent effort and a little thought as to ways and means best adapted to our particular circumstances could not at least make some progress toward the top of the ladder of health.

PREVENTION OF DISEASE

Good health means more than the mere ability to be around or even to hold down a job. Health is measured largely by the amount of latent energy or reserve power which we possess. An unfortified city does not fall in times of peace, but it takes strong fortifications and great stores of supplies and ammunition in reserve to withstand the siege of war. Thus it is true that it is some undue condition that puts the test to our constitution; it is then that the extent of our reserve supply comes to light.

Disease is as devastating to the physical resources as war is to the national. In either case prevention is the best remedy. How true is the old adage, "An ounce of prevention is worth a pound of cure." In the future the medical profession will turn its attention more and more to the prevention of disease. Governments will supply a larger and larger corps of workers for this purpose, and doctors will be consulted for their advice as to how to increase the vital force within so as to be better able to ward off disease.

The human body is constantly surrounded with disease germs, but it is also provided with means of defense. If it were not for this, we should be a constant prey to infection of all sorts. It is the activity of these means of defense that determines our resistance to disease. If the fortifications of our bodies are weak, it is time that we were taking active steps to strengthen them. Do not wait for the enemy of mankind — disease (for life is a constant warfare against disease) — to overrun and devastate your health. Develop your reserve power, so that you can readily throw off infections, and thus prevent the loss of your greatest asset — health.



The Inorganic Constituents of Food

G. H. Heald, M. D.

SHOULD the body be resolved into its fifteen elemental constituents, more than three fourths of the weight of these elements would be in the form of gas, and less than one fourth in the form of solids.[1] And three fourths of the solid part would be carbon, or lampblack.

The principal gases of the body (oxygen, hydrogen, and nitrogen) are combined with carbon in various ways, making the numerous compounds which, together with water, form 96 per cent of the body weight.

The body is more than half water. A person weighing 150 pounds has in his body approximately 90 pounds of water, accounting for 80 pounds of oxygen and 10 pounds of hydrogen.

The approximate percentage by weight of the fifteen elements constantly found in the body follows, together with the weight of each of these elements in a person weighing 150 pounds:

		Per Cent	Amount
G[2]	Oxygen	65	97½ pounds
N	Carbon	18	27 "
G	Hydrogen	10	15 "
G	Nitrogen	3	4½ "
M	Calcium	2	3 "
N	Phosphorus	1	1½ "
M	Potassium	.35	8 ounces
N	Sulphur	.25	6 "
M	Sodium	.15	3½ "
G	Chlorine	.15	3½ "
M	Magnesium	.05	1 "
M	Iron	.004	1/10 "
N	Iodine	a trace	
G	Fluorine	"	
N	Silicon	"	

Stated more graphically, the separate elements composing a man of 150 pounds' weight would be approximately: of oxygen, a small room full, 10 x 10 x 11 feet; of hydrogen, a large room full, 18 x 12 x 11 feet; of nitrogen, a closet full, 2 x 3 x 10 feet; of chlorine (one of the poison gases used in trench warfare), 8 gallons, or a quantity that would fill a bushel measure; of carbon (or lampblack), a half bushel; and of other metallic and nonmetallic elements, about six pounds; three fourths of this, or 4½ pounds, being calcium and phosphorus, the inorganic constituents of bone.

Such are the raw materials that are combined to make up that marvelous mechanism — man; a mechanism in which is constantly flowing a stream of nutriment composed of these same raw materials, to be built up into various compounds, to form part of the tissues, to be broken down and formed into different compounds, and to be finally discarded from the body as ashes are discarded from a furnace. Generally, these materials are taken into the body, not in the simple elemental form, but as compounds. The oxygen taken in from the air is an exception.

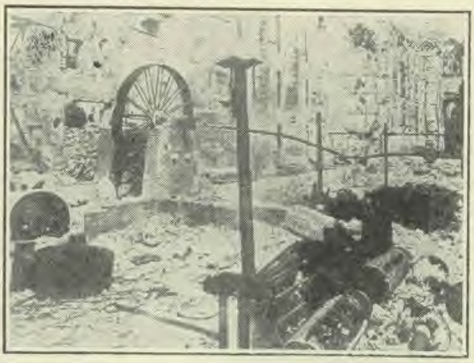
The first four elements named (oxygen, carbon, hydrogen, and nitrogen) are those principally concerned in the formation of organic compounds, though sulphur and phosphorus are present in some of the proteins. When food or the animal body is burned in the air, the first four elements in the above list are converted into smoke, largely as carbon dioxide and water, leaving the other eleven elements as ash. And when these eleven elements enter the body in the food or drink, they are given off eventually, not in organic combination, but as mineral salts. They are therefore known as ash, or as the mineral or inorganic constituents of the body. It is to the consideration of these mineral or inorganic constituents of the body, and of foods, that the present paper is devoted.

Under ordinary conditions a man excretes about an ounce of mineral salts

[1] None of the elements which enter into the composition of the body are liquid at anything like body temperature. The two elements liquid at ordinary temperature — bromine and mercury — are not normal constituents of the body, though they are often taken for medicine, either as bromides or as salts of mercury.

[2] G, gas; N, nonmetallic; M, metallic.

daily, these salts consisting principally of chlorides, sulphates, and phosphates of sodium, potassium, magnesium, and calcium, or as they were formerly called, of soda, potash, magnesia, and lime.[3] The metallic, or basic, elements (sodium, etc.) are combined with the nonmetallic elements (chlorine, sulphur, etc.) to form salts. For instance, common, or table, salt is a combination of sodium and chlorine, known as sodium chloride; Epsom salts is a combination of magnesium, sulphur, and oxygen, called magnesium sulphate. Some salts harmless or useful to the body are composed of elements that in the free state would be as destructive to the body as a red-hot coal. For instance, table salt is composed of one of the poison gases of the trenches, and a metal which in contact with the moist tissues, would be a violent escharotic, if, indeed, it did not set things afire.



SAVE SUGAR

Sugar production in France has fallen to less than 25 per cent of the pre-war output. This picture of a wrecked sugar mill shows one of the principal reasons for the decline. When German troops retreated from occupied portions of France they took pains to destroy virtually all of the sugar mills that would otherwise have assisted the French in maintaining their sugar stocks.

Though some of the mineral constituents of the body are present in mere traces, they evidently perform important functions. Iodine, for instance, is present in quantity almost too small to measure, yet its complete absence from the food is said to be followed by serious thyroid disturbance.

There are at least three ways in which the inorganic elements are useful in the body: (1) They furnish rigidity to the bones; (2) they enter into the composition of the cells; (3) they are important constituents of the circulating fluid, and by their presence exert a profound influence on the various nutritive functions of the body, maintaining a nearly neutral reaction of the blood and lymph, in a measure controlling osmosis and thus in a measure, probably, influencing absorption and secretion, and stimulating the activities of the tissues.

That the proportion of mineral in the food has an important bearing on nutrition and the rate of growth seems evident from the fact that there is a great variation in the proportion of the bone-minerals in the milk of different animals, and that this proportion bears a remarkable relationship to the rapidity of growth of the animals. Those that double their growth more rapidly have a larger proportion of bone-mineral in the milk than those of slower growth.

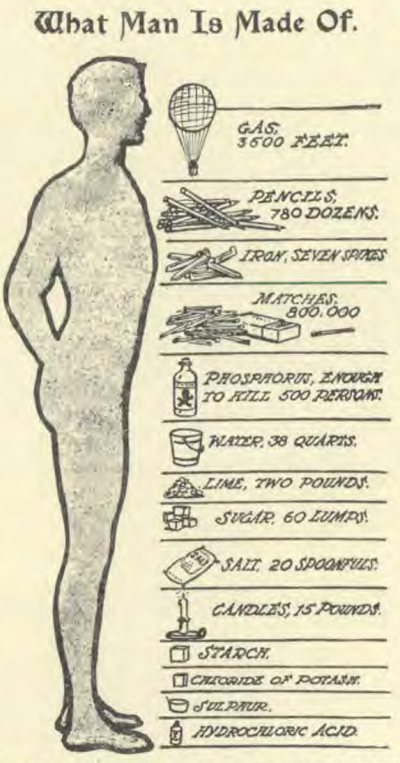
The table[4] which appears on the following page, shows the relation of the principal flesh and bone formers in milk to the rapidity of growth in man and animals. The second column represents the time required for newborn to double the birth weight. The other columns give the proportion of principal building material in the milk. The human suckling (which doubles its weight much more slowly than any other animal) receives the poorest supply of protein, lime, and phosphorus.

[3] We still hear such expressions as "chloride of lime," "sulphate of potash," "bicarbonate of soda," relics of an older chemistry and nomenclature.

[4] Abderhalden's Physiologische Chemie, copied in U. S. Dept. Agr., Off. Exper. Sta., Bulletin No. 227.

	Days	Protein Per Cent	Calcium Oxide Per Cent	Phosphorus Pentoxide Per Cent
Man	180	1.6	0.03	0.05
Horse	60	2.0	.12	.13
Cow	47	3.5	.16	.20
Goat	22	3.7	.20	.28
Sheep	15	4.9	.25	.29
Swine	14	5.2	.25	.31
Dog	9	7.4	.45	.51
Rabbit	6	14.4	.89	.99

Another important deduction from the foregoing table is that these various animals must find in their food, which, in the ration of the horse, cow, goat, sheep, and rabbit, is entirely vegetable, an abundance of mineral salts, not only for the requirements of their own bodies, but also for the formation of the salt-rich and protein-rich milk required for their growing young. If these foods furnish enough of the various salts for these rapidly growing animals, they must certainly furnish an abundance for the needs of man.



CHEMICALLY ANALYZED YOU ARE A HUMAN DEPARTMENT STORE.

Experiments have shown that animals will not long survive if their food is deprived of its mineral constituents. Förster fed two dogs with some salt-free meat extract, plus fat, sugar, and starch, and both animals died more quickly than is customary with animals which receive no food at all. The same result was experienced with three pigeons which were fed starch and casein. More recent and more carefully controlled experiments show that if every other food constituent is present and the mineral matter is left out, the animals cannot thrive. The continued absence of even one of the mineral elements, as calcium, or iron, or iodine, or phosphorus, may prove disastrous. There seems to be an optimum, or most favorable proportion, of mineral elements, in which each element is in sufficient but not in too great quantity. Most vegetarian animals crave the addition of common salt (sodium chloride) to their food; carnivorous animals get sufficient salt with their food. The potato, particularly, is especially rich in potassium and lacking in sodium, and requires the addition of a liberal amount of salt. Carnivorous animals usually eat the entire carcass of an animal, but man eats only the fleshy part, and thus fails to get a sufficiency of potassium and phosphorus. This deficiency is emphasized by the fact that the white flour commonly eaten in connection with a flesh diet, and the finely milled cereals lack potassium and phosphorus. Milk, on account of its salts, would be a very much better combination with cereals than would meat.

In this connection it may be profitable to reproduce some of the results published by the Ohio Experiment Station (Bulletin No. 255) from a long series of ash analyses of common foods made in their laboratories.

As an aid to the interpretation of the analyses, these observations were made by the writers of the bulletin:

"1. In general, a high ash content of the food is desirable, since the animal is better able to cope with an excess of ash constituents than with a deficiency.

"2. The greatest deficiency in the mineral nutrients of common foods is in calcium (lime).

"3. Phosphorus is also often deficient.

No attempt has been made to verify the quantities in the insert on this page.— Ed.

"4. The other mineral elements are not likely to be deficient in common foods, except for sodium and chlorine, which are usually added in superabundant measure as common salt.

"5. Magnesium contributes more than other mineral elements to the laxative character of foods.

"6. Foods which are high in ash constituents generally are apt to be laxative, while those which are low in ash are often constipating.

"7. An excess of basic mineral elements over acid mineral elements in the food is desirable. The body is able to compensate for a certain excess of acid, but this capacity is limited. Too close an approach to this limit is a disadvantage to the animal, and restricts the growth of bone; if it is exceeded, death ensues. . . .

"9. Those animals with which the mineral nutrients are most important are young, growing animals, and pregnant, milk-giving, or egg-laying females. The mature work animal needs comparatively little mineral matter."

Regarding white flour, the bulletin has this to say:

"Not only is the total ash low but the individual elements are each one present in very small quantities, and hence we must regard white flour as a poor food for all purposes served by mineral matter. In everyday life the one deficiency of white flour which is most likely to make itself apparent is its lack of magnesium, this deficiency causing its constipating character, a matter of no concern to most healthy adults, but one of much importance in the feeding of the very young and others who for any reason must subsist on a diet of limited variety."

Corn, we are told, "contains less ash than wheat. . . . Bolted cornmeal, as prepared for human consumption, lacks the skin and a portion of the germ of the kernel. The exclusion of these portions of the grain still further lowers the value of the product to a growing animal."

"Polished rice," continues the bulletin, "contains less mineral nutriment even than any corn product, and too large a use of polished rice is the usual cause of beriberi. The use of unpolished rice prevents and cures this disease."

Considering the cereals and cereal products as a group, the bulletin observes that the important characteristics are, lack of lime, and slight excess of acid over basic elements. The phosphorus is almost wholly in organic combination. "Considering the cereal products as human foods, the greater acceptability of the highly milled products is attained at a considerable loss of mineral nutriment, and the use of these modern products requires more careful consideration of the remainder of the diet than was necessary in the days of primitive milling processes."

It is a significant fact that "growing animals subsisting on cereals alone soon come to suffer from malnutrition of the bones." This may explain the presence of rickets in some underfed children.

Where the cereals are weakest, that is, in the low calcium content and in the preponderance of acid ash, the leguminous and other roughage, such as clover hay, cowpea hay, soy-bean hay, and alfalfa, is strongest. This is the secret of balanced feeding of stock. In a lesser degree, the green vegetables take the place in human food of the roughage supplied to animals, supplementing the deficiencies of the cereals.

To a certain extent, but not so much as the roughage, the leguminous seeds (soy beans, navy beans, cowpeas, peanuts, etc.) make up for the cereal deficiencies in mineral. On account of their high protein content, and their limited

power of supplementing the cereal deficiencies, the legumes are often compared to the meats.

Milk merits especial attention, according to the bulletin, "since it may fairly be considered a perfect animal food. It is characterized by an excess of basic over acid mineral elements, and contains considerably more calcium than phosphorus, and generous amounts of both of these." It is thus an admirable supplement to the grains, as man's instinct told him long before the days of food analysis.

"Whey," we are told, "contains a greater portion of basic to acid mineral elements than does milk, since the curd removes more acid than basic mineral elements from milk. The ready assimilability of its organic constituents, and the corrective tendency of its minerals in the various digestive disturbances of infancy, especially those in which acidosis is a feature, make whey the rational basis for the modification of milk for infants. Perhaps no single bearing of this matter of the mineral elements in nutrition, is likely to cut more of a figure in the happiness of the average man than the use of whey rather than water in the modification of milk. Whey is also especially useful in severe illness of older children. Many a child has been taken through protracted sieges of fever on whey alone.

"Its mineral salts correct the tendency to acidosis in such diseases, and the milk sugar and albumen contained are sufficient in amount to be of great value. It may be prepared fresh from skim milk by the use of the commercial rennet extracts obtainable at any drug store."

"Meat," the bulletin proceeds, "like the cereals, is extremely low in calcium, and like them, will cause malnutrition of the bones if used to the exclusion of other foods. Carnivorous animals naturally make good this deficiency by eating bones."

Eggs are also low in calcium, we are told, "a deficiency which the incubating chick makes good by withdrawing calcium carbonate from the shell. Eggs are rich in phosphorus, however, in organic compounds, mostly lecithin, which has a high nutritive value, and which is a universal cell constituent.

"Considering the animal products as a group, they usually contain an abundance of phosphorus, but only milk and bone preparations contain enough calcium to make them of value on this account in supplementing the cereals."

Of fruits and vegetables we are told that they "have in common a very decided preponderance of basic over acid

(Continued on page 182)

Spinach Versus Tincture of Iron

J. W. Hopkins, M. D.
Washington (D. C.) Sanitarium

IN choosing the source of iron which we shall use for our daily needs in health, and in the treatment of disease, the question becomes one of food iron versus medicinal iron. Shall we use inorganic iron, or shall we supply the needed iron by the use of foods which contain this material in the organic form? If the latter source is chosen, which foods shall we select, those from the vegetable kingdom, or those of animal origin?

Iron acts as an active oxidizing agent, and as a carrier of oxygen both in the vegetable and in the animal world. Uniting with oxygen it becomes iron oxide, which when it comes in contact with carbon, gives up its oxygen to unite with the carbon, thus oxidizing the vegetable matter. In the animal organism the greater part of the iron appears in the red blood corpuscles as a very complicated substance known as hemoglobin. This contains much oxygen in a loose combination, giving it up freely to unite with the various foodstuffs in the production of heat and energy, and in oxidizing or burning up the

effete and waste materials formed in body economy or taken in with the food.

The amount of iron found in foods of animal origin will thus depend upon whether the animal was bled when killed, the blood being much richer in iron than is the flesh. The iron content of dried substances is as follows:

Beef contains less than one grain of iron to the pound. Blood puddings contain much more. The outer green leaves of cabbage contain the same amount as beef, and the inner yellow leaves about one fourth as much. Spinach has twice as much iron as beef, while asparagus and yolk of egg have twenty per cent more iron to the pound than does beef.

SPINACH WITH EGG AND LEMON

The amount of iron required daily in the body is one sixth of a grain. This is furnished by one and one third pounds of rice (dry substance), by five and one half ounces of potatoes, or by about three ounces of either apples, cherries, hazel nuts, or almonds. It is thus seen that the daily food supplies much more than is actually needed. Whole wheat contains nearly four times as much iron as rice, while fine flour has less than rice.

The value of food iron as compared with medicinal iron is shown by experiments which prove that the latter, if absorbed at all, is taken up in the most minute quantities; even when injected into the veins it is eliminated by the bowels, liver, and kidneys, or is deposited in the liver and spleen as is any other metal. The claim is made that medicinal iron stimulates the blood-making organs; also that inorganic (medicinal) iron when taken into the bowels saves the organic or food iron by combining with the wastes in the intestines, and thus allowing the food iron to be absorbed. These are theories, however, and have not been substantiated. The treatment of anemia even by the iron-giving physician, includes many other methods besides the administration of iron, and it is more than likely that the cure is due to the diet, rest, sunshine, hydrotherapy, and other rational hygienic treatments, rather than to the iron therapy. Anemia, in most cases, is caused by conditions which destroy the blood, or interfere with its production. Pyorrhea, or Riggs's disease, and other gastro-intestinal diseases, producing poison in the stomach and bowels, are found even in severe cases of pernicious anemia. It is therefore necessary to remove these causes before the administration of iron, or of any other tonic, will be of service. A laxative diet which contains a minimum of protein, and that from vegetable sources, is required. A clean bill of fare, containing no flesh, coffee, tea, or other stimulants, but which has sufficient residue to stimulate peristalsis, will prevent putrefaction and supply sufficient iron so that Blaud's pills, tincture of iron, etc., will be found entirely unnecessary. .

BOILED SPINACH

One peck of spinach should be cooked in three-fourths cup of water, great care being taken that it does not scorch. When tender, drain and press it to extract all the water. Chop it, and season with salt, and a little cooking oil. Use sliced hard-boiled eggs to garnish it, and serve lemon quarters with it, or lemon juice may be mixed with the spinach.

A small amount of the water drained from the spinach may be used in vegetable soup or broth; a little of it added to gravy will give a meaty taste.

Conservation Recipes

George E. Cornforth

LAST month we said that cereals are the most economical of all foods, and that legumes stand second in economy. Milk stands third. In spite of the fact that it seems to some people as if they can get something nearly as valuable from the water faucet, and that they cannot afford to pay present prices for milk, it is true that at thirteen cents or more a quart, more nourishment can be bought for a given sum in milk than in any other food except cereals and legumes. And skim milk is still more economical than whole milk. Whole milk should be given to children, but skim milk can be used to good advantage in the diet of adults. And let it be remembered that it is the expensive meat part of the diet that milk is capable of replacing. Buttermilk is also an economical and health-giving food. I have known people to be cured of periodic headaches by drinking two to four glasses of buttermilk a day. Cottage cheese, either made from skim milk, or bought ready made, is an economical and valuable food.

To make cottage cheese, allow skim milk to stand in a warm place till it is sour. It is best to have it in large shallow pans. After the milk has become thick, cut it into two-inch cubes with a knife, then set it in a moderate oven and heat the milk a little above lukewarm, or till the whey is well separated from the curd. Heating the milk too hot will make the cheese tough and not so much cheese will be obtained. Do not stir the milk; this also decreases the amount of cheese. Pour the milk into a cheesecloth bag and hang it up to drain. When well drained, remove the cheese from the bag and season it with salt and cream. The cheese may be formed into balls or cakes if desired. For a change, roll the balls in chopped parsley and press half a walnut meat into the top of each ball. Serve cottage cheese with mayonnaise salad dressing or with jelly.

Cottage cheese may be used to make a very palatable loaf by the following recipe:

COTTAGE CHEESE AND NUT LOAF

1 cup cottage cheese.
1 cup chopped walnuts.
1 cup crumbs of stale bread.
2 tablespoons chopped onion.
1 tablespoon cooking oil.
1 teaspoon, or a little more, of salt.

Cook the onion in the oil and a little water till tender. Then mix all the ingredients together and pack into an oiled bread tin, and bake till browned. Serve with the following gravy:

GRAVY

1 pint milk.
¼ cup flour.
½ cup cottage cheese.
1 teaspoon salt.

Heat the milk in a double boiler. Stir into it the flour which has been stirred smooth with a little cold water. Cook two or three minutes. Then stir in the salt and cottage cheese.

This gravy may be served on toast as cottage cheese rarebit. More cheese may be added to the gravy for this, and a beaten egg also may be added.

Boiled macaroni may be put in layers with this gravy in a baking pan to make macaroni and cottage cheese or macaroni *au gratin*. Sprinkle crumbs over the top and bake.

Cottage cheese plain, or mixed with mayonnaise, or with chopped nuts, or chopped hard-cooked eggs, or chopped

celery, or with jelly makes splendid sandwich filling.

The whey that is left after making cottage cheese, contains valuable food substances. It contains the mineral elements of the milk, and by reason of its acid it has in this respect the valuable property of buttermilk, that of restraining putrefactive changes in the food in the alimentary tract. Try using whey in place of part of the water in making lemonade, or fruit nectars which are lemonade colored and flavored with other fruit juices, such as grape, loganberry, raspberry, cherry, pineapple. If you wish a fancy name for this combination call it Bulgarian fruit drink. Something similar to this is put up in bottles containing one fourth of a cup, and sold for fifteen cents a bottle.

Conservation Menus

For a Week in June

George E. Cornforth

[This article was prepared and in the hands of the printer before it had been decided to do away with the requirement for wheatless meals and wheatless days. Under date of March 29, the United States Food Administration sent out the following: "In making optional the observance of wheatless days in private homes, the Food Administration lifted no restrictions upon the consumption of wheat products. It is merely asking the American people to reduce their per capita consumption to not more than 1½ pounds per week. If this can be done without the observance of wheatless meals or wheatless days, the Food Administration will consider that its request is being observed." The wheat situation is much more serious than was suspected a few months ago, and to prevent disaster in Europe, Americans must cut their allowance to 1½ pounds a person per week. The menus and recipes will be a help to those who desire to continue wheatless meals and days. Superior figures (1) indicate recipes that are in this number.]

I realize that these menus can be only suggestive, and that they are open to considerable criticism. They are arranged so as to provide ample nutrition of all kinds, but it is hardly expected that they will be used without change.

FIRST DAY

DINNER

Egg Macaroni
Boiled Potatoes with Gravy
Stewed Tomatoes Graham Bread
Stuffed Prunes with Whipped Cream

BREAKFAST (WHEATLESS)

Baked Potatoes with Cream Gravy
Corn Muffins with Nut Butter[1]
Cottage Cheese Fresh Strawberries
Cereal Coffee Milk for Children

SUPPER

Cottage Cheese Salad
Graham Bread
Rhubarb Sauce Potato-Flour Cake[1]

SECOND DAY (WHEATLESS)

BREAKFAST

Boiled Rice with Cream or Milk
Walnuts Lyonnaise Potatoes
Rhubarb Sauce Buckwheat Gems[1]

SUPPER

Potato Salad Corn Muffins
Rice Mold with Bananas and
Maple Sirup[1]

DINNER

Stewed Lima Beans
Baked Potatoes Canned Corn
Pumpernickel Bread Strawberry Whip

CORN MUFFINS

it is hoped that they may be of some help to our readers in preparing conservation meals.

Cereal coffee or milk may be added to each breakfast, if desired, and also to other meals. It will be noticed that all these meals are meatless, and that unwholesome articles of all kinds are omitted.

CORN MUFFINS

In the evening set a sponge of:

1 cup of lukewarm milk.
¼ cake yeast, dissolved in the milk.
1½ cups sifted bread flour.

Beat well. In the morning beat together:

¼ cup of a hard vegetable shortening.
¼ cup molasses or corn sirup.
1 egg.
½ teaspoon salt.

Add this to the light sponge, and stir in:

1½ cups cornmeal.

Mix thoroughly. Fill popover tins two thirds full. Allow to rise till the tins are nearly full. Bake thirty-five to forty-five minutes.

In sweetening the rhubarb sauce part strained honey may be used.

POTATO-FLOUR CAKE

3 eggs.
½ teaspoon salt.
¼ cup boiling water.
⅔ cup sugar.
⅓ cup corn sirup.
1 cup bread flour.
¼ cup potato flour.
1 teaspoon lemon flavoring.

Break the eggs into a mixing bowl, add the salt. Set the bowl into a pan of boiling water. Beat the eggs with a Dover egg beater till light. Then add one-fourth cup boiling water. Beat again till light. Then add a little of the sugar and beat, then add more sugar and beat, continuing thus till all the sugar is beaten in. Then beat in the sirup and flavoring. Sift over the batter a little of the flour-and-potato-

THIRD DAY

DINNER (WHEATLESS)

Bean and Corn Soup
Pine Nuts or Other Nuts Boiled Onions
Radishes Rye Bread
Nut French Potatoes
Honey Custard [1]

BREAKFAST

Nut Scrapple with Jelly [1]
Creamed Potatoes Rolled Oats Gems
Strawberry Sauce

SUPPER

Peanut Butter Sandwiches
Buttermilk
Fresh Strawberries Angel Cake [1]

FOURTH DAY (WHEATLESS)

BREAKFAST

Egg Timbales with Peas
Browned Potatoes Hoe Cake
Strawberries or Bananas

SUPPER

Shredded Lettuce with French Dressing
Hoe Cake (Toasted)
Nut and Raisin Marmalade Junket

DINNER

Baked Split Peas with Cream Sauce [1]
Mashed Potatoes Beet Greens
Barley Gems Tapioca Cream

flour mixture and fold it in with a "sensible egg whip." Sift on more flour and fold it in. Continue till all the flour is folded in, but do not fold any more than is necessary to combine the flour with the batter, because too many strokes will fold out of the batter the air that was so carefully beaten into it to make the cake light.

CHEESE BALLS

Have a piece of oiled paper fitted into the bottom of a cake pan, but do not oil the sides of the pan. Pour the batter into the pan and bake in a moderate oven till a broom straw stuck into the cake comes out clean.

When the cake is removed from the oven turn it upside down to cool in the tin, placing something under one edge of the tin to allow the air to circulate under it. This will keep the cake from falling. When cold cut around the sides of the cake and remove it from the tin.

BUCKWHEAT GEMS

1 cup milk.
1 egg.
½ teaspoon salt.
1¾ cups sifted buckwheat flour, or part wheat flour may be used.

In a mixing bowl beat together the egg, milk, and salt. Then beat in the flour, beating with a wire batter whip or perforated spoon. Beat till the batter is smooth. Bake in hot gem irons.

Pumpernickel, a German style of rye bread, is sold at some French and Jewish bakeries. It might be made at home, but would probably require some practice to make it successfully. It is made entirely of rye meal. It is a very wholesome bread in spite of its slightly sour taste, and the story that is told of the origin of the name. It is said that once when Napoleon was going through a small town he called for some bread. Some of this bread was brought him.

FIFTH DAY

DINNER

Spaghetti with Tomato Sauce
Cold Sliced Nut Cheese with Jelly [1]
Asparagus Tips Browned Potatoes
Baked Indian Pudding with Crushed Strawberries

BREAKFAST

Toasted Corn Flakes Cream or Milk
Nut Cheese Cutlets with Mint Sauce [1]
Potato Cakes Wafer Corn Bread
Fresh Strawberry Toast

SUPPER (WHEATLESS)

Rice with Milk Gravy Ripe Olives
Rhubarb and Raisin Sauce

SIXTH DAY

BREAKFAST (WHEATLESS)

Poached Egg on Asparagus
Scalloped Potatoes
Golden Grains with Bananas and Milk or Cream

SUPPER

Spinach Cream Broth with Rice [1]
Lettuce Sandwiches
Stewed Figs with Whipped Cream

DINNER

Baked Beans with Brown Bread
Steamed Potatoes in Jackets
Fresh Spinach with Lemon
Rhubarb Pie [1]

After tasting it he said, "That is not fit for Pumpernickel to eat." Pumpernickel was the name of his horse. Since then that kind of bread has been named after Napoleon's horse.

The rice mold for supper may be made after breakfast by packing the left-over rice into molds.

NUT SCRAPPLE

Make some stiff cornmeal mush from the following ingredients:

2 cups boiling water.
¾ cup cornmeal.
½ teaspoon salt.

After it has cooked one hour in a double boiler, stir into it one-half cup or more of chopped nuts. Pack in a bread tin that has been wet in cold water. When cold, slice and broil on a slightly oiled griddle. Serve with jelly.

HONEY CUSTARD

2 cups milk.
2 eggs.
½ cup strained honey.
½ teaspoon vanilla.
A few grains salt.

Heat the milk. Beat together the remaining ingredients, and stir the hot milk into them. Pour into custard cups and set into a pan of hot water, and place in the oven to bake till set.

ANGEL CAKE

In this cake, water is used in place of some of the egg whites usually used in angel cake, and cornstarch is used in place of some of the flour, and yet this cake is the equal of any angel cake.

1 cup of egg whites (about 9).
½ cup ice water.
A few grains salt.
1 cup granulated sugar.
1½ cups sifted powdered sugar.
2 cups lightly measured, sifted bread flour.
5 level tablespoons cornstarch.
Juice of ½ lemon.
2 teaspoons vanilla.

Beat the whites and water till stiff. Beat in the lemon juice and beat till so stiff that it seems dry. Beat in the granulated sugar, adding it a little at a time. Beat in the vanilla. Sift together the flour, starch, and powdered sugar, and carefully fold it into the stiffly beaten whites, sifting some of the mixture over and folding it in, then sifting on more and folding it in. Bake in an angel cake tin that has been wet with cold water. When the cake is done, turn it upside down to cool in the tin. The oven should be only moderately hot for baking angel cake. This makes a very large cake. Half this recipe makes a good-sized cake.

BAKED SPLIT PEAS

Wash well one pint of green split peas and soak them overnight. In the morning put them into a double boiler and cook until tender. They will get tender almost as quickly in a double boiler as if cooked directly over the stove, and there is no danger of scorching them. Then add to them 2½ teaspoons salt, ½ cup rich cream or ¼ cup vegetable oil. Put them into a baking pan in which they will be about two inches deep, having water enough to cover them. Bake slowly for one hour or more till they are thoroughly tender and dry and mealy.

SABBATH

DINNER

New Peas Potato Salad
Mixed Nuts Rolled Oats Raisin Rolls
Strawberry Shortcake

BREAKFAST

Toasted Wheat Biscuit Cream or Milk
Cottage Cheese
Bran Cakes Strawberries

SUPPER (WHEATLESS)

Hulled Corn and Milk
Coconut Macaroons Pear Sauce

Serve with cream sauce or French dressing. A small clove of garlic may be added to the peas before baking them if it is liked.

For the French dressing use —

1½ tablespoons oil.
1½ tablespoons lemon juice.
¼ teaspoon salt.

Beat till thoroughly blended.

NUT CHEESE

1 cup peanut butter.
2 cups water.
½ cup wheat flour or corn flour.
1½ teaspoons salt.

Stir the nut butter smooth with the water, adding the water a little at a time; stir in the salt and flour; put into a tin can that has a tightly fitting cover, and steam from three to five hours. Or it may be cooked by putting the filled can into a kettle which contains boiling water to one half the height of the can, covering the kettle and cooking the required length of time, adding boiling water as may be necessary.

When cold, this is ready for use. It may be eaten like cheese, or may be broiled, or baked in tomato, or cut into dice and stewed, or stewed with peas, adding a little chopped mint, or may be made into hash with potato, or used in salads, or in making sandwich filling.

The spinach cream broth is made by seasoning the broth in which spinach has been cooked, with salt and rich cream.

PIE CRUST

1 cup sifted pastry flour.
½ cup barley flour or white corn flour.
¼ cup oil.
⅛ cup cold water.
⅛ teaspoon salt.

Mix the flours and salt in a mixing bowl; turn the oil in all at once, and stir with a spoon till the oil and flour are about *half* mixed, not till a dough is formed. Then pour in the water, all at once, and stir till the dough is just stuck together. Take out on a well-floured board. Pat, not knead, into a ball. Sift flour over the ball and roll out.

One-third white corn flour can be used in the shortcake crust.

MOUTH HYGIENE

Tooth Decay Preventable

W. C. Dalbey, D. D. S.

CLEANLINESS, it can be safely said, is the one great essential to health. And above all, mouth cleanliness is the first prerequisite to the maintaining of a good set of teeth. Generally the cause of tooth trouble may be summed up in one word — neglect. Until compelled to do so, most people fail to take proper care of their teeth. One cannot begin too early the training of the child to take care of its teeth. Care in this matter is one of the very best methods in laying the foundation for the child's future welfare.

Beyond the shadow of a doubt, many of the contagious diseases common to childhood arise from a bad condition of the mouth prior to the disease.

Let it not be forgotten that it is not necessary that the first, or milk, teeth decay, as some think. When cared for as they should be, these baby teeth drop out as perfect (as to the crown, or exposed part, anyway) as when first cut,

when pushed out by the second, or permanent set. Too early loss of the milk teeth is certain to contribute to an irregular second set; and of course this spoils the contour of the mouth and face. If the milk teeth are attacked by decay, they should be filled and conserved until misplaced by the permanent teeth. The child should be examined two or three times a year during this transition.

Decay of the teeth, deposits of tartar, recession of the gums, pyorrhea, gingivitis, are not found in mouths that have been well cared for from infancy.

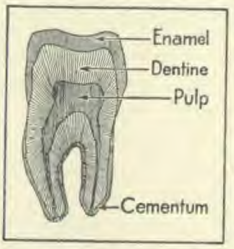
Caries, or tooth decay, is on the increase. The fast, nervous, neglectful way of living, of course, contributes largely to this latter-day condition.

Decay is caused by lactic acid (that acid which sours milk) attacking the mineral part of the tooth principally,— disintegrating its integral parts. This acid may be formed in several ways. Particles of food lodged between the teeth or in a fissure or fault, being infected by germs in the mouth, undergo fermentation, producing lactic acid. In this connection one should remember that certain irregularities of the stomach and mouth glands contribute to the slow erosion or dissolution of tooth structure.

Decay always begins from the outside and never from within, as some think. It may be taken as a general fact that if the enamel is kept intact and the mouth kept clean and healthy, decay

"The Pearls of the Mouth"

Like a pearl, a tooth is composed of several layers of substance, one layer within the other. If you were to cut a tooth in two, you would see that it is made of:



Cross Section of Molar Showing Enamel, Cementum, Dentine, and Pulp

1. Enamel, covering the crown of the tooth. Enamel is the hardest substance in the human body.

2. Cementum, covering the root.

3. Dentine, covering and protecting the pulp chamber, and forming the main body of the tooth. Dentine is not so hard as enamel.

4. The pulp chamber, which contains the dental pulp, composed of highly sensitive nerves and blood vessels embedded in a soft, pulplike tissue.

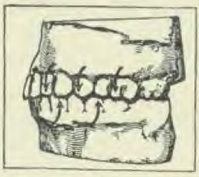
Hold of Brush for Inside of Upper Teeth

For brushing the inside surfaces of the upper teeth, hold the brush with the end of the thumb on the back of the handle and the bristles pointing upward. Brush the roof of the mouth and the inside gums and surfaces of the teeth with a light, fast, in-and-out stroke, reaching back on the gums as far as you can go.

A VERY GOOD BRUSH

will not occur. Thus these facts should lead us to appreciate the supreme importance of impressing upon the minds of parents and children the need of beginning early to take care of the teeth.

Hold of Brush for Left Side



Direction Brush Should Travel on Left Side and Front Teeth

Place the toothbrush inside the left cheek and on upper gums and nearly close the teeth together. Make the brush go backward and downward to lower gums, then slightly forward and upward until it has traveled a complete circle. This circular motion should be done rapidly and lightly, so that the gums will be stimulated and the teeth cleansed of food. Keep up this fast circular motion and brush all the teeth on the left side as well as all the front teeth. Now brush the right side with the same circular motion, or reversing the circle if found more convenient. Do not brush the teeth and gums crosswise.

Hold of Brush for Right Side

Direction Brush Should Travel on Right Side

For brushing the inside of surfaces of the lower teeth, hold the handle of the toothbrush in your fist, with the thumb lying across the back of the handle. Brush the gums and teeth with a light in-and-out stroke, using chiefly the tuft end or toe of the brush. Reach back in the mouth on the gums below the last tooth on both sides, and brush with a fast, light, in-and-out stroke. Tip the handle of the brush up in brushing the gums back of the lower front teeth.

Hold of Brush for Inside of Lower Teeth

SPECIAL CARE OF THE MOUTH DURING SICKNESS

While the teeth should receive care at all times, the mouth during sickness should have special care.

The mouth during normal function receives the secretions of a number of glands, which constitute the mouth fluid, or saliva. The saliva under normal conditions is slightly alkaline and plays an important part in the digestion of food, and also in the general preservation of the teeth. The saliva undergoes, however, many changes, according to the condition of the health. In some diseases the saliva becomes decidedly acid, and may contribute to a slow breaking down of the whole tooth structure. The solution of the teeth when the mouth is in this condition is called "erosion." This condition is nearly always accompanied by ulcerations and recession of the gums.

In sickness, when the usual cleaning of the teeth is so often neglected, this acid condition of the saliva becomes very injurious to the teeth; and when this situation is aggravated by food particles lodging around the teeth and upon the membrane of the oral cavity, fermenting in the salivary mucous medium, lactic acid is formed very rapidly, and becomes very destructive to the

NOTICE HOW FAR APART THE ROWS OF BRISTLES ARE

enamel of the tooth, breaking it down quickly. The breaking up of the teeth structure thus rapidly is often attributed to the medicines taken during this period. This is why the teeth during sickness should receive better care than at other times.

DANGER IN TARTAR DEPOSITS

During some stages of disease the tartar deposits are more rapid. It should never be allowed to remain long around the teeth. Tartar is a lime deposit and is a foreign body — an irritant. Tartar never preserves the teeth. This deposit varies in color and is sometimes the cause of offensive breath. It irritates the gums and causes their recession, and if left on long enough destroys the bony sockets of the teeth, finally allowing them to fall out. Tartar forming around the necks of the teeth just below the surface of the gums will cause the gums to become spongy, often causing them to bleed at the slightest touch. When in this condition the use of the toothbrush becomes painful. By all means go to your dentist and have your teeth scaled and gums treated. If not attended to in time, this condition of the mouth will bring on disordered conditions of the digestive tract and an interfering of the general health.

At this time mouth washes and dentifrices will do no good. The tartar must be removed mechanically, by instrumentation.

THE INORGANIC CONSTITUENTS OF FOOD

(Continued from page 172)

mineral nutrients. . . . This fits them admiringly to serve as supplements to the cereals and leguminous seeds. They are, on the dry basis, moderately rich in calcium."

The conclusion of the article is thus given:

"All things considered, then, the ration which is most likely to contain in abundance all of the mineral nutrients required by animals, is one characterized by diversity of origin, no one class of foods greatly exceeding the others. A diet of cereals or of meat or of eggs, or of any combination of these three, would not be well proportioned. Cereals and milk, or cereals and fruits, or cereals and vegetables, would make better proportioned dietaries.

"Grouping together the foods with acid ash, — cereals, meats, and eggs,— and opposing to them those of alkaline ash,— fruits, vegetables, milk, and legumes,— the latter group should be liberally represented in the dietary.

"Among single foods, milk and the legumes are perhaps more nearly complete foods on the mineral side than others, though there are many reasons why extreme simplicity of diet is not advantageous."

Liberal quotations have been made from this bulletin for the reason that it bears out in general the position for which LIFE AND HEALTH stands.

AS WE SEE IT

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

ARE WE A NATION OF DEGENERATES?

WHAT has the physical examination of our boys under the selected draft shown regarding their physical condition, as compared with that of the boys of a bygone generation? Is it true, as some have asserted, that the physical condition of the young men of this generation is inferior to that of their fathers or grandfathers?

We have an answer in the report of Provost Marshal General Crowder to the Secretary of War in which he states that of the 2,510,706 men who were

examined on the first call, there were 730,756 rejected, or 29.11 per cent. The records indicate that in the Civil War draft rejections amounted to 31.69 per cent.

Notwithstanding the fact that the medical examination is more rigid now than it was then, a larger proportion of the boys are now accepted as physically fit than in Civil War times. Considering the enormous advances made in preventive medicine, and in our knowledge of nutrition and our greater participation in physical culture, it would be strange if there were fewer fit young men.

Another revelation of the medical examinations which may be surprising to many, is that the city boy is not rejected in larger numbers than the country boy. The figures are actually a trifle in favor of the city boy, but it is practically a tie. The country boy may on the average be more muscular, but as a whole he does not have qualifications to stand the hardship and rough life on the battle field superior to the city boy.

MIX BRAINS WITH THE SEED

A VETERAN seedman who travels all over the country had this to say about "war gardens:"

> "I covered 8,000 miles last summer, traveling over the Eastern and Southern seaboard States and the States of the Middle West. As I am in the seed business, I made it my affair to notice the way the people set out their war gardens, and watched them.
>
> "There had been a great campaign for gardens to help along with food. All the gardens looked nice at first. The open lots had been spaded up and planted to tomatoes, cabbage, lettuce, radishes, and other things. When I passed that way again, the gardens did not look so nice. I should say that about half of them had gone to the bad. All through, I would say that not half a crop was taken off the seeds that my people had sold in the spring.
>
> "Now I'd say to the people who are thinking of planting war gardens this spring, go ahead and plant, but be careful of some things. The seed stock was never so low as it is just now, and we must make every seed work to bring out a crop.
>
> "The first thing I would be careful of is the co-operative garden idea. Mind you, I don't say not to garden by the co-operative plan, but be careful to see that you have a good leader. No crowd of people are going to garden all by themselves. They must have a leader who keeps them on the job.
>
> "Last summer the cry was 'More gardens.' I believe this summer the slogan is going to be 'Better gardens.'"

WHAT WHEAT CONTROL HAS SAVED THE NATION

IT is estimated by E. N. Fairchild, a Cleveland, Ohio, miller of long experience and sound judgment, that nearly $900,000,000 have been saved the American people on flour since last July by the United States Food Administration. Mr. Fairchild said recently in an interview, reported in the *American Grocer:*

> "It is an easy thing for a person to criticize an official of the Government, and criticizing seems to be one of the traits of Americans. It is not difficult for us to recall that a year ago, when America had not entered the war against Germany and there was no Food Administrator or regulation of the markets, flour was retailing at $20 a barrel. This year, with a smaller crop to work on and the country in the midst of the war, flour is averaging about $12 a barrel. It has been estimated that the annual consumption of flour in this country is one barrel per person in normal times. There are about 110,000,000 people in the United States, and the saving effected by the United States Food Administration has been about 20 per cent. Now, if it has managed to save the country $1 on each barrel consumed since it was founded, it is readily seen that it has saved the people $88,000,000. By the same method of figuring, if $10 has been saved on each barrel, the Food Administration has saved us $880,000,000 since July. I am not content to believe, however, that it has saved us a dollar less than $20 a barrel, or $1,760,000,000."

TO PREVENT HOT-WEATHER LOSS OF FLOUR AND CEREALS

To prevent the losses from spoilage in certain flours and meals during hot weather, the United States Food Administration has issued instructions regarding their storage. In view of the importance of breadstuffs to ourselves and the Allies at this time, it is essential to reduce to a minimum such losses as may occur through careless handling and storage.

"Flours and meals should be stored in cool, dry, well-ventilated places; warehouses should be whitewashed and swept clean before these products are placed in them; large supplies should not be accumulated. If too large a stock is on hand, it should be reduced, and the flours and meals consumed as soon as possible.

"Care should be taken in storing bags of flours and meals to have sufficient space between the tiers to allow abundant ventilation, and to raise the bags sufficiently from the floor to exclude rats, mice, and insects; also to permit cleaning of the floors without the necessity of transferring the products from one part of the warehouse to another.

"Special care should be taken of the following products: Bran, shorts and middlings, corn products containing the outer coating and germ, such as so-called water-ground cornmeal and grits, etc., oats and oatmeals, Graham and whole-wheat flours, rye flour, barley flour, peanut meal, soy-bean meal. These products should be kept moving or be used as soon as practicable, and should not be allowed to accumulate in warehouses.

"Care should also be taken of potatoes, as they will begin to sprout in warm weather. If they do sprout, the tender shoots should be rubbed off and the clean potatoes transferred to new containers, all rotting potatoes to be removed at the same time."

These directions, while intended especially for those who have in storage large quantities of these foods, are applicable for the smaller stocks of the individual householder. Every ounce of food conserved is that much help toward the consummation of the right. Let us not permit rats or dampness or mice or insects to help the cause of autocracy.

IS THE BANANA A WHOLESOME FOOD?

SOME say that it is, others believe that it is difficult to digest, especially for children. Pease and Rose, in the Laboratory of Chemistry of the New York Post Graduate Medical School, have carried on a series of investigations, the results of which appeared in the *American Journal of the Diseases of Children*. November, 1917. The following is an extract from their article, which appeared in the *Scientific American Supplement*, Jan. 26, 1918:

"The banana is a useful fruit that can with profit enter liberally into the child's dietary, provided it is fully ripe or well cooked. If eaten baked in the yellow stage of ripeness, or if eaten when fully ripe, the banana makes a delightful and highly nutritious article of food. Its composition does not warrant the use of the banana as the main component part of the child's dietary, but it can compete well with other fruits, and is decidedly to be preferred to candies. The nutritional value is relatively high, approximately one calorie per gram of pulp; and its carbohydrates, when it is fully ripe and cooked, are not less assimilable than those of cereals and potatoes. In the raw food the digestibility is directly proportional to the ripeness of the fruit.

"There is no positive evidence that the banana influences bowel movements. In the many tests there was no suggestion whatever of any deleterious effect from consuming large amounts of fully ripe bananas. Prolonged use of the unripe fruit, on the other hand, developed undesirable symptoms.

"Ripeness can be readily determined by the color and texture of the peel. In ripening, the peel changes in color from its original deep green to a dark brown. In this change the color of the banana passes through several yellow stages which are generally taken to be signs of ripeness; but a yellow banana is not necessarily a ripe banana, and if consumed raw while it still has a green cast to the yellow color, as is frequently done by children on the streets, the availability of its carbohydrates is comparatively low, and the effect on the children's digestive system is injurious. The banana ought not to be eaten raw until after the brown specks begin to appear. It is at this stage a golden yellow, and in its most attractive appearance. A completely browned skin is not in itself a sign of overripeness, and such fruit should be judged by the texture of the pulp.

"The brown color of the peel, however, should not be confused with the darkening due to bruises. The injured banana is soon invaded by molds and yeast cells, both through the abrasions and the broken end, so that the banana "finger" should not be broken from the "hand," or stem, but cut off in such a manner as to leave a good margin between the cut surface and the pulp. The banana properly handled and allowed to ripen to its most beautiful color and texture, is a wholesome food, uncontaminated by dirt and pathological germs, even if purchased from the pushcart in our congested streets."

PARENTS SHOULD CAREFULLY GUARD THE TEETH OF THEIR CHILDREN

THE following words from a paper by Wm. R. Woodbury, M. D., of Rochester, N. Y., read before the Tenth Congress of the American School Hygiene Association, Albany, N. Y., June 7, 1917, are worthy of the careful thought of every mother:

"In the interest of the child there is urgent need that mothers should know all about the teeth, and what a clean, whole mouth means. She should know when to look for the coming of every tooth; how to take painstaking care of these necessary organs of nutrition; and particularly, how to prevent decay so that not a single tooth shall be lost before its full work is done. The importance of this, the first cause of malnutrition, and the big fact that it continues to work as an increasing damage as more and more of the teeth begin to rot and become worse than useless, these facts need to be strongly emphasized."

Mothers should study faithfully the articles written for this journal by Dr. Dalbey on the mouth and teeth, and *heed* what they *read*.

A bad and neglected mouth is an almost immeasurable catastrophe to a child, the possible precursor of indigestion, autointoxication, rheumatism, appendicitis, valvular heart disease, and what not.

Parents, if you take the responsibility of bringing children into the world, you should make it a part of your responsibility to see that the little ones are not handicapped for life on account of neglected mouth conditions.

HOW DRY LAW WORKS IN THE DISTRICT OF COLUMBIA

THE city of Washington has been dry since the first of November. The police records of the three months November, December, and January, with the city "dry," when compared with the record of the corresponding period a year ago with the city "wet," bear a mute but powerful testimony to the value of prohibition as an enforcer of law and order. We give below a few of the comparative records for the wet and dry periods, with the percentage relationship between the two:

Cause of Arrests	Wet Period	Dry Period	Per Cent
Drunkenness	2,406	742	31
Disorderly conduct	829	337	40
Assault	423	205	49
Housebreaking	156	71	46
Cruelty to animals	148	77	52
Carrying weapons	47	39	82
Total arrests (not including drunkenness)	1,603	719	45
Total arrests (including drunkenness)	4,009	1,461	36½

Owing to the fact that more or less liquor has been coming into the city from Baltimore, the city is not "bone dry;" but even with some drinking still going on, the improvement in the police records has been gratifying.

For many years physicians have been teaching that it is better to prevent disease than to cure it, and gradually preventive medicine is superseding curative medicine.

Now the Government is learning that the best method of lessening crime is to prevent it, and there is no surer preventive of crime than the elimination of alcohol, the great crime instigator.

And this is only part of the story. There has been eliminated not only a large proportion of crime, but a large amount of sickness, misery, and destitution, though in this instance the statistics cannot be shown, on account of the vastly different conditions as regards food and fuel from what they were a year ago.

A FEW SUGGESTIONS FOR THE AGING

THOUGH we all know that the advent of old age (unless forestalled by premature death) is normal and inevitable, yet we look forward to this period of life with dread, and as far as possible banish all thoughts of it from our mind. We do not desire to be like some of the aged persons we know. And yet, if planned for, if lived for, why should not old age be the most serene, the most experienced, the most honored period of life. Why should not the elderly person, in place of being consigned to the "top shelf," be (as is sometimes the case) still valued for his counsel, his sympathy, his loving ministrations?

Probably the reason why so many elderly people deteriorate rapidly, is that earlier in life they have formed habits which make for deterioration. Perhaps it is too late to undo altogether the effects of such habits, including among others a tendency to go from one thing to another without finishing anything. This habit in itself, if incurable, would prevent success in the correction of other habits. But even in cases where such destructive habits of work have not been formed, there comes a time when the machinery begins to run more slowly. The part of wisdom is to be content with the slower running, and above all not to whip up flagging powers by the use of stimulants, for this only hastens the aging process. One loses more than he gains by the use of such stimulants, even tea and coffee. As Dr. J. Madison Taylor, in the *Scientific Monthly*, November, 1917, says:

> "The phenomena of overful maturity and early aging deserve to be known, philosophically accepted, and seriously assessed. From early maturity to late old age the characteristic retrograde changes are those of wearing out of structures. This wearing out takes place throughout the whole range of actively changing parts, in those who are constantly at work, and is especially seen in those who work incessantly to keep the body going. The constant wear and tear is shown most in the heart, the blood vessels, kidneys; and back of these come the great regulators of life, the ductless glands. One half the causes of premature death are shown to be capable of being prevented as are the infections which now happily are coming under better control. So you see in the final count *behavior is paramount; blameworthiness is the reason for most decadence*. [Italics supplied.]
>
> "Hence it is of the utmost interest for each of us to learn how we can become aware of the earliest origins, of backward stepping, the parting of the ways. Unfortunately, most phenomena of degenerative diseases are so insidious, give so little warning, that the only wise course is to expect their occurrence, to be vigilantly on our guard against them, and live so sanely as to avoid the worst of them.
>
> "In order that any one shall protect himself he must learn his own peculiarities, his specific needs, and remodel his life when necessary in accord with the findings. Here instinct helps us much. We are fundamentally aware of what it is right to do and what is necessary to avoid doing."

Dr. Taylor's enumeration of the signs of on-coming age, and his suggestions for retarding the aging process are well worth perusal. Among the signs of aging mentioned by Dr. Taylor are, changes in the heart beat, which

may become perceptible, "thumpy" on slight exertion; more exacting appetite, demanding indulgence in special dishes; rheumatic pains; urinary disturbances; carelessness of the toilet and person; lessening of heat-making power with tendency to chilliness and increased dependence on artificial heat, or else insensitiveness to cold, leading to undue exposure; changes in posture; "habit attitudes;" loss of teeth; failure of organs of special sense as vision, hearing, smell, taste; increased intestinal decomposition.

SOME BOOKS

Household Management

by Florence Nesbitt. 170 pages. Cloth, 75 cents net. Russell Sage Foundation, New York.

To meet successfully the present food crisis, will require the co-operation of even the humblest of American households. The aim of the United States Food Administration is not to restrict any American home to a diet lacking in nutrition, though many homes in Europe are on just such a diet, but to substitute for foods needed for transportation to Europe, other foods of equal nutritive value. Even in normal times, many of the poorer families (and some not so poor), who might have sufficient if wisely spent, to purchase an adequate ration for the household, often through ignorance squander money on foods that are not essential and even harmful, and fail to provide a nutritious or balanced diet.

There is ample opportunity for social service workers to help such families, not only to co-operate in food conservation, but to establish at the same time a more adequate dietary standard for themselves.

Florence Nesbitt, who is herself a trained household economist, tells in her sympathetic way how social workers and neighborhood visitors can with tact help families to help themselves and their country. She writes from an intimate knowledge of the drawbacks and inconveniences incidental to housekeeping in cramped quarters and with limited means. The book should be of great value either to the housekeeper who needs the instruction, or to the neighborhood worker who desires to know how best to impart instruction.

The author makes a very commendable effort to reduce the quantity of coffee, tea, and meat eaten in these poorly nourished families. The one criticism is that she upholds the generally received opinion that some meat is necessary to a complete dietary. Especially for the poor, to whom the outlay for meat must always be a burden, it should be made plain that meat contains no form of nutriment that is not fully supplied in other foods. In milk the flesh-building substance is considerably cheaper than in meat.

In general, the book can be commended as fully abreast with the most recent findings regarding nutrition.

The Psychology of Marriage

by Walter M. Gallican, author of "The Great Unmarried," etc. Cloth, 12mo net, $1.50. F. A. Stokes Company, New York.

One rather dreads the perusal of a sex book, for the reason that so many of them are based on preconceptions utterly out of harmony with the findings of modern science. This book avoids the extremes which have spoiled too many of the books written for the laity on this subject, and adheres quite closely to the concensus of opinion expressed by the most careful modern students of the subject.

The author is an earnest advocate of adequate sex education, discretely given, as a preventive of some of the tragedies of married life, many of which are attributable, not to innate "cussedness" on the part of one or both, but largely, if not entirely, to ignorance of the very principles which this book imparts. There is no relation in life so potent for weal or woe as the marriage relation, and yet there is no relation into which men and women enter with so little previous preparation and enlightenment as this.

Beginning with infancy, the author traces the development of the sexual impulse through childhood, adolescence, and maturity, and shows how, by proper knowledge of its working and respect for its true significance, this life force may be guided into sane and healthful channels.

Parents will find the book decidedly helpful in enabling them to meet the many baffling problems that arise in dealing with children; and for married people it supplies the explanation of the varying mental attitudes of the two sexes which will lead them to a better understanding, and a firmer foundation of happiness.

QUESTIONS AND ANSWERS

Conducted by J. W. Hopkins, M. D., Washington (D. C.) Sanitarium

This is a service for subscribers to LIFE AND HEALTH.
If a personal reply is desired, inclose a three-cent stamp.
If you are not already a subscriber, send also the subscription price with your question.
Replies not considered of general interest are not published; so if your query is not accompanied by return postage for a personal answer, it may receive no attention whatever.
Remember that it is not the purpose of this service to attempt to treat serious diseases by mail. Those who are sick need the personal examination and attention of a physician.
State your questions as briefly as possible, consistent with clearness, and on a sheet separate from all business matters. Otherwise they may be overlooked.

For prompt attention, questions should be addressed to J. W. Hopkins, M. D., Takoma Park, D. C.

Mucous Colitis

"Give the treatment for mucous colitis."

The treatment for mucous colitis consists in removing the cause, which is generally constipation and hypersensitiveness of the nervous system. Constipation may be treated by laxative diet and the use of mineral oil at bedtime, with cascara in the morning. High bowel irrigations of saline solution — one teaspoonful of salt to a pint of water — are very beneficial, but must be kept up for several weeks. Fomentations to the abdomen will help this, as will also hot and cold to the spine. It is possible that you are using the salt injections too strong, and this will make the mucus worse. One teaspoonful of salt to one pint of water is sufficient. The injection should not be too cold, a temperature of 100° being about right.

Itching

"What is the cause and treatment of intense itching of the anus and the genitals?"

This trouble has various causes, and necessitates a careful physical examination. Pelvic or abdominal tumors may produce it, and it may be due to pinworms, fissures, or hemorrhoids produced by congestion of the liver; or it may be caused by intestinal catarrh. It is also found in rheumatism, gout, chronic nephritis, and old age. A common condition causing this trouble is diabetes. The urine should be collected for twenty-four hours, and a careful examination made for sugar.

Treatment consists in keeping the parts clean by use of a mild soap with soft water. Douches or pours of one-per-cent carbolic acid, one teaspoonful to the pint of water, give great relief.

Hot sitz baths may be used two or three times a day. Hot soda baths give great relief. If pinworms are present, they should be dislodged and treatment given to prevent their recurring. Fissures, hemorrhoids, and tumors require surgical intervention.

Constipation should be treated by a laxative diet, and by appropriate exercises and cathartics. A medicine which will produce nonirritating evacuation is preferable. Aloes is not satisfactory. It is often well to give a tablespoonful or two of mineral oil at night, and a mild saline in the morning, graduating the doses as needed. Cascara may be used at night, and the mineral oil or saline laxative as Epsom salts, given the next morning an hour before breakfast. In using local medication, cocaine must be avoided. An ointment consisting of two drams of zinc oxide, four drops of carbolic acid, ten grains of salicylic acid, and two ounces of vaseline, gives excellent results.

Eye Troubles

"Do you advise patients to wear glasses, or do you treat the eyes by electricity, exercise, and lotions?"

You should consult an oculist and have an examination. Error of refraction or accommodation should be corrected by the proper glasses. It is well to remember that eye troubles are very often caused by constipation and intestinal indigestion, or by diseased tonsils, teeth, or ears, and that the removal of these causes will, to a great extent, clear the eye condition.

As far as exercise for the eyes is concerned, a change of employment is very valuable. Those whose occupation is sedentary should engage in tennis, golf, or croquet, or take up some work as carpentry, gardening, etc., for stated periods during the day. It is often well to lie down and rest the eyes, and relax the whole body for a certain time every day. Daily bathing with hot water and washing with boracic acid, ten grains to the ounce of water, will also be beneficial. A good lotion for the eyes consists of ten grains of boric-acid crystals and one teaspoonful of camphor water to the ounce of boiled water — two or three drops being put in each eye two or three times a day.

How Many Eggs?

"Can one eat more than one egg a day without getting too much albumen?"

Your question concerning eggs and the number which should be eaten in a day, leads us to consider which is the best source of protein foods. A medium-sized egg has a food value of about seventy calories. Of this, about two fifths is protein, and the other three fifths fat. Each egg will give a protein food value of about thirty calories.

The total food needed daily for the average individual is from 2,300 to 3,000 calories, of which an average of ten per cent, or 200 to 300 calories, should be protein. On this basis of calculation, a person should eat seven to ten eggs a day, if he took all his protein supply from eggs. However, the other foods, as

wheat, corn, potatoes, etc., contain more or less protein, so that it is not necessary to eat so freely of eggs. The percentage of protein in different foods appears in the May issue of LIFE AND HEALTH.

Protein derived from vegetables, grains, and nuts is better for the human being than is animal protein. Animal foods have a tendency to animalize the human being and make him of a gross nature. Animal proteins are much more liable to putrefaction than are vegetable proteins, and they are especially prone to contain the germs which set up these putrefactive processes. It is therefore better to depend upon the vegetable kingdom as a source of foodstuffs of all classes, and to use sparingly of eggs and milk. Flesh foods should be eliminated from the diet. In the case of some individuals it is necessary to eat several eggs a day, but the average healthy person can get along with one or two. This is also true in regard to the use of eggs in cooking. It is better to use them soft boiled, poached, or scrambled than to use them in complex puddings and pastry.

White Bread

"I am very nervous and use much white bread. Is this right?"

You should endeavor to use more Graham bread and less white bread. The whole-wheat and whole-grain preparations are much better, as the branny layer contains so much of the vitamines and mineral salts, which are necessary to the normal activity of the body. You must also have plenty of raw food, as apples, oranges, grapefruit, celery, spinach, lettuce, etc.

Nasal Catarrh

"What is the treatment for nasal catarrh, and general weakness?"

The treatment for nasal catarrh includes weak saline douches followed by oily sprays. These have been described in recent numbers of LIFE AND HEALTH. The general health should be improved by regular hours for sleep and meals, and sufficient outdoor air and exercise. Use plenty of milk, eggs, fruit, and green vegetables, and keep the bowels very regular.

Acid Stomach; Burning After Eating

"I suffer from stomach trouble, excessive acid, belching and burning a couple of hours after eating. Tongue deeply hacked in center, and sore. Fifty-three years old, and unmarried. Had complete removal of uterus and ovaries, which has aggravated the prolapse of the stomach and bowels. I am advised to wear a belt. What one would you recommend?"

I think that you will get a very good belt or supporter from the Pomeroy Company, 16 East Forty-second St., New York City. You should understand that the relief which you obtain from a belt or supporter depends upon the care with which it is adjusted and fitted, as well as upon the kind you get. Send to the above firm for a catalogue.

The preparation which your doctor has given you is very good for hyperacidity. (See questions on hyperacidity and bloating.) My judgment would be to use the olive oil at the beginning of the meal and to take the powder in a little water one or two hours after, if you find it best. If you wear the belt and take sufficient rest, your kidney will probably come up to its place, as well as your stomach and bowels. You will remedy this condition by increasing the amount of fat around those organs and by building up your general health.

Leucorrhea; Strong Odor; Nasal Catarrh

"Please give the treatment for leucorrhea, and a strong odor of the skin, and catarrh of the nose and throat."

Keep close watch of your bowels, securing regular action twice daily by the use of laxative foods and an occasional enema, and the use of cascara, mineral oil, or mild saline laxatives. You will find these measures discussed in the Question Box of previous numbers of LIFE AND HEALTH.

You should drink much water, at least eight or ten glasses daily, preferably between meals, on rising in the morning, and on retiring at night. A daily warm bath is advisable. If this can be taken in a tub, it is much preferable. Otherwise you should take a soap wash every day. Have your teeth looked after by a dentist, and clean them thoroughly twice a day. Eat no flesh foods of any kind. Use vegetables, grains, fruits, and nuts.

You should have an alkaline wash for your nose and throat. Take equal parts of baking soda, common salt, and boracic acid crystals, and put a level teaspoonful of this mixture in a pint of warm water. Use this to gargle the throat and rinse the nose, or apply with an atomizer. Get an atomizer with two bottles, so that you can have an oily application following the alkaline wash. You should also use a vaginal douche containing one teaspoonful of carbolic acid or lysol to two quarts of water, at a temperature of about 110°. This must be stirred up thoroughly before being used, as the acid may settle to the bottom, and cause some burning. Your bottle of acid should be marked "Poison," and kept away from the children. A metal douche can should be used.

Peas and Beans

"Why do peas and beans hurt me?"

Peas and beans will not hurt you if you put them through the colander first. You can use any vegetables if you reject the coarse, woody parts, and do not eat them with fruits. It is much better to take only a few articles of food at one meal, making your variety by eating different foods at the following meals.

Chronic Malaria

"I have chronic malaria. What shall I do?"

You should go to a well-equipped hospital or sanitarium for a thorough physical examination. You may have chronic malaria, or your trouble may be due to tuberculosis or some other infection. You may have chronic heart trouble. This should be determined by a complete examination, including the use of the X-ray, and the treatment should be regulated accordingly.

NEWS NOTES

Restrictions in France

Severe restrictions have been placed upon the public eating houses in France. Cream, curdled or sour milk, and cream cheese are prohibited as is sugar. Those who believe food is plentiful in France, should read the list of restrictions.

Cottage Cheese

Skim milk makes excellent cottage cheese, and cottage cheese is an excellent food. In protein value 1 pound of cottage cheese equals 1¼ pounds of sirloin steak. On the basis of energy 1 pound of cottage cheese equals 8⅓ ounces of sirloin steak, and, of course, is far cheaper. Try it.

Heroine (Heroin) under Ban

Some time ago the U. S. Public Health Service ceased to use heroine, and has recalled stocks of the drug held by medical officers in the service. When this opium alkaloid was first introduced, it was supposed to be superior to morphine in that it was not a habit-forming drug, and that it had little if any injurious effect when used in small medicinal doses. For this reason it became a very popular sedative ingredient in cough remedies. Later it was observed that heroine habitués were becoming numerous, and now there is a serious question whether the drug should be used.

Patriotic Production

A corporation known as the Liberty Wheat Growers has been effected in Cheyenne, Wyo., with purpose to plant 5,480 acres of unentered government land which has been leased and will be watered from the Fort Laramie North Platte Irrigation Project. It is specially stated in the articles of incorporation that the movement is financed to add to the world's wheat supply, that America's obligations to the Allies and her soldiers abroad may be better fufilled. Profit is not expected. The crop will spread over an area of more than 8 square miles. This is a fine example of patriotic effort in food production.

Bread Without Flour

According to the *Journal of the Royal Society of Arts*, the municipal bakery, Bergamo, Italy, makes bread entirely from the wheat kernel. The wheat is first thoroughly cleaned, then soaked in hot water for twenty-four hours, more or less, according to the hardness. During this process it begins to germinate, turning into a pasty mass, which is kneaded in dough. After the addition of yeast the whole is worked into the proper consistency, allowed to rise, formed into loaves, and baked in the ordinary manner. Bread made in this way is said to be as palatable as ordinary bread, and far more nourishing. It is claimed that bread made in this way eliminates 25 per cent of the cost, and at the same time a larger yield from the grain is obtained.

Food Embargo

In order to save shipping for more urgent freight, an embargo has been placed on the importation of the "American" peanut from Asia, and of currants from Greece. These commodities will, therefore, doubtless be scarcer and higher.

Canada Bone-dry April 1

A Federal Order-in-Council decreed Canada bone-dry beginning April 1. Heretofore though most of Canada was nominally dry, there was nothing to prohibit an extensive mail-order business in liquors, and whoever desired wet goods could order them by post, as well as dry goods. Now all this is changed, and any man in the entire Dominion of Canada who makes or imports a drop of liquor, does so at his peril.

The Situation in Italy

So great is the scarcity of wheat in Italy that in some parts of the country the manufacture of spaghetti and macaroni has been prohibited. In Milan all bakers and bread sellers have been forbidden to make, sell, or keep alimentary pastes. As bread is commonly called the "staff of life" in other lands, spaghetti has been the "staff of life" in Italy. The Italian would rather relinquish almost any food than give up his dearly loved spaghetti.

Two Valuable Bulletins

The United States Department of Agriculture has recently issued some bulletins which will be of especial value to the home gardeners. They are, Farmers' Bulletin No. 934, "Home Gardening in the South," and Farmers' Bulletin No. 937, "The Farm Garden in the North." In these are given maps showing the country divided off into zones according to the time of late spring and early autumn frosts, and dates are given for planting each vegetable in each of the zones. This is only one of a number of valuable features. Other recent bulletins are Farmers' Bulletin No. 887, "Raspberry Culture," No. 889, "Back Yard Poultry Keeping," and No. 901, "Everbearing Strawberries." Order by number such as you can use to advantage, addressing U. S. Department of Agriculture, Washington, D. C.

War Bread in the Scriptures

"War bread" is far from being a new measure to conserve food resources. More than 2,400 years ago the children of Israel, when they defended Jerusalem against siege, were instructed by Ezekiel to utilize every possible means for supplementing their wheat supplies. Ezekiel's recipe follows: "Take thou also unto thee wheat, and barley, and beans, and lentils, and millet, and fitches, and put them in one vessel, and make thee bread thereof." Whatever Ezekiel may have meant by his instruction to the children of Israel, he furnished a recipe for war bread which is pretty certainly the oldest extant in the world.

A Good Example

Last year every business man in Uhrichsville, Ohio, adopted the plan of closing his shop at noon every Wednesday, and devoting the remainder of that day to working in a garden, either his own or a community garden, or upon a neighboring farm.

New York State Marriage Law

According to the new law, in New York State no marriage license can be issued until both parties swear to the following statement: "I have not to my knowledge been infected with any venereal disease, or if I have been so infected within five years I have had a laboratory test made within that period which shows that I am now free from infection from any such disease."

Railway Co-operation

The United States Food Administration, through the Association of Dining-car Superintendents, is making an effort to induce railways to permit their employees to utilize rights of way for the growing of vegetables. It is the hope that every railroad in the country will run this summer through gardens of potatoes, cabbage, peas, beans, etc., and that these will furnish a substantial contribution to the food supply of the nation. One railway last year — the Buffalo, Rochester & Pittsburgh — tried out this plan with most gratifying results, a crop valued at $15,430 being raised by the employees.

May be Ice Shortage

There may be a shortage of ammonia this summer, and conservation in the use of ice will be one of the new features in the conservation program.

War Rations for Wealthy

More than 300 of the wealthiest women of New York have placed themselves on voluntary rations, following a program which they asked the Food Administration to draw up for them. The families in our churches should not be behind in this matter.

Boast Not

In Howell, Mich., a man boasted that he had 300 pounds of sugar, and would "like to see some one get it." The county food administrator promptly obliged him, took all the sugar but 25 pounds, turning 100 pounds over to the county infirmary, which had been without sugar for several weeks. That is the way to deal with hoarders.

Evidence of Conservation

Not only are garbage collections smaller since the appeal by the Food Administration for elimination of waste, but there is a decrease of 50 per cent in the amount of grease in the garbage collected, as shown by the reports of twelve cities having an aggregate population of more than five millions, the comparison being between February, 1918, and February, 1917.

Join the Bakers

The leading bakers of the country are going to do their best to stretch the flour supply sufficiently to meet the needs in Europe. Are all the householders joining them in the effort?

Egg Shampoo Abolished

Texas barbers are co-operating with the Food Administration by abolishing egg shampoos for the period of the war, as a conservation measure, thus saving many thousands of eggs for human food. Another food widely used for shampoo purposes in normal times is olive oil.

Acorn Flour Cake

In California, where acorns are bringing $1 a sack for hog food, a woman investigator is said to have developed a process by which the coloring matter and bitter principle of the acorn is removed, and Mrs. Taylor, the originator of the process, pronounces it when properly ground and prepared, to be superior to wheat flour for making cake, being richer and softer.

Tobacco Famine in Germany

Among the many products which Germany has not been able to import freely is tobacco. Inasmuch as the policy is to see that the army and navy are fully supplied with this solace, the quantity for the civilian population is extremely small, a situation "which is admittedly serious," according to one German paper. Well, if they still have their beer, they can probably get along on near-food and imitation tobacco.

Seminary Foregoes Wheat

The students of Drew Theological Seminary have consented to abstain from the use of wheat during the period of wheat shortage, that is, until the next harvest comes in.

Corn Output Increases

The output of cornmeal increased from 3,000,000 barrels for October, 1917, to nearly 6,000,000 barrels for March, and the capacity of the mills, running on full time will exceed 9,000,000 barrels a month. As the normal consumption of wheat flour was 8,000,000 barrels a month, the increase in the corn products should amply make up for the wheat needed to send over the water, so that Americans now should be able to secure sufficient wheat substitutes to observe total abstinence from wheat until the next crop.

Reputed Superiority of Meat

An editorial article on "Sugar and Working Power" *(Journal A. M. A.*, March 23, 1918, p. 851) calls attention to the work of Anderson and Lusk, who have furnished additional evidence of the superior value of carbohydrate in muscular activity, concluding with the following significant words: "The economy of carbohydrates for the accomplishment of work deserves to be emphasized at a time when food fuel is in great demand and the superior value of meat is still lauded. Whatever significance meat may have as a highly palatable form of protein food, must not be confused with the discarded claims of its superiority as a source of energy for our working machine."

"——*that thou mayest prosper and be in health, even as thy soul prospereth.*"
JOHN 3:1-2.

"HALF-HEALTH"

—does it satisfy you?

DO you know that only one in twenty enjoys "whole-health"? The rest live on, day after day, in a state of "half-health"—not sick enough to go to bed—nor well enough to engage with zest and energy in the busy activities of the day.

How about yourself? How do *you* stand in your "physical inventory"? How do you size up to the measure of a man? Are you making your physical endowment yield its penny-most return? Or—are you content to drift along—idly, aimlessly—hoping that by some miracle you will suddenly blossom forth into the healthy, virile person you ought to be?

Why not stop now—let things "slide" if need be—come to one of these homey, health-winning retreats—find out where you stand physically—and learn how to live daily for greater health and efficiency.

Each of these institutions has its special features to offer patients and guests. Here everything is scientifically planned for rest and health-building. Here each day is made to count.

You live each day with health-betterment in view. You receive the benefits of a simple diet (properly proportioned), exercise, sunshine, fresh air, rest for body and mind—together with natural, rational curative treatment adapted to your particular condition. Is this worth while?

A simple request for literature today will start you on the high-road to greater health and greater achievement. Write now—right now!

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

The Glendale Sanitarium
206 Broadway, Glendale, Cal.

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

St. Helena Sanitarium

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

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

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

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

Health is Contagious at St. Helena

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

The St. Helena Sanitarium

Sanitarium, Napa County - - - California