Life & Health

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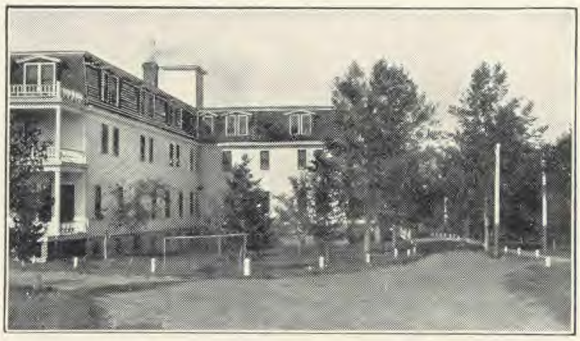

ENTHUSIASM

ENTHUSIASM is essential to the successful prosecution of any enterprise. Without it we can hardly hope to win. It is like the flywheel of an engine; the momentum enables us to get by the hard places without materially slackening our pace. Men especially need it in these days when the world is running at such high tension and facing such stupendous problems. Our national leaders need it to keep the ship of state moving swiftly and surely toward her port. Our soldiers need it if we are ever going to win the war. We, as individuals, need it for the successful prosecution of any business or profession in which we may be engaged. Drones have no place today. Mediocre efforts will not suffice; only unbounded enthusiasm will meet the need of the hour. Do you possess it? or are you falling behind with your work, driving yourself to your tasks, dreading the return of each succeeding day, as you vainly strive to catch up and become master of the situation? If so, it is doubtless due to the lack of buoyancy which is the accompaniment of good health. What you need is something to restore the old-time "pep" and enthusiasm that made you successful in the past.

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Chamberlain, S. Dak.

Life & Health

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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.

A clean mouth will insure your child's health; at least a child whose teeth are well cared for is less likely to catch those diseases so common to childhood, such as measles, mumps, diphtheria, and scarlet fever.

—Dalbey.

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 | February, 1918 | No. 2

Child Health Insurance

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

WHILE most children are taught to wash their faces and hands, few are taught to brush their teeth regularly; yet a clean mouth is by far the most important for the health of the child. A clean mouth will insure your child's health; at least a child whose teeth are well cared for is less likely to catch those diseases so common to childhood, such as measles, mumps, diphtheria, and scarlet fever. Dentists who work in institutions and orphanages have obtained results that are truly astonishing along the lines of preventive medicine.

It is literally true that good health is impossible without good teeth, yet few children have perfect teeth. The writer recently examined the mouths of two hundred thirty-six school children, and out of that number only four had what you might call perfect teeth. The school superintendent freely admitted that many of those with imperfect teeth were behind in their class work.

Competent medical authorities admit without hesitation that a majority of diseases from which mankind suffers can be traced either directly or indirectly to mouth infection from decayed teeth and diseased gums. The mouth is a natural incubator for the breeding of germs, including pathogenic, or disease-producing germs.

Then, good teeth and other good mouth conditions are the foundation of good health. Without good teeth it is impossible to masticate the food properly, and without proper mastication the food cannot be well digested. Indigestion, constipation, and many other disorders of the digestive tract are often caused by badly decayed teeth. These troubles frequently disappear almost immediately when the mouth has been put in good order by the dentist.

SEVEN RULES FOR DENTAL HYGIENE

1. Omit to wash your face rather than neglect to cleanse your mouth and teeth.

Above all, cleanse them before retiring at night.

2. Mechanical cleansing by the aid of brush and water or good dental paste is the foundation of all artificial care of the teeth.

3. Tartar and other deposits and stains should be removed from time to time when necessary.

4. Diseased teeth and roots that cannot be made useful should by all means be removed. They harbor disease-producing germs.

5. Premature loss of the temporary, or milk, teeth in a child is almost certain to produce an irregular permanent set. Instruct your child early to take care of his temporary teeth, and no instruction will be necessary for the permanent set.

6. Decay of the teeth is due to the local action of lactic acid, produced either by mouth germs or by disordered digestive organs, or both at one time. Do not neglect the smallest decay.

7. The teeth should be examined at regular intervals, say every six months, in order that starting-points of decay may be detected and removed before they have spread far. Missing teeth should be supplied under all circumstances. Thirty-two teeth is man's allotment. The Creator in his wisdom knew the requirements of the human body.

TEETH DIETETICS

Like other organs of the body, the teeth need exercise. Hard crusts, stale whole-wheat bread, or other coarse and fibrous foods requiring thorough mastication before they can be swallowed, are especially good for children; and what is good for the child, in this respect anyway, is good for the adult. Foods of this character keep the teeth well exercised, and cause a good supply of blood to flow to the teeth and gums, and also develop the muscles and expand the jaws of the child so that plenty of room is provided for the permanent teeth.

GOOD RULES FOR REGULATING THE CHILD'S FOOD

1. Food should be eaten at regular hours only; positively nothing between meals.

2. Abundance of time should be taken for eating, and on no account should a child bolt his food.

3. Teach the child the paramount necessity of chewing his food well.

4. If a child is disinclined, he should not be urged to eat. If his appetite is habitually poor, take him to a physician. Under no circumstances should a child be forced to eat.

5. Poor or indigestible food should never be given to tempt the child's appetite when wholesome and simple food is refused.

6. One of the most serious objections to allowing children highly seasoned foods, as pastries, jellies, and sweets, is that they very soon lose their normal appetite for the more simple, wholesome foods previously relished.

7. Children quickly form the habit of eating foods that are rather objectionable, so give them first the most wholesome food, such as milk, cereals, or vegetables. Train the child to eat plenty of cereals, and at the same time give him a good tough crust to chew on, that the saliva may be better mixed with the cereal food.

THE CONVALESCENT

Lobar, or Croupous Pneumonia

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

THIS is a general systemic infection which may occur at any time of life, and which has a pulmonary localization. The active cause in the great majority of cases is the pneumococcus. There is no immunity produced by the disease, one attack making the patient more liable to recurring infection. Nature's defenses may be lowered in other ways as well, the most common being by alcoholic intoxication. This accounts for about twenty per cent of the cases of pneumonia. The mortality is also very much higher in alcoholics.

Another predisposing cause is loss of sleep. Sleep has been described as nature's sweet restorer, and it is certain that loss of sleep squanders vitality very rapidly, much faster than it is stored up. During the sleeping hours nature is most active in regenerating the tissues, and the person who deprives himself of sleep makes himself a prey to many diseases.

The pneumonia germ is almost always present in the mucous membrane of the respiratory tract. Exposure to cold and wet often paves the way for this disease. Wet feet, caused by thin-soled shoes, or the failure to wear rubbers, chills the feet and lowers the vitality of the lungs through the accompanying congestion. This condition is also brought about by improper clothing of the lower limbs. Thin stockings and insufficient underclothing allow chilling of the lower extremities, while furs and wraps around the neck lower the resisting power of the tissues there, and a cold often follows. It is not unusual to see a notice like the following in the newspaper: "A severe cold, followed by grip and pneumonia, was the cause of the death of the Honorable Mr. Blank."

The majority of cases of pneumonia occur in the winter and spring months. While exposure is a great factor in pav-

ing the way for this disease, there is no doubt that dietetic sins are also prominent factors. At Thanksgiving and Christmas the diners as well as the turkey are stuffed, and they pay dearly for their gormandizing in the resulting toxic condition which lowers the vitality of the body and invites the pneumonia germs to attack them in overwhelming numbers. This is a hint as to the treatment of the disease, and suggests to us that the diet should be light and easily digested.

TAKING THE FRESH-AIR CURE

Another cause is the dirty-air habit. Persons who would not drink water in which another has bathed his hands, will breathe the air in which many others have washed their lungs and blood, and which contains organic waste and refuse from the tissues, being high in carbon dioxide content and low in oxygen. If you will watch your breath on a frosty morning, you will see the wide distribution of the air as it is expelled from the mouth. This shows that fairly close contact with those who have colds makes infection almost inevitable.

The symptoms of pneumonia are these: The onset is sudden, with a chill, pain in the side, rapid rise of temperature, rapid and difficult breathing, cough, with rusty, or blood-tinged sputum, and a toxemia which is variable and manifested by circulatory and nervous phenomena, as flushing, or cyanosis, of the skin, and delirium. These symptoms continue from five to ten days, and then, in most cases, the temperature suddenly falls and convalescence sets in.

The above symptoms mean the serious involvement of the lungs, and are an emphatic indication that the individual should go to bed and put himself under the care of a physician. No layman should attempt to take the responsibility of treating a pneumonia case alone and unaided. It should have the supervision of the best physician that it is possible to obtain.

The earlier symptoms which indicate the coming of the disease are chilliness, tightness across the chest, slight cough, and a tendency to feverishness. These conditions may be treated by the layman, and, if taken in this early stage, the disease may be aborted.

The best treatment is prophylactic, or preventive. Alcoholic drinks should be absolutely avoided, as should flesh foods, fish, fowl, tea, coffee, and tobacco, as these articles lower the resistance of the digestive system and of the whole body, and render the individual more likely to be overcome by disease.

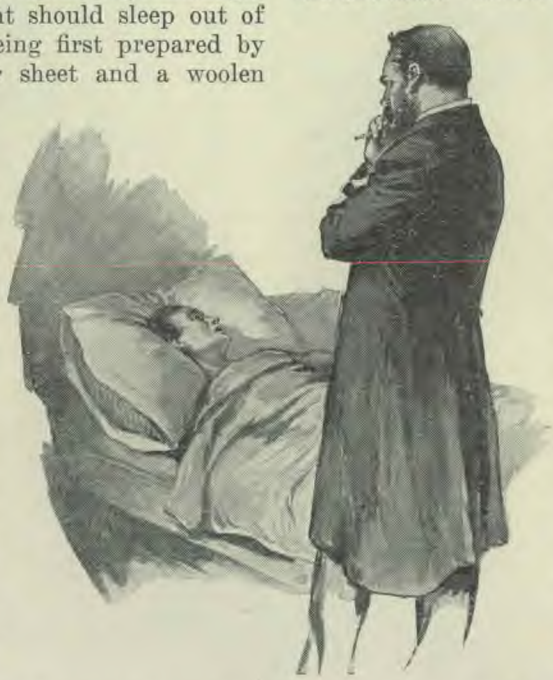
The diet should be very nutritious, and should include much green stuff, as celery, lettuce, spinach. These foods furnish many mineral salts, which feed the blood and nervous system. They also help to regulate the bowels. An occasional dose of mineral oil should be taken at night or an hour before breakfast; or the bowels should be periodically cleansed by a mild saline laxative or by cascara.

Overeating lowers the vitality of the body, even if the food taken is clean and pure. Surfeiting and gluttony are antagonistic to good health. The fresh-air habit should be cultivated. One should live in the fresh air as much as possible, and should endeavor to sleep where there is plenty of fresh air, as on the sleeping-porch. The habit of deep breathing will give vigorous lungs. The morning cold bath, with especial attention to sponging the chest and throat with cold water, will harden the skin and the mucous mem-

branes of the respiratory tract, and help to throw off disease.

It is important to avoid the patent medicine habit and the taking of cough cures, as these lower the vitality. If all colds were taken in the early stages, the incidence of pneumonia would be lowered. Colds should be treated early by rest, warm baths and sweats, proper diet, and the inhalation of steam from boiling water containing a few drops of a mixture of equal parts of thymol, menthol, and eucalyptol. The throat should be swabbed with a ten-per-cent solution of argyrol, or the nose and throat should be sprayed with a saline solution or with warm witch-hazel, then with an oily spray of camphor and menthol.

In the active treatment of disease, fresh air is a great factor in producing a cure. The patient should sleep out of doors, the bed being first prepared by putting a rubber sheet and a woolen blanket over the springs under the mattress, and then folding them over the mattress. The patient should sleep between blankets, and should be covered well, having a sleeping-cap on, and a hot-water bag at the feet. The chest, neck, and shoulders should be protected, as chilling of these parts is detrimental. The patient should be kept out of doors as much as possible. The bowels should be kept regular by mild laxatives or by enemas. Cooling enemas may be given to reduce the fever. Many physicians prefer not to make any local applications to the chest, simply using the cotton jacket. Others recommend mustard plasters, or hot applications of antiphlogistin or other clay poultices.



"Pneumonia is a serious proposition to deal with. It causes more deaths than does any other disease."

Fomentations to the chest, or hot and cold applications may be used, or turpentine fomentations may be applied to relieve either the pain or the congestion. This congestion, however, is better relieved by the hot hip-and-leg pack applied once or twice a day, followed by a saline sponge bath or a cold mitten friction. This treatment draws the blood from the head and chest to the lower extremities. It has an effect similar to bleeding, but it retains the blood in the patient's blood vessels.

The diet should be nonputrefactive, and should be less than the minimum amount required in health. It will thus be seen that beef teas and meat juices are excluded. Cereal gruels, whey, milk, peptonized milk, junket, and eggs in various forms may be used. In the severe stages of the disease the diet should be liquid and given in small amounts. The use of alcohol in pneumonia is not necessary; is not needed either as a food or as a medicine. Alcohol lessens the capacity of the blood to carry oxygen, and cripples the white blood corpuscles in their fight against the pneumonia germs. The diet should contain plenty of sugar and salt; the former to serve as food and fuel, and the latter to take the place of the salt which is taken up in the lungs by the disease.

The medical treatment should be left entirely to the physician, and the above treatments should also be under his su-

pervision. An ice cap to the head will relieve the headache and be very comforting. Camphor does very well, both by stimulating and supporting the heart, and by its direct action upon the pneumonia germs. The period of convalescence should be reckoned to cover at least six months, and if care is given during this time, the liability to heart and nerve tire and disease will be lessened. The heart and nerves need repair as well as the lungs. Pneumonia is a serious proposition to deal with. It causes more deaths than does any other disease. It has no specific treatment, but with careful attention to the symptoms as they arise, its mortality may be very greatly lessened.

Raise Your Own Vegetables

G. Henry Hale

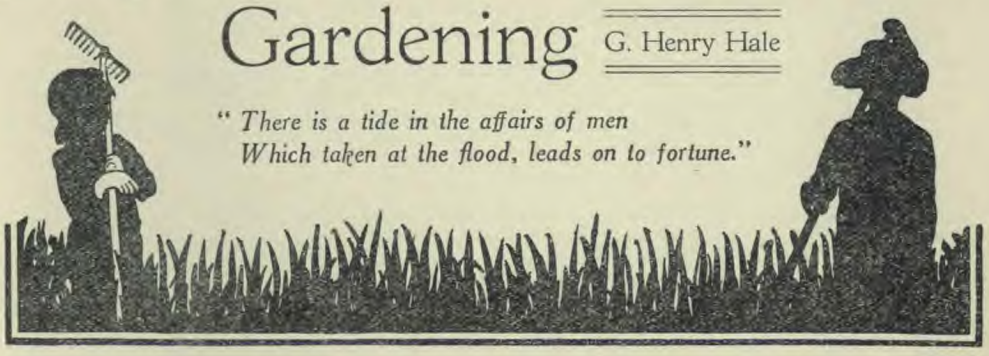
BACK YARDS can be made to pay well, not only in health to the workers, but in cheaper and better vegetables. Whether one raises a great variety of vegetables, including some of the rarer sorts, or specializes on a few, such as beans and tomatoes, there is a satisfaction in raising the plants, from the day the seeds or plantlets are set out until the last of the crop is gathered. There is the satisfaction of achievement, and of having on the table foods of one's own raising.

Moreover, the back-yard garden, with a little planning, can be made to yield a substantial addition to the income of the family; possibly not very much the first year, but more as the amateur gardeners gain in experience. The net result of last year's experience with war gardens was an increase in the amount of garden truck raised, and consequent lower prices. It is estimated that in 1917 home gardens increased the nation's food supply by $350,000,000! Germany's home gardens last year were the best since the beginning of the war,—an indication of the value of growing experience. Next year, home gardeners in the United States should be more experienced, and there should be more of them. There should be fewer failures, and a greater average production. In this time of food scarcity, the small gardens will be a material help in supplying the world's needs.

Your vegetables, the first season, may not more than pay for your fertilizer and seed. What of it? You will have the fresh vegetables, the fun, the health, and the experience, and you will do very much better another year. Begin now. Secure books on gardening, and catalogues from good seedsmen, order your seeds early, arrange for fertilizer and tools, and be ready to welcome the spring!

Preparation for the Season's Gardening

G. Henry Hale



" There is a tide in the affairs of men
Which taken at the flood, leads on to fortune."

IN gardening there is a right time, a golden moment, which, if it is not utilized, may mean partial loss of the crop. There is a time to plant — not by the moon or by certain lucky stars, but by the warmth and condition of the soil.

There is a time for preparation, such as reading, study, and the purchase of supplies. The time to read and study and plan the coming season's garden work is *now*, during the long winter evenings, when darkness and sleet prevent effective work on the outside. Now is the time to determine what, how much, and when you are to plant each kind of vegetable, when you are to cultivate, what and how much fertilizer, and what tools you will need. Now is the time to schedule your purchases so that when wanted, you will have tools, fertilizer, seed, and insecticides. Half the battle is in preparedness.

The following helps are suggested for the amateur gardener:

Farmers' Bulletin No. 255, " Home Vegetable Garden."

Farmers' Bulletin No. 818, " The Small Vegetable Garden."

Farmers' Bulletin No. 871, " Fresh Vegetables and Fruits as Conservers of Staple Foods."

These bulletins are sent free to any one making application for them to the U. S. Department of Agriculture, Washington, D. C.

Some of the seedsmen publish small pamphlets giving practical directions for planting, e. g., one by W. A. Burpee, Philadelphia, Pa. 127 pages, illustrated; price, 10 cents.

Among more pretentious books are the following:

" Backyard Gardening," paper cover, 125 pages, 15 cents. Street and Smith, 79 Seventh Ave., New York. An excellent little book at low cost.

" How to Make the Garden Pay," 75 cents; Houghton Mifflin Company, Boston. This, in a nutshell, gives directions for home gardening, with chapters on " Right Planning," " Profitable Methods," " Alphabetical List of Vegetables, with Directions," " Insect Enemies of Disease," " Home Gardener's Calendar,"— a fine little pocket manual.

" The Backyard Farmer," $1; Forbes and Company, Chicago. A series of short, practical chapters, right to the point, on gardening, bees, cows, horses, rabbits, chickens, and canning. More space is devoted to garden and chickens.

" Productive Vegetable Gardening," by John William Lloyd, M. S. A., of Cornell, $1.75 net; J. B. Lippincott Company, Philadelphia. Used as a textbook in a large number of agricultural colleges and universities. While this book has in view the professional gardener, it gives in excellent form all the instruction needed for successful home gardening. The book is well illustrated.

Remember that no matter how many gardening books you may have, each will give you some information worth to you the price of the book. No one book or garden magazine contains it all.

ANSWERS TO SOME QUESTIONS

How much land do I need for a home garden?

You can use to advantage whatever your yard affords, if it is a square rod or an acre. You may plant a few tomato vines or a few pole beans, or you may have a 50 x 50 garden, which will keep you and some of the others of the family more than busy during your spare time.

What are the requisites for a home garden?

A piece of land on which the sun shines at least half the day. Less sun than this would give only discouragement.

If you have good soil, so much the better. If it is heavy with clay, it should have some sand or sifted ashes and some manure worked into it.

If you have a rocky place with no soil, you need not despair. You can still have a sandwich bed, and grow vegetables that will be the envy of your neighbors.

When should one begin gardening?

Begin *now*. Get some garden book or books. Study and plan. Determine just how much you will want of each vegetable. Send to one or more reliable seedsmen for catalogues, and order your seed as soon as possible. Remember the seedsmen have a regular force of men. In January and February they can fill orders promptly. Later, as the orders come in with a rush, they must be filled in turn, and may be weeks late in reaching you. Order early — as soon as you can decide on what you will plant.

You may decide to raise some tender plants, as tomatoes, from the seed; but this requires experience, and previous preparation of boxes or "flats" for the seeds, and perhaps for the first year, at least, you might better be content with purchasing young plants, such as cabbage and tomato. One difficulty with this method is that you cannot always tell what variety of plants you are getting, whereas, with a reliable seedsman, you can depend on your seeds.

What are some helpful books for the amateur gardener?

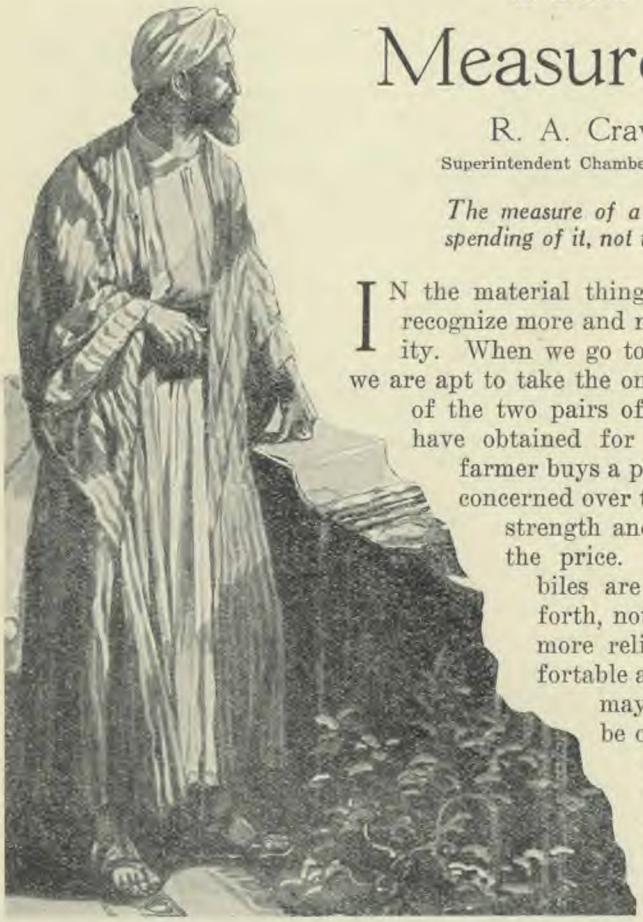
You will do well to secure catalogues from one or more reliable seedsmen. These will describe plants, give dates of maturing, advantages of the different varieties, perhaps some cultural directions. Some seedsmen send with a shipment some very helpful suggestions regarding the care of the garden.

See list of books on gardening on the preceding page.

The True Measure of Life

R. A. Crawford, M. D.
Superintendent Chamberlain (S. Dak.) Sanitarium

The measure of a man's life is the well spending of it, not the length.— Plutarch.



IN the material things of life we are coming to recognize more and more the importance of quality. When we go to the merchant to buy shoes, we are apt to take the one pair of good shoes instead of the two pairs of poor shoes which we could have obtained for the same price. When a farmer buys a piece of machinery, he is more concerned over the merits of the machine, its strength and durability, than he is over the price. Manufacturers of automobiles are constantly striving to put forth, not a cheaper car, but a better, more reliable engine and more comfortable and artistic design. An army may be ever so large, and still be of very little use if it has no organization. It is the system, training, and morale which are incorporated into the army that make it a power. Half an army with discipline, courage,

and mental and physical adaptability can accomplish more than a whole army which is lacking in quality.

But quantity rather than quality has seemed to be the chief aim in matters of living, heretofore. Physicians have striven to decrease the mortality rate and to increase the length of life, but so long as life could be maintained in a tolerable state, people were, as a rule, very little concerned. Moreover, it was only when the condition of one's health became no longer bearable that the physician was consulted.

The keen competition in the field of industry is leading to a change. Captains of industry find that very few of their employees are at par every day of the year. Every day some one comes to work with a headache or a feeling of lassitude, or indigestion, or constipation, and as a consequence some one is not as efficient and alert as normally. Some action is too slow, some duty is forgotten, and an expensive piece of machinery may be crippled so that a number of other workmen may have to lay off while waiting for repairs.

If the person who is temporarily subnormal is in the office, his attitude may be less attentive than usual, some detail may be omitted, and as a result a large business deal may be lost. If it is an employee of a railroad, say an engineer, the somewhat clouded mind may misinterpret an order, and a wreck may result, with the loss of many lives. And so all through the various forms of industry men are deficient, and even if a grave disaster does not result there is at least a slowing down in production and in the work accomplished, usually affecting many more than the individual who may not be that day his normal self. The loss that occurs to the industrial world every year, which is due to people who are below par physically, is indeed tremendous. It is not due to a lack of quantity but of the quality of living. It is not the result of a deficiency in the number of workmen, but to an inefficiency of some of these workmen who are only partially incapacitated on account, perhaps, of some unrecognized illness.

If there occurs this tremendous loss in the industrial world, we find it even much more evident in other things. How many quarrels originate in a headache; how many families are broken up on account of some slight nervous ailment; how many friends are lost on account of a subnormal physical condition, which has perchance, gone unrecognized, but which has, nevertheless, lowered the quality of the life of the individual.

The attention of physicians was previously directed largely to the cure of the grosser diseases, such as pneumonia, typhoid fever, the various epidemic infections, and the so-called organic disorders. But now the importance of the more minor ailments is coming to the front. It is well recognized that most cases of blindness are preventable, and an educational campaign along this line has accomplished wonders. It is equally true that hundreds of thousands of people are affected with chronic catarrh, dental abscesses, pyorrhea, hypertrophied tonsils, hookworm and other intestinal parasites, chronic indigestion, constipation, and a score of other ailments which prevent men and women from rising above the level of fifty-per-cent lives.

I do not mean to say that these affections which keep us from living a full measure of life can always be eliminated. A great deal can be done, however; and now that science has turned its attention to this problem, still more will be made possible.

The sanitarium idea has been a great factor in turning the attention of men to this important question. By teaching us to live more in accordance with na-

ture's laws, and by carrying on an educational campaign in behalf of proper diet, exercise, and fresh air, these institutions have rendered a great service to mankind. Besides, they are especially equipped to look after the minor ailments which the ordinary hospital is too apt to turn from as being unworthy of its attention.

I do not mean to say that good physical health will necessarily make one-hundred-per-cent lives, but I do say that it will be a big step in the direction of increasing the quality of the life. It will remove a great obstacle from the pathway of advancement by making men more able to think and to act. We must bring up the moral side of our natures to the same condition of health as the physical. We must not be too lazy, physically or mentally, to try for the standard of one-hundred-per-cent lives. Above all, we must come into vital connection with the Saviour of mankind, and imbibe the spirit of him who said, "Be ye therefore perfect, even as your Father which is in heaven is perfect."

Very few men live one-hundred-per-cent lives any of the time. Most of us do not live fifty-per-cent lives most of the time. Think what a tremendous loss this is—a loss in quality, not in quantity, but just as truly a loss of life one way as the other. This is an age when we look for quality. The world is looking for quality in the lives of men and women, the same as in other things, and that is surely what is needed today. To live is more than to breathe eighteen times a minute. It is more than to eat three times a day, to sleep a certain number of hours out of twenty-four, or even to be able to hold down a job. It means the development of the best that is in us. This we cannot do if we are partially sick. If we will rightly develop our physical powers, we can more easily develop the other powers of our being. If we will make ourselves well physically, it will be less difficult to become well mentally, morally, and spiritually.

We live in deeds, not years; in thoughts, not breaths;
In feelings, not in figures on a dial.
We should count time by heart throbs. He most lives
Who thinks most, feels the noblest, acts the best.
— *Philip James Bailey.*

If we strive for one-hundred-per-cent quality in the commercial world, is it too high a standard to place for our lives? One hundred per cent means the very most that we are capable of in every sphere of life. Truly the measure of a man's life is the well-spending of it.

* * *

PNEUMONIA, or inflammation of the lungs, accounts for between thirty and forty per cent of deaths — under two years — in communities where there are cold winters. The form of pneumonia to which infants are particularly liable is the so-called broncho-pneumonia, inflammation of the lungs acquired through infection of the bronchi, and affecting small areas of the lung about the diseased bronchi, not as a rule involving large areas, or a whole lobe in a solid mass, as is the case of lobar pneumonia. Broncho-pneumonia may be produced by infection of the lungs through the bronchi, by a number of organisms, such as the common pus-producing organisms, influenza bacillus, as well as the one producing lobar pneumonia and less frequently by a number of others.— *Dr. J. H. Mason Knox.*

Conservation of Food and Health

S. H. Carnahan

HE who could speak food into existence, who gave manna to feed the wandering tribes of Israel, who by a shorter than nature's method turned water into wine, and who, to feed the thousands, multiplied the loaves and fishes, was pre-eminently an advocate of conservation, for even concerning the food that seemed to grow spontaneously in his hands, he directed, "Gather up the fragments that remain, that nothing be lost."

This incident in the life of the Master has set the stamp of his approval on every attempt to prevent unnecessary waste; and so, during the intervening centuries economy has been regarded and practiced as a Christian virtue. But in later years, notwithstanding there has been no time when there was not suffering for want of the necessities and comforts of life, there has been, on the part of those who had a sufficiency, a growing tendency to indulge in wastefulness. Before the war, it is safe to say, the food and clothing wasted by those in easy circumstances would have been amply sufficient to feed and clothe those who were in want. But the war, with its strong appeal from desolated countries voiced by Mr. Hoover and his associates, is bringing a new conscience to this people; and hotels, restaurants, dining-cars, and clubs are having their wheatless and meatless days, every week, and families the country over are reporting wheatless, meatless, and wasteless meals.

"Gather up the fragments that remain, that nothing be lost."

Food conservation does not by any means signify a stinting of self in that which is needful, but rather a conservative and inextravagant use of that which is nourishing. Many have found that by making their menu meatless, by the omission of stimulating beverages, and by a judicious choice of foods according to physical needs, their health is greatly improved. Others, through an unwise choice of foods, poor combinations, wrong manner of eating, or overindulgence in foods, have made their meals wasteful of both foodstuffs and health. If such, during the years of peace and plenty, failed to learn by moral and physical teaching the lessons of temperance and economy, they may have to learn them now through sterner corrective methods.

It is true the Food Administration is attempting to insure a sufficiency of food for all, and to prevent the fixing of exorbitant prices; but with the best that can be done, some will doubtless be compelled to economize more closely than ever before. Such will be fortunate if they have learned to do without the less needful, and to purchase such foods as give the greatest nutritive value for a given investment.

In our mission institutions we have always, as a matter of principle, tried

to practice judicious economy; but the present war situation is teaching us to carry our economies a little farther.

In our industrial school at San Claudio, Cuba, conducted on the self-supporting plan for the benefit of the natives, we have learned through necessity that balanced meals on the vegetarian order can be served at from two to four cents a dish. Bread cereals are so scarce here that bread, whether of wheat or a mixture of wheat and other cereals, is necessarily limited to one slice per person each meal. There is practically no waste, as the patrons pay for what they order, and eat what they pay for, and left-over foods from the kettles are remade in the form of roasts, etc.

We have discovered that the tender leaves of the new growth of the sweet potato vines make excellent greens, very much like spinach.

The War of the Ages

G. H. Heald, M. D.

THIS disastrous and devastating war may end in one, two, four, or ten years — nobody knows when. Already it has cost an amount that staggers the imagination. No other enterprise ever undertaken on this earth has cost so much in material, wealth, or human life. It has been spectacular to the last degree, and has held the eye of the civilized world for many months. It has reached deep down into the pocket of practically every man but the abject poor, and it has often robbed even the poor of their homes and food. It has claimed some of the most magnificent of human specimens, who of right should have lived long enough to help propagate a strong new generation.

But there is another, greater war that for ages has been waged the world over with relentless fury. It is ceaseless. It will continue as long as man in his present condition peoples the earth. Until comparatively recent times man has not perceived the significance of this warfare, nor has he even been aware of its existence. A few decades only have passed since man first recognized his enemy, the microbe, that fights quietly, stealthily, secretly, and usually without warning. With all his vaunted intelligence, man has not been able to circumvent his minute assailant. He may win at one point, but he loses at others.

Suppose the war were to take more than 700,000 Americans every year, and continue to do it year after year without ceasing! And yet such is the record of the microscopic men of death enlisted against us, which airplane into our noses and mouths, submarine in our drinks, and burrow and trench in our foods. Following is a tabulation of the approximate annual death rate from various diseases in the United States. Would we not feel concerned if our boys on the European battle fields were going at such a rate?

Tuberculosis	150,000
Pneumonia	150,000
Heart diseases	130,000
Bright's disease	100,000
Apoplexy	70,000

Cancer	70,000
Diarrhea	60,000
Typhoid and diphtheria	25,000
Whooping cough, scarlet fever, and measles	25,000
Total	760,000

And remember that every case of these more than 700,000 (we are not yet sure regarding cancer) is probably caused by our enemy the microbe; and that these great armies go on relentlessly year after year, decade after decade, and century after century. The victories we gain over them are pitiably small as compared with what remains to be done.

We have our hopes built up because of some new discovery, some new serum or vaccine, only to have them shattered by the oncoming germs. It is something like the hard-earned victories of the Russians, the Rumanians, the Italians, followed by crushing defeat by the German steam hammer. Our hopes regarding the control of a certain disease prove too optimistic, and we find the disease and the germ with us as before, and still very much alive.

An enthusiastic medical writer thought that if he were given a certain sum of money, he could in a very few years rid New York of tuberculosis. The problem is evidently not so simple as that. It is not within the power of a community to say, We will give so many dollars this year for public health, and thereby reduce our mortality to such a minimum. There are unseen and unsuspected factors that mar the best plans of men. Seeing ahead of us a peak which seems to be the mountain summit, we climb laboriously to reach it, only to find beyond a still higher summit, and beyond this a still higher, each summit gained revealing one beyond, which before had been hidden, in almost endless progression. Such is the history of our warfare with disease germs. Each problem solved only reveals a greater problem yet to be solved.

We have made marvelous progress, it is true, in the control of disease; but when we have made one discovery, we find opening up before us another difficulty and another problem. Notwithstanding our serums and vaccines and sanitary precautions and quarantines, we still have with us typhoid fever, diphtheria, tuberculosis, smallpox. Theoretically we can control every one of these diseases; practically they go about almost as if there were no preventive measures; for to keep one of these diseases out of a neighborhood for a decade is to raise a generation of susceptibles, liable to severe attack on the slightest exposure.

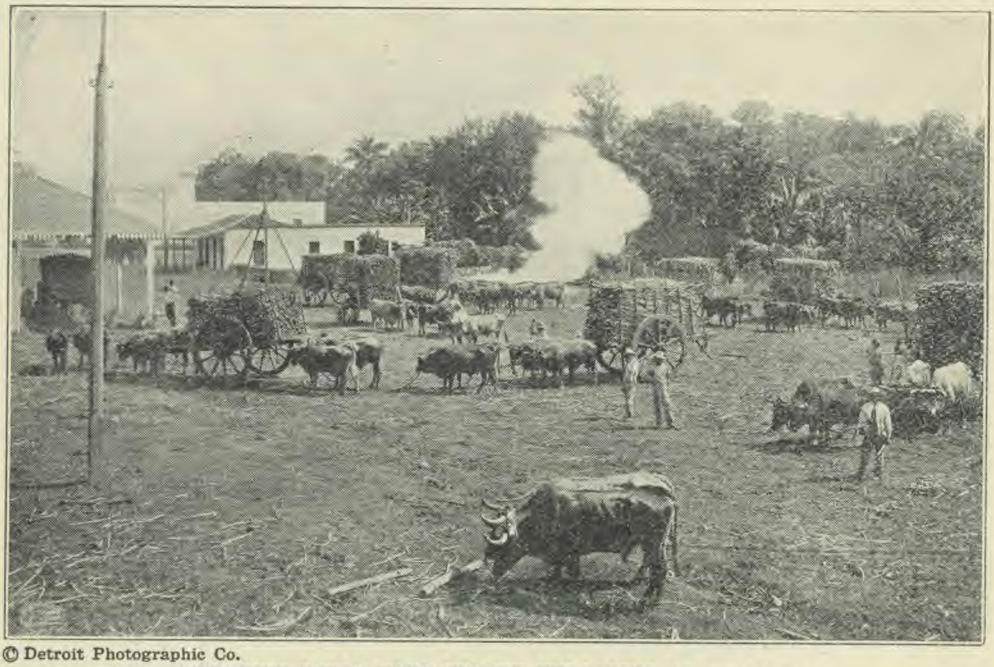
Then there are diseases like cancer, which, notwithstanding the stupendous amount of research work in clinic and laboratory, are still almost unexplored territory. As yet, though we know some of the favoring conditions, we know practically nothing regarding the ultimate cause of cancer.

So as the mighty warfare between man and the microbe goes on year after year through the centuries, we are encouraged from time to time with reported new serums or cures, with lower death rates and the like, but we find, after all, that the germ is still on the job.

The following quotation, of which I have unfortunately lost the reference, states the problem in terse language:

"This war of man against disease is in every sense a real contest, in which there are pitted against each other mechanisms far more intricate and complicated than have been devised by man in the European war. While the contest between man and man may be more spectacular and may involve greater destruction in the mass, the assault by the microbes is far more insidious, more elusive, and on the whole far more deadly. Indeed, war is in a sense simply an incident which man foolishly permits to enter into that great struggle with germ life, and which gives the upper hand to the latter. The great armies of men, women, and children that are destroyed every year by bacterial diseases, make the destruction of life in Europe seem almost trivial. We speak of this war resulting

(*Continued on page 50*)



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WEIGHING SUGAR CANE BEFORE UNLOADING AT THE MILL

Save the Sugar

SUGAR, in moderate quantity, is a valuable, concentrated food.

Used in excess, it causes nutritional disturbance.

Americans use, on the average, more sugar than any other nation, and much more than the warring nations of Europe.

Many Americans use much more sugar than is good for them.

Europeans, on the other hand, need more sugar.

Sugar is not indispensable. Its office in nutrition may be fully met by the starchy foods. Its principal use is as a flavor. The liberal use of sugar tends to excessive eating.

By diminishing our sugar allowance, we shall be doing a patriotic duty, and

CUTTING SUGAR CAN

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A LOAD OF CANE ON A CUBAN SUGAR PLANTATION

A SUGAR PLANTATION

at the same time may be making provision for better health.

The recent sugar shortage, by teaching us that we can get along with less sugar, may not have been without its benefit.

We can save sugar in a number of ways. We can —

Eat less candy.

Use fewer of the sugared soft drinks.

Take less sugar with our beverages.

Use breakfast cereals without sugar. If eaten with milk or cream, they are more healthful without sugar, and are fully as palatable when once the taste is formed.

Use corn sirup, when possible, in place of cane sugar for sweetening. It is healthful and nutritious, and the prejudice against it is unwarranted.

G. H. H.

in a loss and maiming of 20,000,000 lives. Bubonic plague, or black death, five centuries ago in one epidemic in Europe killed 25,000,000 persons. One might point to the army of 150,000 in the United States alone carried off each year by the tubercle bacillus, another 50,000 destroyed by the pneumococcus, 25,000 by the typhoid bacillus, and several thousand more by smallpox virus, and so on. What a pity some of the energy, time, and money spent in the great war could not be spent in combating the deadly microbe!"

Real Food Values

G. H. Heald, M. D.

WHEN, because of food scarcity or high prices, it is desirable to determine which are the most economical foods, the basis of comparison should be, not the number of bushels, or pounds, or gallons obtainable for a given sum, but the actual amount of energy a certain sum will buy. Food energy is most conveniently measured in calories, or heat units, and we can reverse the problem if we wish, finding the cost of, say, 1,000 calories of the different foods. A pound of bread and a pound of potatoes are vastly different in their energy value; but 1,000 calories from potatoes represents exactly as much energy as 1,000 calories from bread. By computing the cost of 1,000 calories of the different food substances, we immediately have before us an accurate measure of the comparative economy of the various foods.

The Department of Health of the City of New York has issued a pamphlet containing tables made up in this way, which, having been prepared by food experts are well worth the consideration of the provider for the family.[1]

A glance will show that, in general, cereals in bulk are cheaper than in cartons, and uncooked cereals are cheaper than ready-to-serve cereals. This comparison has to do, of course, with only the cost of material. When we take into consideration the cost of gas or other fuel, and of the time and trouble involved in preparing a cereal, there are circumstances in which the ready-to-serve foods would be the cheaper.

Table I gives the more common uncooked cereals at current prices, beginning with the cheapest, cornmeal in bulk, which at 6 cents a pound costs 3.6 cents per 1,000 calories, and ending with wheatena in carton, which at 14 cents a pound costs 8.1 cents per 1,000 calories. Table II gives the relative cost of ready-to-serve cereals in the same way, and Table III, the relative cost of breadstuffs. There are some important lessons to be learned from a careful study of these tables, and it should be well understood that when cornmeal is supplemented with milk or vegetables, especially green vegetables, it is as valuable a food as any of the cereals, even those selling at fancy prices.

Owing to their content of mineral matter, their alkaline, ash, and the fat-soluble substance which has to do with promoting growth, vegetables are a most essential part of the food. But as sources of energy they are extremely expensive when compared with cereals, even the higher priced ready-to-serve cereals. For instance, potato is one of the cheaper vegetables, yet it is more expensive than any of the cereals, even puffed rice. The reason is that when one buys vegetables, he pays for from 60 to 90 per cent of water. In buying 100 pounds of potatoes, one pays for 63 pounds of water,

[1] These prices are doubtless out of date, but it would be impossible to arrange a scale of prices that would be universally applicable. The accompanying prices are in most cases a sufficient guide, for the reason that there has been a very general increase in all prices.

20 pounds of refuse (skin), and has for his money only about 17 pounds of nutritive material.

Table IV gives the comparative cost of vegetables. As has been suggested, these should be eaten, especially when purchased at market rates, and where food economy is an object, not as a principal source of energy, but as a means of furnishing the needed mineral salts, growth accessories ("vitamines"), and for "roughage," to maintain good intestinal activity.

Another class of foods which is expensive as a source of energy is the fruits. They are not equally well borne by all persons. Some persons suffer from flatulence or from acidity after eating certain fruits. In general, however, they are well borne. They are rich in mineral salts with alkaline ash; and the fact that they prevent scurvy indicates that they possess valuable properties.

Table V gives the relative cost per 1,000 calories of various fruits. Rhubarb is not a fruit. Its acid is not wholesome, to say the least, and it is not wise to use freely of this vegetable. Overripe and underripe fruits should be avoided. The banana, especially, is customarily eaten before it is sufficiently ripe. The skin should be well colored and perhaps spotted before the fruit is eaten. Unripe bananas are difficult of digestion.

Of the 3,000 calories, more or less, needed daily by the organism for complete nutrition, something like ten per cent should be from protein. In view of the fact that the proteins are the most expensive part of the food, Table VI is especially valuable. From this it will be seen that milk, even at 13 cents a quart, is the cheapest of the animal proteins.

TABLE I — Cost of Cereals

	Cost of 1,000 Calories, Cents	Price per Pound, Cents
Cornmeal, in bulk	3.6	6
Hominy, in bulk	3.6	6
Broken rice, in bulk	3.7	6
Oatmeal, in bulk	3.8	7
Samp, in bulk	4.2	7
Quaker Oats, in package	4.4	8
Macaroni, in package	4.5	13
Wheat flour, in bulk	4.6	8
Malt breakfast food, in pkg.	4.8	14
Pettijohn's, in package	5.3	12
Cream of Wheat, in package	5.7	10
Farina, in package	5.9	12
Cracked wheat, in bulk	5.9	10
Pearl barley, in package	6.0	10
Barley flour, in bulk	6.1	10
Whole rice, in bulk	6.1	10
Wheatena, in package	8.1	14

TABLE II — Cost of Ready-to-Serve Cereals

Shredded Wheat Biscuit	7.8	13
Grape Nuts	8.6	15
Force	9.4	16
Corn Flakes	11.7	20
Puffed Rice	23.5	52

TABLE III — Cost of Breadstuffs

Ginger snaps	6.3	12.0
Graham bread	8.2	10.3
White bread	8.5	10.3
Rye bread	8.7	10.3
Graham crackers	9.2	18.0
Soda crackers	9.4	18.0
French rolls	10.8	14.0
Uneeda Biscuit	12.4	24.0

TABLE IV — Cost of Vegetables

Turnips	20.0	2.5
Sweet potatoes	21.8	10.0
White potatoes	25.8	4.0
New beets	27.6	5.0
Onions	29.3	6.0
Spinach	30.0	3.3
Green peas	39.2	10.0
Lima beans	39.2	10.0
Cauliflower	42.9	6.0
Carrots	50.0	8.0
String beans	55.6	10.0
Squash	76.2	8.0
Lettuce	89.4	7.0
Celery	214.0	15.0

TABLE V — Cost of Fruit

Fresh (in season)		
Grapes	14.9	5
Rhubarb	15.4	1
Bananas	20.0	6
Apples	23.7	5
Pears	46.0	12
Oranges	58.8	10
Peaches	96.7	15
Dried		
Prunes	8.4	10
Apples	11.1	15
Peaches	12.5	15
Apricots	15.5	20

TABLE VI — Cost of Proteins

Milk (Grade A)	18.5	(qt.) 13
Roast beef (rib)	23.4	26
Buttermilk	26.5	(qt.) 9
Lamb chops (loin)	32.7	43
Lamb chops (rib)	34.9	38
Young codfish (fresh)	38.6	12
Chicken (roasting)	41.3	32
Eggs	44.7	(doz.) 45
Beefsteak (round)	45.6	34
Haddock	46.0	12
Flounder	50.0	12

AS WE SEE IT

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

CIGARETTE SMOKING AND THE SOLDIER

THERE is an active campaign to supply the soldier boys with tobacco. Newspapers are raising funds for the purpose. Unbelievable as it appears, credible witnesses report that they have seen W. C. T. U. women supplying cigarettes to soldier boys in one of the training camps. In view of the results of some recent experiments, it is pertinent to raise the query whether such zeal is according to knowledge.

Fisher and Berry ("The Physical Effects of Smoking") have published the results of some experiments which show conclusively that a single smoke lessens efficiency. The test was made on twelve smokers and twelve nonsmokers, in order to determine the effect of smoking on accuracy in throwing at a target. The distance was sixty feet, the target a padded block four feet square, with a bull's eye one foot in diameter surrounded by concentric circles six inches apart. A description of the test and results follows:

Test A (one cigar)

1. Arrival at the gymnasium about 6:30 P. M.
2. Three trial throws at the target, not recorded.
3. Record ten throws at the target; distance, 60 feet.
4. Retire to a special room to smoke.
5. Smoke *one* cigar in thirty minutes.
6. Return to gymnasium about 7:15 P. M.
7. Three trial throws at the target, not recorded.
8. Record ten throws at the target; distance, 60 feet.

Test B (two cigars)

1. Same as in Test A.
2. No trial throws at the target.
3. Same as in Test A.
4. Same as in Test A.
5. Smoke *two* cigars in sixty minutes.
6. Return to the gymnasium about 7:30 P. M.
7. No trial throws at the target.
8. Same as in Test A.

Test C (no smoking)

1. Arrival at the gymnasium about 6:30 P. M.
2. Three trial throws at the target; distance, 60 feet.
3. Record ten throws at the target.
4. Thirty-minute interval.
5. Three trial throws at the target.
6. Record ten throws at the target.

The tests yielded the following results:

In Test A, during which one cigar was smoked, the *smokers* showed a loss of eleven per cent in accuracy when pitching a baseball after smoking.

In Test A, during which one cigar was smoked, the *nonsmokers* showed a loss of thirteen per cent in accuracy when pitching a baseball at a target after smoking.

In Test B, during which two cigars were smoked, the *smokers* showed a loss of eleven per cent in accuracy when pitching a baseball at a target after smoking.

The *nonsmokers* in Test B showed a loss of eighteen per cent in accuracy when pitching after smoking.

In Test C, during which no cigars were smoked, the *smokers* showed an increase in accuracy of nine per cent, after a delay of thirty minutes, equal to the time taken in smoking a cigar.

In Test C, the *nonsmokers* showed an increase in pitching a baseball accurately, without smoking, of ten per cent.

If *one smoke* makes even a smoker less accurate in throwing a ball, how about the boys whose lives may depend on their success in throwing a hand grenade at the right moment? To ask the question is to answer it.

In commenting on some experiments by Parkinson and Koefod, described in *The Lancet*, the *Medical Record* makes the following statement:

"A man who is not in the highest state of physical efficiency is obviously not so good a fighting man as he who is in such state, and if excessive cigarette smoking is a contributing factor to physical inefficiency, it is the duty to curb the desire in this direction. Moreover, it must be borne in mind that some individuals are more susceptible to the effects of tobacco smoke than others. For these reasons it is a pity that so much is said now in the papers about the soldiers' smokes. The *Sun* of this city is contributing largely to the comfort of tobacco addicts in the army by its campaign to supply the tobacco and cigarettes that the Government does not give. One possible untoward effect of its zeal, however, is the spreading abroad of the idea that smoking is soldierly, that it is a part of the game; and doubtless many nonsmokers are tempted to take up the habit, induced thereto by a sort of crowd contagion. On the contrary, the fact should be emphasized that the tobacco is for those who have already acquired the habit, this not being the time and

somewhere in France not the place for the men to be made to suffer the great discomfort caused by withdrawal of their solace; but that this is not the time nor is anywhere the place for the new men to take up the habit deliberately. It will not add to their efficiency, but will rather expose them to the danger of becoming less efficient if they smoke too much or if for any reason their supply of the dope is temporarily cut off."

For the man who is a victim of the tobacco habit, the trench is not the place to attempt a reform. He has deliberately made himself the slave of an artificial sedative, which, if for any reason he cannot get his regular supply, may leave him unnerved and an easy victim of the enemy. But it should be distinctly understood that tobacco *does not* make a normal man more fit; and it renders him dependent on a crutch, which may not be forthcoming at the critical moment when he needs it the most. Whatever may be done for old victims of the tobacco habit, there should be no encouragement to those not victims to form the habit.

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PYORRHEA ALVEOLARIS OR RIGGS'S DISEASE

PYORRHEA ALVEOLARIS has been recognized by medical writers for a long time, but owing to the fact that Dr. Riggs, an American, about the middle of the last century made a special study of the condition, and described it in detail, it came to be called after him, Riggs' disease or Riggs's disease.

It causes more loss of teeth than does decay of the teeth, and is considered by dentists a far more serious disease; for a decayed tooth can be filled or crowned and be practically as good as new, but an advanced case of pyorrhea is often all but hopeless.

Both caries and pyorrhea are now recognized as producing places favorable for the lodgment and multiplication of dangerous disease germs, and some have gone so far as to attribute nearly all diseases to this source.

Unfortunately, the disease is not usually recognized in its early stages, even by dentists, and if recognized by them the patient is liable to think the dentist is simply trying to find work so as to increase his fees.

Ordinarily, too often at least, the patient does not wish to invest money in the repair of his teeth until they are so far gone that they are hardly worth the expense of repair. Among the early signs of pyorrhea are swelling and congestion of the margins of the gums, with tendency to bleed when brushed. Tartar begins to collect, and acts as an irritant. The papillæ between the teeth retract, leaving space for the accumulation of food, which acts as a further irritant. Changes in the bone and membranes of the tooth take place with ulceration and suppuration. The gums recede, are rounded off, and bleed easily. Pressure with the finger will show the presence of pus. The teeth loosen, and are lost one by one. Whenever a tooth comes out, the disease there is cured spontaneously. In the later stages the breath may become very offensive.

There is great diversity of opinion as to the cause of the disease. According to the weight of British authority, it begins as an irritation from the decomposition of retained food, affording a breeding place for harmful organisms. Among predisposing causes are irregular teeth, mouth breathing, imperfectly fitting crowns, poor fillings; but the chief factor is the diet — the use of foods that do not require mastication.

It is an instinct of a baby to chew, and yet when it comes time to wean a child, parents and doctors conspire to put the little one on sloppy and mushy food that requires no chewing, thereby forming at an early age habits that later will favor the production of pyorrhea.

According to J. H. Gibbs, F. R. C. S. (from whose paper in the *Edinburgh Medical Journal*, October, 1917, the above data are taken),

Pyorrhea is probably as common among native races as in civilization.

It is very common in domestic animals and in animals in zoölogical gardens and menageries, while it is almost unknown in wild animals and in domestic animals that are fed naturally.

The disease has increased enormously in civilized countries during the last few decades.

Insufficient mastication is a very powerful factor, probably the most important factor, in its etiology.

Inflammation having been set up, infection rapidly follows, with destruction of tissue and formation of pus.

Next follows destruction of the bone with loosening of the teeth and copious pus formation.

Lime salts from the pus are deposited on the roots of the teeth, and this acts as an irritant; so a vicious circle is set up, the tartar causing ulceration, which produces more pus, which forms more tartar, and so on.

IS PELLAGRA A DEFICIENCY DISEASE?

REASONS apparently sound have been given by some observers for considering pellagra to be a communicable disease transmitted directly by contact or otherwise, from the sick to the well. According to other observers, Goldberger in particular, pellagra is a nutritional disorder caused by the lack of certain ingredients in the diet.

McCollum and Simmonds, working in the Laboratory of Agricultural Chemistry of the University of Wisconsin, have attempted by animal-feeding experiments, to throw light on the vexed problem.[1]

Previously these workers had shown that there may be serious nutritional disorders if the food ration lacks certain accessories which in complete foods are present in amounts too minute for chemical analysis, but sufficient to have a most potent effect on life process. One of these accessories, soluble in fats, and found in most concentrated form in the fats of butter and egg yolk, they named provisionally, "*fat-soluble A*," as they knew nothing regarding its composition. The other, always present in natural foods, but not associated with the fats, they called "*water-soluble B*."

The next undertaking of these workers was, by feeding experiments, to examine one by one the various seeds, fruits, and tubers of plants in order to determine their ability to afford adequate nourishment to the animal body. And while these studies are still in progress, enough has been done to show wherein the diet, especially of the poor, in many parts of the world is deficient. These experiments appear to show conclusively that the addition of milk or eggs, particularly milk, to many rations now in common use in the United States would "form a wonderful safeguard in human nutrition;" that "when milk is absent from such diets as are not infrequently employed, the quality of food mixtures affording a fairly wide variety is frequently so poor as to bring us near the line where visible signs of malnutrition become manifest."

In the study of the seeds of plants, McCollum and his coworkers arrived at certain generalizations which may be stated as follows:

1. No seed studied thus far, when fed as the sole source of nutriment, can induce growth or prolonged well-being in a young animal. Mixtures of seeds are more satisfactory in maintaining animals in a fair state of health without growth than are seeds of a single species of plant as the sole food, but even complex mixtures of seeds fed with distilled water (salt free) will not support growth in young rats.
2. The seeds, singly or in mixture, are deficient in certain salts.
3. The seeds used for human food are too low in the content of fat-soluble A, which is abundant in the fats of butter and eggs, and in the leaves of plants.
4. The seeds studied contain proteins of a relatively poor quality. Some mixtures of the seeds may improve the quality of the protein.
5. By supplementing a proper protein, certain inorganic salts, and the fat-soluble A, each of the seeds studied can be made to form a ration capable of maintaining growth.
6. The leaves of plants, so far as studied, differ from the seeds in holding a high content of the minerals lacking in the seeds, particularly sodium, chlorine, and calcium, and in having a comparatively rich supply of fat-soluble A, and in supplementing the inadequate proteins of the seeds.

A more recent study, as given in the present report, considered a mixture of maize and navy beans. As a result of this study it was shown —

1. That the mixture was poor in fat-soluble A.
2. That it contained an abundance of fat-soluble B.
3. That the proteins of the mixture require to be supplemented by other proteins in order to get the best results.
4. That the mixture is lacking in soda and lime.

McCollum suggests that a diet consisting essentially of such a mixture, espe-

[1] Reported in the "Journal of Biological Chemistry," October, 1917.

cially where the water is low in its content of soda and lime, should be supplemented by the use of milk, which is always high in lime, and comparatively high in soda. This is also true of the leaves of plants. Persons on a diet largely cereal should therefore make liberal use of potherbs.

McCollum states his opinion that there are classes of people in the United States who are now near the danger line. Even where those in the pellagra districts are using the green and succulent vegetables, the quantity used is not always sufficient to supply in abundance the elements which are deficient in the seeds.

Apparently a mixture of cereals and legumes, unless supplemented by greens, milk, and the like, does not form an adequate and satisfactory human ration.

There is no proof in the foregoing that the limited diets studied favor the development of pellagra, but the fact that victims of pellagra are practically all of them on such limited diets is in itself significant.

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FAT ORNAMENTAL, NOT USEFUL

THERE is a very general belief that one who is sleek and well rounded out is in a much better physical condition than one who is spare. "Laugh and grow fat" was a maxim conveying the generally received impression that a cheerful temper increases the adipose layer, and that a well-rounded physique tends to increased usefulness and long life. It was admitted that there might easily be an extreme of fat which was undesirable, but a certain fulness of the figure was admirable from an esthetic point of view and mighty convenient from a health standpoint. We have had fat people anxious to reduce flesh, but we have also had many of comparatively spare build who were proud if they could succeed in rounding out more in a stream-line effect.

Now we have the testimony of life-insurance experts that even very moderate amounts of adipose may shorten life. Years ago, height and weight tables were made out from insurance statistics based on the average weight at the various life periods. It was assumed that the average of all these figures was the normal. But more recent study of the longevity of individuals of different weights reveals the fact that a person of average weight has a shorter life expectancy than one who is ten pounds underweight. That is, the average person carries ten pounds too much fat for his own good.

The following figures which are furnished by the American Life Extension Institute and embody the experience of forty-three American life-insurance companies, show that as the death rate increases with the increasing use of alcohol, so it increases with increase in weight:

"Ages: 45 to 49.
"Height: 5 feet 7 inches to 5 feet 10 inches.
"(Height and weight taken with coat and vest or waist off, and in shoes.)

	Per cent higher death rate than 10 lbs. under the average weight
"Average weight	4
5 pounds above average weight	8
10 " " " "	12
15 " " " "	18
20 " " " "	22
25 " " " "	26
30 " " " "	32
35 " " " "	40
40 " " " "	49
45 " " " "	55
50 " " " "	60
55 " " " "	65
60 " " " "	71
65 " " " "	78
70 " " " "	85
75 " " " "	92
80 " " " "	100
85 " " " "	110
90 " " " "	120"

The excess weight between the ages of thirty-five and fifty-five causes most serious effect. The twenty million people in these age periods could give up with much profit to themselves two hundred million pounds of fat, an amount equal in energy value to nearly seven hundred million one-pound loaves of bread.

It has been suggested that it might be a double benefit to send this surplus fat to Europe.

But how is one to send his body fat to Europe? The Europeans are not canni-

bals, even if we were willing, Shylock-like, to cut out the pound or five pounds or fifty pounds of "flesh" necessary to reduce us to a healthful weight. The reply is easy. No one lays up fat unless he is consuming more calories than his body can profitably burn up. Now please do not get angry and protest that you are a light eater! Perhaps you are; but if you are overweight, you need to reduce your eating. Eat more green vegetables and citrous fruits, and less of potatoes, cereals, bread, and of all kinds of fat. Cut them down severely. Most persons are too heavy simply because their appetites *will not* be reasoned with. One way to reason with the appetite is to cut out all desserts *absolutely*. Let them be taboo. Reduce your cereals and breads, and especially your candies and sugars and fats, to a minimum. It will mean hard work, but the effort may be worth the while, for not only will you be adding to your own life expectancy, but you will help the starving of Europe to live.

As has been suggested, the man who is forty pounds overweight carries on his body the energy equivalent to 135 one-pound loaves of bread. Why should not the Food Administration get after such persons as food hoarders?

NUTRITIVE VALUE OF THE SOY BEAN

Two workers in the department of home economics, University of Wisconsin, have made a study of the nutritive value of the soy bean.[1] A chemical analysis of this bean shows it to be particularly high in its content of protein (36.5 per cent) and fat (17.5 per cent), relatively high in mineral (5.3 per cent), and low in carbohydrate (12 per cent). Theoretically it should be an ideal substitute for animal foods. But chemical analysis is no longer considered sufficient to determine a food's nutritive value. We now know that there are differences in proteins, and that even with complete proteins, fats, and carbohydrates, there may be lack of nutrition owing to the lack of certain inorganic salts and of certain food accessories, particularly the one designated "fat-soluble A."

In the investigations by Daniels and Nichols the beans were cooked with water until tender (30 to 40 minutes under a pressure of 15 pounds). Starch, if used, was incorporated with the other materials and boiled 3 to 5 minutes.

Animals fed on a restricted diet of soy beans gained little in weight and failed to reproduce. But when they were placed on a ration of soy beans, lard, cornstarch, and a salt mixture, which made the ration comparable in mineral content to milk, they gained weight, and in five or six weeks the females reproduced, and suckled their young successfully. The mineral elements added consisted principally of lime, soda, and chlorine.

But even this mixture was not completely adequate. The adult animals raised on this ration were stunted; the young were smaller at birth, fewer to the litter, and if placed on this same ration they failed to gain adequately in weight, and the mortality among them was high.

When, on the other hand, young animals were placed on the same soy bean-lard-cornstarch-salt mixture, with the addition of butter fat, the growth was much more rapid.

The experiments on the whole indicate that though the soy bean is somewhat lacking in its content of fat-soluble A, it contains an appreciable amount of this substance, and in this particular is considerably superior to most of the cereals and legumes. They also indicate that the quality of the protein in the soy bean is superior to that of the cereals and legumes ordinarily used in this country for human food. The article in question states that —

"The value of the protein of the soy bean has been demonstrated in all our experiments. That animals fed rations containing 15.6 and 18.7 per cent of protein obtained solely from the soy bean have grown normally, and in the latter case have produced successive litters of young, which in turn have reproduced, is sufficient evidence that the protein of the soy bean fulfils all

[1] "The Nutritive Value of the Soy Bean," by Amy L. Daniels and Nell B. Nichols.—"Journal of the Biological Chemistry," October, 1917.

physiologic requirements. The protein of the soy bean appears to be quite as valuable as the casein of milk. These findings are somewhat surprising in view of the fact that the protein of other legumes, namely peas and white beans, has been found wanting."

The experiments also showed that the soy bean contains a sufficiency of the water-soluble B for adequate nutrition. The authors make the following comment:

"An economic consideration of the soy bean leads to the conclusion that it is one of the most valuable of the leguminous seeds. It contains a high percentage of a physiologically good protein, a considerable amount of energy-yielding material in the form of fat and carbohydrate, and a fairly liberal supply of the fat-soluble food accessory as well as of the water-soluble growth determinant.

"In order to make the soy bean a more complete food, suitable inorganic material, consisting principally of sodium chloride [common table salt] and calcium compounds [as in milk] needs to be added. In Japan and China this bean has been used extensively as human food for many years. In America, however, it has only recently been introduced into the human dietary, although it has been incorporated in rations for farm animals in certain sections of the country."

As an illustration of how slow we are to take up with a new food, it may be stated that in the South the soy bean is raised and crushed for its oil (which is used in making up some of the composite cooking oils or fats on the market), and the residue, consisting of nearly fifty per cent of a highly valuable protein, has been sold as a fertilizer! Effort is now being made, however, on the recommendation of the government officials, to market it as a soy-bean flour. The United States Department of Agriculture, in the attempt to interest Americans in the use of this product, is giving demonstration of foods prepared from the soy bean, and is distributing leaflets telling how to use the soy bean in cookery.

Americans should depart from tradition and conservatism and at once adopt this most excellent addition to our food supplies. Attempts to purchase soy beans at grocery stores will doubtless meet with failure, but the beans can sometimes be obtained through seedsmen.

GREEN VEGETABLES TO INFANTS

It will surprise many parents to learn that infants of seven months are now fed green vegetables. At a recent meeting of the American Pediatric Society, Dr. Frederic H. Bartlett, as quoted in the *Journal A. M. A.*, July 21, 1917, page 233, said:

"The feeding of green vegetables to young infants is becoming a common practice. The plan has been followed with infants as young as six or seven months. Infants thus fed have shown an earlier closure of the fontanel and generally greater activity than those fed without such additions to their diet. This beneficial effect has been variously explained as due to the mere addition of an increased quantity of salts, to the particular combinations of the bases with the inorganic and organic acids present which provide the salts in an especially suitable form for use by the organism, and to a so-called vitamine effect. The general opinion is that the mineral content is the important factor."

This does not mean feeding green fruit, or even ripe fruit, which is another matter. It is but fair to state that there are still many physicians who consider the feeding of vegetables to such young infants as rank heresy.

THE USE OF BROMIDES IN NEURASTHENIA

Danzer[1] has the following to say regarding the use of the bromides and similar drugs in the treatment of neurasthenia with high pressure:

"It might be well to say a word about the use of bromides. If I could emphasize the fact that this class of drugs should be reserved as a last resort in such cases, I should feel that our observations at the clinic and the hospital were not in vain. The sedative effect obtained from their use is only temporary at the most, followed by hyper-irritability, which calls for increasing doses, and finally these patients are not influenced at all by the drug, and then they are left in a hopeless state, more excitable than ever, not being able to be appeased by even massive doses. Hence, the lesson to be learned is to use all the physical methods available before resorting to the bromides. By so doing, one will find less use for these drugs in the future."

[1] "A Study in the Diagnosis and Treatment of 250 Cases of the So-Called Neurasthenias," by Saul Danzer, M. D., in "Medical Review of Reviews," February, 1917.

FIRES AND DISEASE

A Comparison

G. H. Heald, M. D.

Back of every accidental fire is a cause which might have been avoided.

Fires may be small, involving insignificant loss, or they may cause permanent damage, or entire destruction of property.

To prevent destructive fires we have specialists — firemen — thoroughly trained and equipped for efficient work.

In case of a small fire we do not call the firemen, but put it out with our own appliances.

If the blaze is at all threatening, we do not wait to see whether we can put it out, but at once send an alarm to the fire department.

If through lack of judgment we fail to send for the department until the fire gets away from us, the department may not be able to save the building, and the fire may spread to surrounding property.

In an institution or school, it is customary to have extinguishers, axes, etc., and to have drills, so that in case of a fire there will be cool heads and efficient work, instead of a stampede.

If we fail to take reasonable precaution to prevent a fire, we are a menace to our neighborhood, and the city may of right compel us to be more cau.ious.

Back of every case of illness is a cause which might have been avoided.

Disease may be trivial, causing no permanent ill effects; it may cause permanent damage, or it may end in death.

To prevent disastrous results from disease, we have specialists — doctors — thoroughly trained and equipped for expert work.

In case of trivial illness we do not call the doctor, but treat it with home appliances.

If the illness is anything but trivial, we should not temporize with home remedies, but send at once for the doctor.

If through lack of judgment we fail to send for the doctor until the disease is well advanced, he may not be able to save us, and in the meantime the contagion may be spread to the neighborhood.

In a home there should be an equipment for first aid in simple diseases or accidents, and members of the family should be so trained that they will know what to do, and not lose their heads.

If we fail to take reasonable precaution against disease, we endanger not only our family, but our neighborhood, and the health officer may of right interfere.

SOME BOOKS

The Battle with Tuberculosis and How to Win It

A Book for the Patient and His Friends. By D. MacDougall King, M. D. Cloth, 258 pages, $1.50 net. J. B. Lippincott Company, Philadelphia and London.

The following from the introduction gives an excellent idea of the purpose and scope of the work:

"During a sojourn of eighteen months as patient at sanatoria in Canada and the United States, and a residence of two years in a health resort, the writer has had opportunity to meet many sufferers from tuberculosis, and to come much nearer their secret thoughts, hopes, and misgivings than was ever possible during ten years of medical practice previous to his illness. As a result of many conversations, not a few confidences, and witnessing the little comedies and tragedies that ordinarily are enacted behind the scenes of sanatorium life, he is no longer in doubt as to why tuberculosis, which the scientist knows tends kindly towards arrest, is such a fatal disease. He has become increasingly convinced that the great number of deaths occur, not because the disease is terribly virulent, for in most cases it is not, but simply because the majority of patients do not understand, or even begin to comprehend, the significance of the reasons underlying the only treatment that will bring success. And so this little book is written in the hope of setting forth in a simple and interesting, but none the less comprehensive and convincing manner, the fundamental scientific facts which help to answer the patient's constant inquiry, Why must I do this?"

In charming language the author has written a work that should be of invaluable service to thousands of those who are waging, or ought to be waging, a warfare against the germ of the white plague. Throughout the book the figure of a battle is maintained; and the use of expressions which have become familiar in our daily reading of the events of the European battle fronts makes the fact stand out more prominently that the tuberculosis patient has a real war on his hands.

The author goes carefully into details, and what he says can be depended upon to be in accordance with the latest knowledge regarding the treatment of tuberculosis.

A Manual of Personal Hygiene

Edited by Walter L. Pyle, M. D. seventh edition, revised and enlarged. 12mo, 555 pages, 138 illustrations. Cloth, $1.75 net. W. B. Saunders Company, Philadelphia and London.

In harmony with the object of the publishers to keep the book up to date, several paragraphs have been added to this edition.

In general the instruction in Pyle is trustworthy. It is prepared by the collaboration of ten American physicians, each of whom is a master in his own line. We note, however, that "coffee, tea, and cocoa have their place in normal diet," and that any harm comes from their excessive use. The paragraph on the effect of alcohol may be disappointing to one who is accustomed to the language of the school physiologies. Regarding a vegetarian dietary, the old statement is retained, "The relative amount of these elementary constituents (proteins, fats, and carbohydrates) is such that excessive quantities of refuse matter must be taken to obtain the required amount of proteins."

Physical Therapy

A Treatise on Medical Practice, Based on the Principles and Therapeutic Applications of the Physical Modes and Methods of Treatment, by Otto Juettner, A. M., Sc. M., Ph. D., M. D. Cloth, 519 pages, $5. I. W. Long, Columbus, Ohio.

Numerous forms of non-drug therapy, including hydrotherapy, electrotherapy, various forms of mechanotherapy, phototherapy, suggestive therapy, dietotherapy, etc., have proved themselves of value in the alleviation of human suffering, and are becoming more popular among those who practice drug therapy.

The present volume is a carefully prepared guide to some of the well-established forms of non-drug therapy. Naturally, within the limits of such a volume as this it is necessary to be brief in the description of so many and so varied methods. For instance, massage has nine pages, Swedish movements seven pages, hydrotherapy twelve pages. Doubtless the author expects his readers to get the technique of these various methods elsewhere.

The book is arranged alphabetically instead of topically, and begins: Alcoholism, Amenorrhea, Anemia, Aneurysm of the Aorta, Angina Pectoris, Aphasia and Aphonia, Appendicitis, etc. With this arrangement one is somewhat at a loss to know where to find a given subject. For instance, under "Hydrotherapy" there is no reference either in the text or in the index; but if one is patient, he will find under "Water as a Therapeutic Agent" what the author has to say regarding hydrotherapy. Most readers would decidedly prefer the topical method of treatment, with a copious index including cross references. In the text are given alphabetically not only diseases, but also methods of treatment. For instance, we have Dyspepsia, Electricity in Medicine, Electric Sleep, Electro Magnets in Surgery, Electrotherapy, Emphysema. As said before, this method of classifying his knowledge is not ideal, but what the author has to say is in general excellent. While he is brief, yet what he gives is reliable and to the point. He advises against the use of flesh meats, tea, and coffee, and advises moderation in the use of tobacco and liquor. Under "Erysipelas" we are rather surprised to see that there is no mention of disinfectants, and yet this is consistent with the author's method, which is to give nothing but the non-drug treatments.

QUESTIONS AND ANSWERS

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

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

Answers this month by G. H. Heald, M. D.

Cold Sores

"What is a cold sore? Is it caused by a cold? What is the treatment?"

Herpes labialis, or cold sore, is a local inflammatory condition of the lip characterized by the presence of one or more small painful pimples or blisters. Cold sores may appear on almost any part of either lip, and may be very annoying. They may accompany a cold, but are sometimes present when there is no cold. Two or three applications of full-strength peroxide of hydrogen may clear them up.

Pasteurized Milk

"What, if any, are the advantages of Pasteurized milk over raw milk?"

Milk properly Pasteurized is freed from dangerous disease germs, such as the streptococcus, which causes epidemic sore throat, and the germs of tuberculosis, typhoid fever, and others. It is asserted that Pasteurization does not make changes in milk that interfere with its nutritive qualities.

We know, however, that Pasteurization does not kill all germs; that germs will multiply more rapidly in Pasteurized than in raw milk, so that after a time the Pasteurized milk will actually contain more germs than non-Pasteurized milk of the same age; that the lactic acid, or "friendly" germs, are killed off, permitting the more rapid growth of the colon germs which are not so friendly; that Pasteurization is often poorly done; that it is made the cover for the use of dirty milk; so that, on the whole, one must be certain what is involved before he takes from a certain milk supply on the ground that it is really "Pasteurized milk." It may not be so good as raw milk from a neighboring dairy.

Eyeglasses for the Young

"Is it not injurious to the eyesight to begin wearing glasses when young? Cannot weak eyes be trained to see well without glasses? If muscles can be made stronger by exercise, why not the eyes? If keeping an arm in a sling causes it to weaken and waste away, why will not glasses, by removing effort from the eyes, cause them to weaken?

Your queries express an opinion that was prevalent some years ago, and on first thought your reasoning seems logical. When there is difficulty in seeing, or when there is eyestrain, it is due almost always to wrong shape of the eyeball, which throws an extra burden on the muscles of the eye; and this burden is such that if it is not relieved, there results discomfort, imperfect vision, nervous symptoms, etc.; and the more the eyes are exercised, the worse the condition becomes.

Let us suppose, for illustration, that you have lost both legs and must depend on your arms for locomotion. Would you arrange to pull yourself about somehow with your arms, or would you get artificial limbs and crutches, or better, a wheel chair? The muscles of the eye are not adapted to the excessive work required to correct refraction in case of wrongly shaped eyeballs, and the effort to train them to do this often results in disaster. Properly fitted glasses neutralize the effect of the wrongly shaped eyeball, and thus take the abnormal load off the eye muscles. If a young person has any symptoms indicating eyestrain, he should at once consult a competent eye specialist.

Eyestrain Symptoms

"What are the most common symptoms of eyestrain?"

The common local symptoms are discomfort or pain in the eyes, blurring of the letters when reading, twitching of the eyelids, congestion, shown by redness of the eyes or lids, sties, and drowsiness and difficulty in keeping the eyes open when attempting to read.

The principal reflex symptom is headache, usually in the front of the head or the temples, made worse by close work, such as reading and sewing, or by continued use of the eye muscles, as when riding on the cars. There may also be digestive troubles and constipation and serious nervous troubles.

It is well to remember that not all discomfort in the region of the eyes is due to eyestrain. What appears to be the result of eyestrain may be due to nasal trouble.

How Much Protein?

"How may one be certain that he is getting sufficient protein?"

According to a recent writer in the *British Medical Journal*, if one takes care of the calories, the protein will take care of itself. Hindhede has said very much the same thing; namely, that it is difficult to get a diet that does not contain sufficient protein for the needs of the body. According to recent investigations,

it would seem that the body will get along well on an amazingly small quantity of protein, provided it is well chosen. A vegetable diet *restricted* to a few articles may prove disastrous, but if there is a combination such as will insure a supply of complete proteins to the body, and a sufficiency of the food accessories, or "vitamines," and a proper proportion of the mineral salts,— a combination, for instance, of cereals, green vegetables, fruits, and a little oil,— rugged health may be maintained indefinitely, though the supply of protein be much smaller than is generally supposed to be necessary.

Tetanus — Lockjaw

"Is lockjaw caused by a rusty nail? Is there a cure?"

Lockjaw, or tetanus, is caused by the presence in the body of a violent poison produced by the tetanus germ, a germ that grows and multiplies in the absence of air. This germ is frequent in garden soil, its source probably being the manure used as fertilizer. A wound produced by any instrument infected by such soil may cause lockjaw, particularly if it closes and does not bleed freely. The only effect of rust would be to afford a lodgment for the tetanus germs. Rust itself cannot cause lockjaw. It takes considerable time, two or three weeks or more, for the germs to develop, so that an attack may occur after the wound has healed and been forgotten. Any wound made by an instrument or tool liable to be infected should be opened freely and allowed to bleed. It might better be cauterized, or treated with pure carbolic acid followed by alcohol. In the war zone the soldiers wounded at the front are treated with antitetanic serum. This treatment is of no avail if delayed until the attack is coming on. For the attack, intraspinal injections of a solution of magnesium sulphate may quiet the convulsions and tide the patient over. But, emphatically, in this disease, prevention by the use of serum is better than cure.

What Is a Calorie?

"We read in many articles lately about calories. Kindly explain what a calorie is."

A calorie is a heat unit. A degree is a unit of temperature; a pound is a unit of weight, or rather of mass; a yard, a unit of distance or length. Everything that is measured must be stated in terms of some unit. It is customary to state the amount of energy in the food and that given off by the body, in heat units. A calorie is the amount of heat required to raise a kilogram of water one degree Centigrade, or approximately two pounds of water two degrees Fahrenheit.

We say a pound of food yields so many calories, meaning that if burned it would yield that many heat units. For instance, most dry foods, such as flour, rice, oatmeal, yield about 1,600 calories to the pound. That is, a pound, if burned, would yield enough heat to raise about 1,600 kilograms of water one degree Centigrade. If eaten, the food will yield to the body approximately the same amount of heat, or its equivalent in work. Foods containing considerable water, like vegetables and fruits, yield a much smaller number of calories, say 150 to 300 to the pound, and foods containing a considerable quantity of oil yield more, perhaps 2,500 or more calories to the pound. A normal person at moderate work requires foods yielding about 3,000 calories a day, the equivalent of about two and one-half pounds of bread, or a little more than a pound of peanuts, or two pounds of any cereal weighed before it is cooked, or about eight pounds of potatoes.

Why Ventilate?

"Is it true that recent experiments have shown that ventilation is not needful in winter?"

Certain experiments have seemed to show that the evils of poor ventilation are not due to lack of oxygen, or to an excess of carbonic acid, or to the presence of deleterious substances in the air, but to stagnation of the air, and to excessive humidity and heat. However, no one can gainsay the fact that the open-air treatment, especially in winter, has wrought marvels for patients with tuberculosis, pneumonia, and other diseases.

Possibly those who have advised the poor, with scarcely enough fuel to keep the house comfortable when it is tightly closed, to open their windows wide all winter and keep them open, have been overenthusiastic, and perhaps it is as well for the poor that they have not always taken this advice too seriously. When we learn from good authority that the Chinese go to sleep in a box not larger than a coffin, after having pulled the cover tight over them so as to preclude all ventilation, and that in the morning they come out seemingly no worse for it, we are sometimes led to wonder whether we may not have taken an extreme view of the importance of pure air.

As in all other things pertaining to hygiene, there are in the matter of ventilation two extremes, neither of which is likely to give the best results. We can have too little fresh air, and we can have too much. At least, we should not shiver all the time, and we should not use money needed for the purchase of wholesome food, in the purchase of fuel to "warm up all outdoors."

Riggs's Disease

"What is Riggs's disease? Can it be cured?"

Riggs's disease is a name for pyorrhea alveolaris, that is, purulent inflammation of the tissues of the tooth socket. It is due to an infection. Some suppose the infecting organism to be not a bacterium, but an endameba. For a time it was thought that we had a sure cure for this condition in emetine. Further investigation, however, has not justified this first hope. It now seems established that there is no cure for pyorrhea short of careful and persistent scaling of the roots by a competent dentist, combined with local treatment. A course of emetine at the same time may or may not be a help.

Pyorrhea may not give so much trouble as an aching tooth, and for this reason it is more liable to be neglected. Such neglect is liable to prove costly.

NEWS NOTES

Prohibits Grain for Liquor

By an Order in Council published in the *Canada Gazette,* Nov. 3, 1917, no grain or other food material may be used in the distillation of potable liquors. The penalty for violation is $5,000 fine or six months' imprisonment. The order is to remain in force until the governor-general has declared in council that the present abnormal conditions have ceased.

Canada Regulates Carton Foods

A Canadian Order in Council decrees that after Dec. 1, 1917, no foods which are the product of wheat, oats, barley, rye, rice, peas, beans, buckwheat, Indian corn, or lentils, shall be sold in original packages of less than twenty pounds, without a special license. All such foods are to be sold by the pound or ton, and shall be net weight to the purchaser. Evidently Canada intends for some reason or other to do away with the carton foods.

Food for Pellagra Districts

In districts where the water is low in soda and lime, according to McCollum and Simmonds in the *Journal Biological Chemistry,* milk and plant leaves should be used regularly. These furnish lime and soda in liberal quantities. The seeds, or cereals, which furnish a large measure of the food of pellagrins, are poor in mineral salts, especially in soda and lime. Meat will not furnish these necessary salts nearly so well as milk.

Appeal from France

Ambassador Jusserand, of France, has voiced the thanks of his people for the sacrifice Americans are making for the hungry of Europe. He says: "Nothing can more deeply touch the heart of France than the thought that thousands of miles away, of their own accord, obeying the free impulse of their kind thoughts, the American allies of former days and of today are keeping a severe watch on their food consumption so that invaded France and those leagued with her for a sacred cause, may not suffer from want."

Disease Transmission by Insects

According to Dr. L. O. Howard, in his address as retiring president of the Washington Academy of Science, 226 disease organisms are known to be transmitted to man or animals by insects. There are 282 species of insects known to be transmitters of disease to man or animals. It has recently been discovered that one of these insects, the body louse, carrier of typhus fever, is sometimes carried from one place to another by winds. Dr. Howard warns against the tendency to attribute too many diseases to insect transmission. He believes that infantile paralysis is one disease in which insects are innocent. In view of what we now know regarding insects and disease, it seems strange that "standard works on medicine published twenty-five years ago made no mention of insects in connection with the etiology of disease."

Soap Substitute Clogs Drains

With the shortage of fat, Germany looked up soap substitutes, one consisting of Kaolin (a fine clay) with slaked lime. This worked very well, but later it was noticed that the sink drains had a bad habit of stopping up, the clay having collected with other detritus in masses sufficiently large to clog the pipes.

Soy Bean Protein

Animal-feeding experiments with the soy bean indicate that this bean contains a protein that is more complete than are the proteins of any other legumes thus far tried, and in addition, a fairly liberal amount of the food accessories, or "vitamines," that stimulate growth in young animals. Apparently the protein of the soy bean is as valuable as that of milk casein. In order to make a soy-bean ration more complete, there should be added common salt and lime.

Eat Less Candy

The sugar used in making candy in the United States would be sufficient to meet all the requirements of England under the present rationing standard, more than enough to meet all the requirements of France, or twice as much as would be necessary to meet Italy's present sugar standard. The money spent for candy in the United States in the past year is nearly double the amount needed to keep Belgium supplied with food for a year.

Alcohol Causes Wage Loss

The United States Cast Iron Pipe and Foundry Company recently protested against the relicensing of Burlington, N. Y,, saloons on the ground that the average loss of wages on account of drinking has been $180 per man during the last eleven months, and that the total wage loss for the city of Burlington could be conservatively estimated at $100,000 per year at least. The management arrived at those figures through a study of the record of 100 men, 50 of whom were average drinkers, and the other 50 total abstainers. Injuries were more frequent among the drinking class.— *Safety Engineering, July, 1917.*

Lead Poisoning in Children

In the *American Journal of the Medical Sciences* for June, 1917, Blackfan urges that care be taken to prevent lead poisoning in children who have a tendency to gnaw on painted articles, such as the painted rail of the crib. He has noted a number of instances where children nibbled off the enamel of the crib. In a child with convulsions where no other cause is apparent, one should think of lead poisoning, and look for the important distinguishing sign, the dark "lead line" on the gums. A physician should, of course, be immediately consulted, who will make further investigation if necessary, and if it is a case of lead poisoning, will institute the appropriate treatment.

Eliminating the Nicotine

The *Scientific American Supplement* suggests that the use of cotton-wool containing tannin to absorb a portion of the nicotine from the tobacco smoke would be in the interest of the health of the smokers. We might suggest something that would eliminate all the nicotine, but perhaps the suggestion would not interest smokers.

Sunlight Disappointing

Frèche, in a French medical journal, has given instances to show that sunlight is not so good a wound disinfectant as it was thought to be. Though sunlight will destroy germs in the dry state, it has little effect on bacterial growth in a moist medium. His experience in treating wounds with sunlight was less favorable than with any other method.

Combination Sales Prohibitive

On the ground that such practice is likely to lead to the purchase of more food than customers really want and is therefore wasteful, the United States Food Administration has stopped "combination sales" by retail dealers in food commodities, with the single exception that a dealer may at his option sell sugar in combination with cornmeal, requiring a customer to buy with his sugar twice the weight of cornmeal. No retail dealer is required to make this combination, but he may if he chooses. If he does, he is subject to a prohibition against making more than a normal profit on either commodity.

Ripe Olives

Ripe olives are not a product of nature. Olives from the tree are about the bitterest pills one can take. To render them edible they are given a bath of brine, and later of dilute lie solution, repeated once or more to produce the desired color, and a period of soaking in water to remove the lye. The entire process may take from four to six weeks.

Cold Storage Ruling

To take full advantage of cold storage as a means of conserving foods produced at certain seasons, and to prevent the possibility of speculation causing extreme high prices for foods placed in storage, all cold storage warehouses have been placed under license, and are required to report regularly to the Food Administration on all food stored. Poultry, eggs, butter, and fresh or frozen fish which have been held in cold storage for thirty days or more, cannot be represented or advertised as fresh, and must not be offered for sale without being marked with a placard reading "Cold Storage Goods." Laws to this effect are already in operation in some States, but the rules of the Food Administration now cover the entire country. No warehouse will be permitted to store any food products which are diseased, tainted, or otherwise unfit for human consumption. All fresh meat and fresh meat products, fresh fish, game, poultry, eggs, and butter, must be plainly marked with the date on which they are placed in cold storage and the date of release from storage.

For Worms

In the *Journal A. M. A.*, June 30, 1917, Hall and Foster state their opinion based on experience that oil of chenopodium should be accompanied by large doses of castor oil, and that so given it is a most excellent and safe treatment for the roundworm. They consider chloroform in castor oil in proper dosage the most effective remedy for hookworm, and consider it as safe as thymol or any other hookworm remedy.

Condensed Milk

Condensed milk in the diet of soldiers in the field is the subject of a short brochure by Dr. Lassablière, who strongly advocates its use in the ordinary ration of the soldier on account of its portability, purity, high caloric value, and pleasant taste. The presence of sugar in it renders it particularly useful as a food-stuff which is readily absorbed and heat-producing. Further he demonstrates how useful he has found it in dealing with cases of enteritis. In this condition he administers it diluted with rice water, and has found that it effects a rapid diminution of the number of stools, leads to a disappearance of blood and mucus therefrom, and abolishes the fetor, while the tendency to relapse is decreased. He has reduced by its use the number of sick days by half, and finds no drawback to its employment in those cases which are frequent among men serving in the trenches.— *Edinburgh Medical Journal, October, 1917.*

Food Importers

In various parts of the country men posing as representatives of the Food Administration have attempted to buy the home-canned products put up by housewives, claiming that they were doing it by order of the Food Administration. In other places reports have been circulated that the government was planning to take over by force if necessary the foods put up by housewives. These efforts to spread consternation among the people evidently all emanate from one source.

CO Poisoning in Motor Boat

A Norwegian medical journal relates how on a motor boat carrying four young persons on a pleasure trip, two went into the small cabin and shut the door. In half an hour the others entered and found the girl unconscious and the young man, an athlete, dead. Blood examination revealed carbon-monoxide poisoning. The engine, it was found, was defective and gave off an unusual amount of carbon monoxide, part of which leaked into the cabin. As carbon monoxide is odorless, the young people did not suspect their danger. The same periodical relates another instance where four persons occupied a boat cabin 2 x 2 x 1½ meters in size, and when found all were unconscious, and it required vigorous work by artificial respiration to restore them. It should be remembered that there is similar danger where a motor is run in a closed place, as in a garage.

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