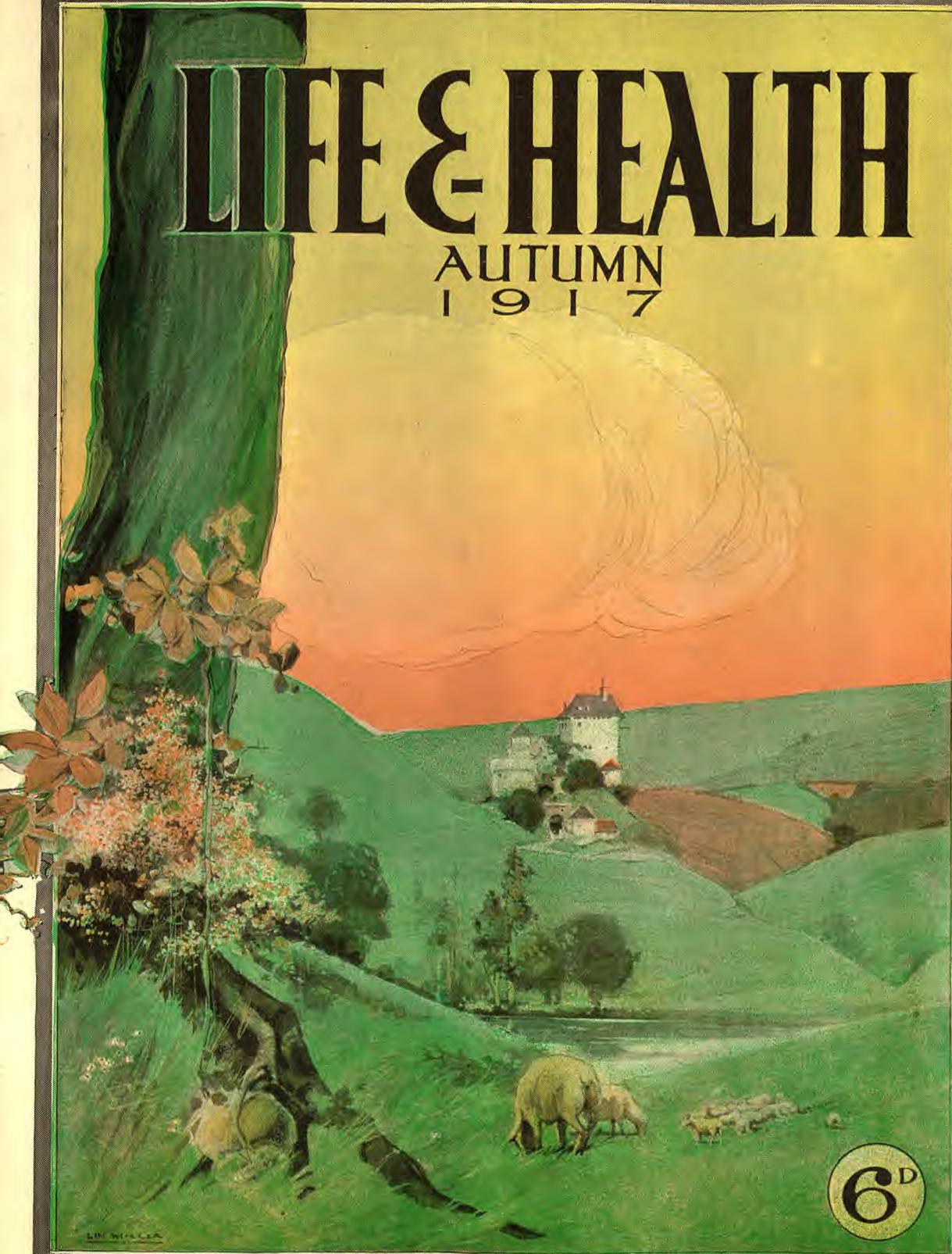


LIFE & HEALTH

AUTUMN
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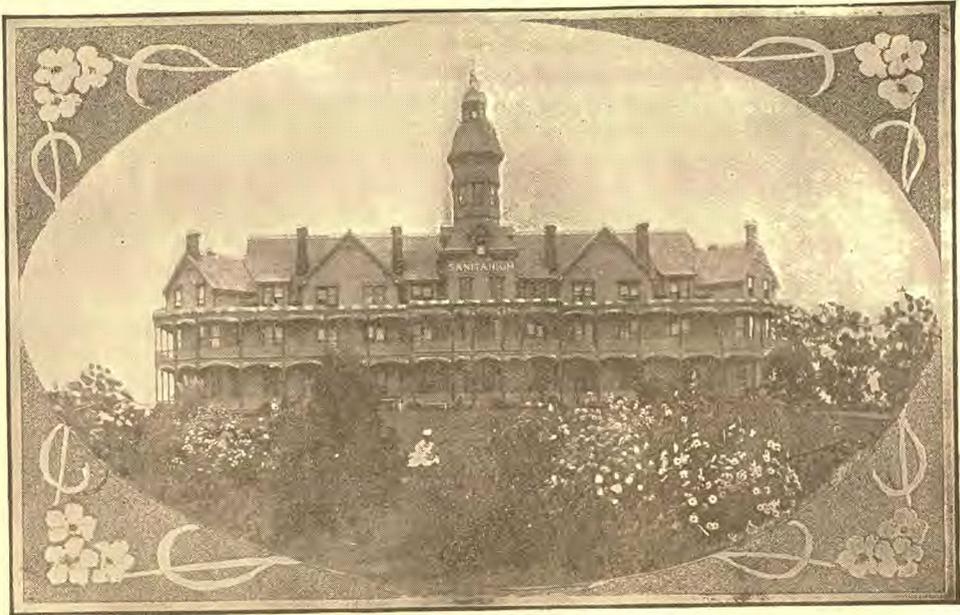


LIFE & HEALTH

6^D

The Sydney Sanitarium

Wahroonga, New South Wales



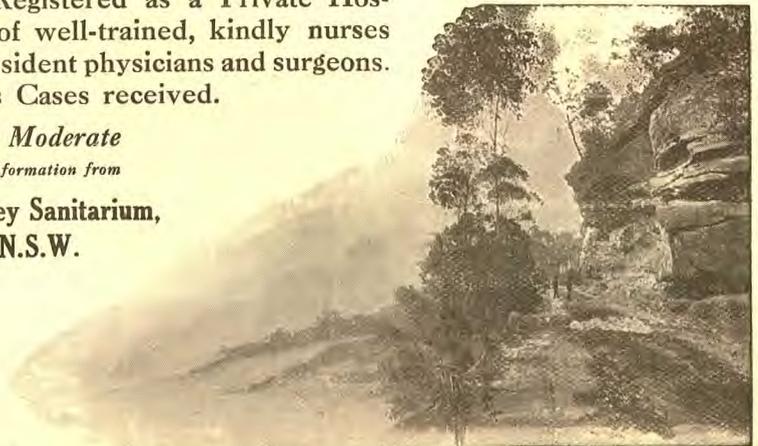
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Home Help Page

Here we list odds for the Kitchen that cost but little compared with the great saving of those priceless assets—human effort and time. The modern housewife in hundreds of cases has found great assistance from the following "Short Cuts." Do you know their possibilities? LADY GLADYS.

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To be harnessed to the cold, hard floor with a scrubbing brush—to have to scramble around on tender knees in the everlasting chase after dirt, is now no longer necessary. The inventive mind of man has produced a wonderful Self-Wringing "Swab" which enables Ladies to do scrubbing and such work standing up—without the inconvenience of having to stoop and get around on their knees. Ladies there are who say that new devices are not effective. Such was true until the "Dandy Swab" came along. The fact that hundreds—yes, thousands of ladies have purchased a "Dandy Swab" when they have once seen it demonstrated—the fact that hundreds of ladies speak highly of the time and labour the Swab saves them is sufficient guarantee that a "Dandy Swab" at 3/11 would prove a wise investment for YOU.

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New Stove at 2/- Worth £££ And Keeps Home Cool

It's tiresome and unnecessary work having to light up a blazing fire in the warm weather. Once the fire is lit, it must be left to burn down, even after it has served its purpose. The "Univex" now does away with this tiresome necessity of the past. Quite a new idea, and although small, gives a fierce heat right on the spot where wanted. The actual size is about half that of the ordinary jam tin, so you will see such a stove offers great convenience for sick-room, nursery, picnics, etc. Burns solid spirit which can always be procured at 6d. tin. The mere application of a match starts fierce flames at once—can be put out the instant it is not wanted. Gives all the heat you need for boiling water or warming things up, yet does not turn your kitchen into a hot house. Has patent folding wire stand on which can be placed from the smallest vessel to even a large fry pan. The price is only 2/- Refills 6d.

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CRAIG'S

Would Surprise Grandmother—This New Quick Eggbeater!

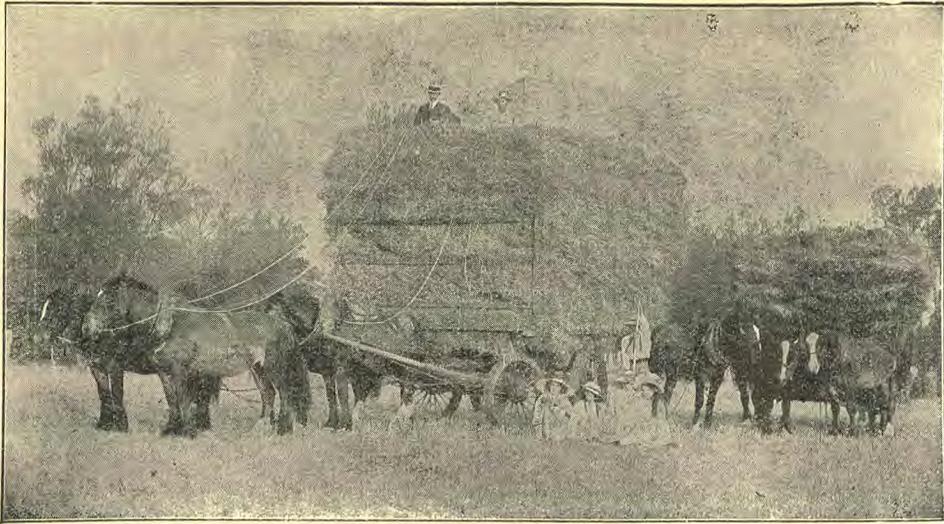
If you could have grandmother at your side for only a few minutes while you showed her the new and wonderful "Standalone" Eggbeater, she would be amazed. It's the beater that beats all others. Slight turn of the cog-wheel instantly sets the nest of beaters spinning around. It makes frothy batter in a few seconds, keeps everything moving quick. Also offers advantage of standing alone in the batter while other ingredients are being added. The price is only 1/-.

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The old way of shifting dust was to stir it up with the old feather duster and STIR it up you did. In fact no sooner had you stirred it up from one part of the room, than it dropped on articles in another part. The battle against dust was always hopeless. The new "No Dusta" Duster absorbs all dust. Does not stir it to land somewhere else. This new duster is also treated with patent chemical polish which puts a preserving shine on everything it touches. Its clever shape also enables you to take all dust from hard-to-get-at-places. The price only 1/6.

How To Get These Home Helps

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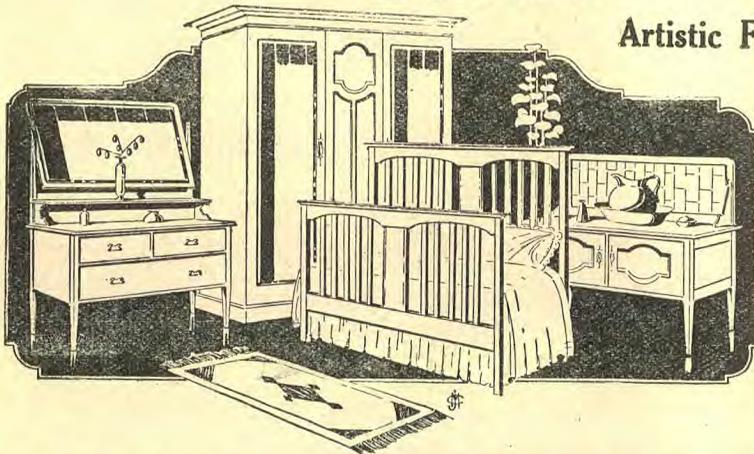
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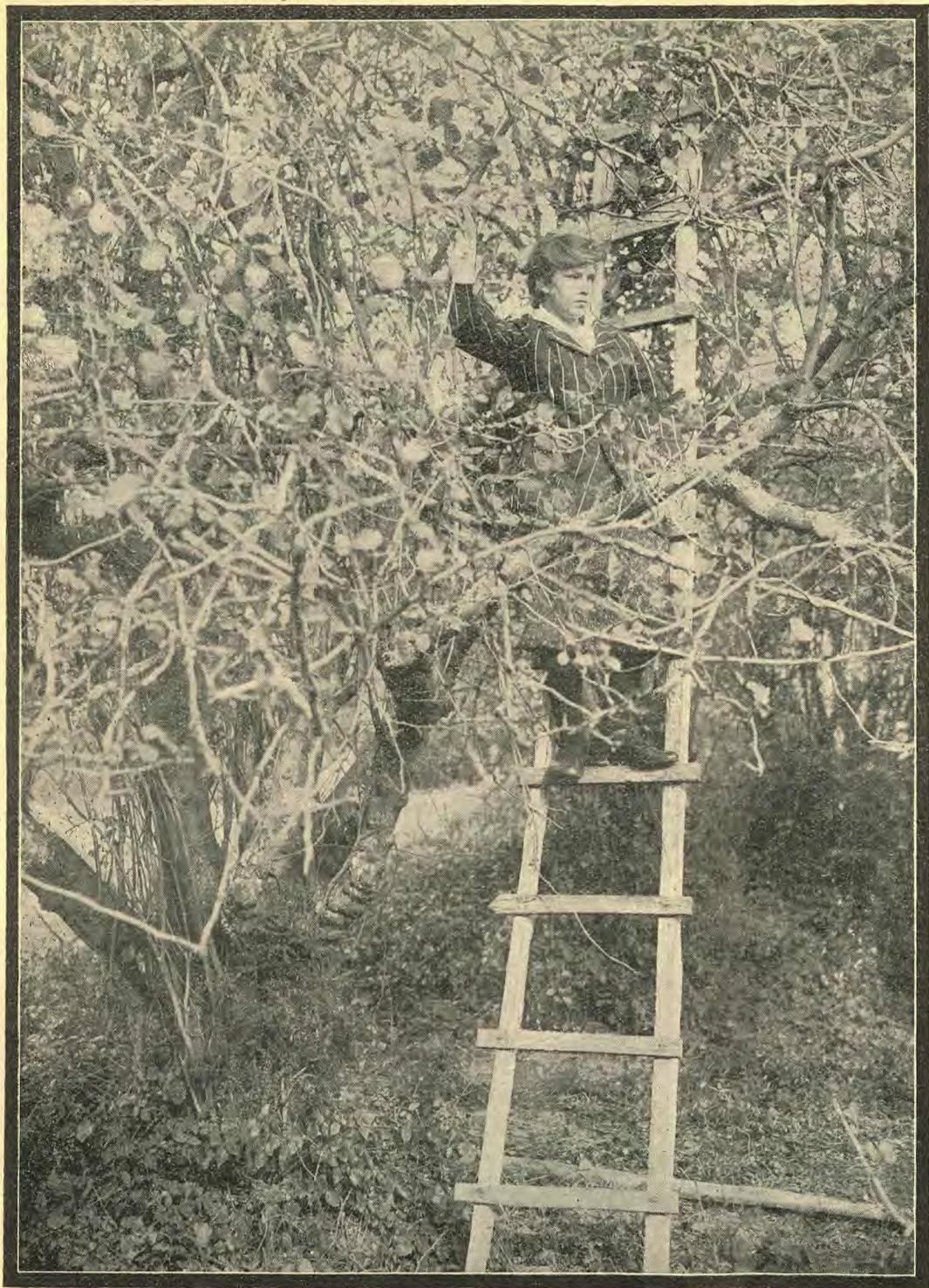
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W. Howard James, M.B., B.S., Melb.

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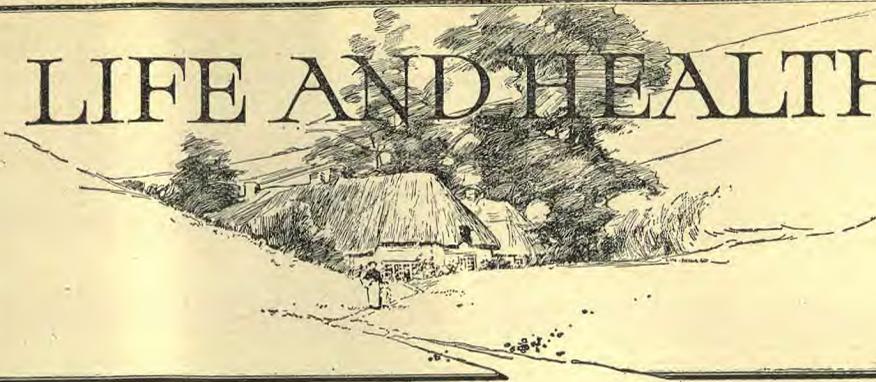
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GATHERING AUTUMN'S LUSCIOUS HARVEST

LIFE AND HEALTH



Vol. 7

March-May, 1917

No. 1

Editor: CHARLES M. SNOW

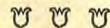
Associate Editors: { W. HOWARD JAMES, M.B., B.S.,
EULALIA RICHARDS, L.R.C.P. & S., Edin.

NO man ever got the "blues" by studying the blue sky, nor a "green liver" by working among the "green things growing." Bright eyes, clear brains, strong muscles, limber joints, good appetites, and good digestion are the handmaids of busy hands. Love your work and your wife, and you will never be seeking a divorce from either. It is the secret of a happy life, and, barring accidents, a long one.



PERSONS who have had an attack of typhoid fever may carry the germs of that disease in their system for a long time. Such persons should not be employed in the preparation of food or in the dairy business until all danger of their being carriers of the disease has passed. This may require a period of from two to three years. Where there is the least suspicion of danger either in the water or the milk supply, the water should be boiled for at least twenty minutes and the milk be brought to a temperature of 160 degrees for the same length of time. Some persons feel that it is a great bother to do this. But it is far better to submit to some bother than to run the risk of a sorrowful break in the family circle.

IT is a splendid and exhilarating change to "go camping." It sometimes results in lasting injury, however; and yet it need not. Select the camp site carefully. Make sure it is not near a place infested with mosquitoes, especially malarial mosquitoes. Make sure that your water supply is uncontaminated, that your milk is from a clean dairy and healthy animals, and that your sleeping quarters are well protected by mosquito netting from all flying and biting pests. If necessary to protect from insects that crawl up from the earth to keep you company, stand the legs of your cot in dishes containing a little kerosene. Then drop all your lighted matches far away. With these precautions taken, you can enjoy your camp life and your study of nature to the full, and come back refreshed and invigorated. If you don't take these precautions, then don't blame camping out for the resulting troubles.

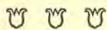


"To be hygienic even in spots," says one, "may add years to one's life, and these years may be years of joyful usefulness." But our aim as rational beings should be to indulge in nothing that we know to be unhygienic *at any time*; to be hygienic not in spots merely, but

through our whole life. We owe it to ourselves and to our fellow-men whom it is our duty to serve. To be *unhygienic* "even in spots" may subtract years from our lives or cause us to be a wearisome burden on the shoulders of our best friends.

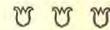


IF you carry the burdens of two days in one, you need only expect that you will go down under the strain. Nature has no more made provision for your carrying two days' burdens in one day, or carrying each burden twice, than she has for your being in two different places at the same time. It is not to-day's burden that crushes men and women; it is to-morrow's burden on top of to-day's that does it. The soldier who is least prepared for the shock of battle when it comes is the soldier who has been feeling that shock several days before it came. What is the moral?—Conserve your strength by using it for to-day's duties only, and when to-morrow comes, you will have strength to bear and to battle and do it cheerfully and successfully. Don't worry.

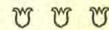


DON'T be idle. You don't need to make a workshop to be idle in. The devil will furnish that and promise you good wages and a good time while you occupy it. But it never pays. The grumblers, the croakers, the discontents, and the malcontents are always found among the idle class. Croaking and grumbling is their way of excusing themselves for being idle. A boy was once educating his dog to draw a loaded cart along the road. Meeting a man, the dog stopped and began a furious barking. "What is the trouble with your dog, Archie?" asked the gentleman. "Oh, don't mind him," answered the boy; "he would rather bark than pull this cart." The application is obvious. Really, the poorest-paid business in the world is idleness. It has its wages, of course; but the coin is all counterfeit, and has no purchasing value. Let no day pass in

idleness. The fruit of idleness is first a dyspeptic mind, and then as sure as darkness follows day, a dyspeptic stomach and a bad liver follow the dyspeptic mind. The man whose only "grace at meals" is a grumble never has a good appetite or a good assimilation. And the idler is generally a grumbler. The man who sees nothing in his work but an opportunity to earn money is missing one of the best rewards of life, and is sowing seeds of discontent and idleness to afflict both himself and his posterity. Work is not a curse, but idleness always is. If you have no occupation, invent one. For your health's sake and for your example's sake and for your soul's sake don't be idle.



THERE is something radically wrong in the training of one who has such an aversion to work that he considers it beneath his dignity to soil his delicate hands with the grime of honest toil. And before he has reached that time known as "the prime of life," there will be something wrong with his physical system, needing the attention of nurse, physician, or surgeon. Nature has little respect for those who have not respect for the purpose of their being. There is physical salvation in the gospel of work; and they who turn their backs on that gospel are headed for the pit of physical ruin.



WE have heard of the gospel of work. But there is also a gospel of rest. Some forget all about the other, and bask in the sunshine of this alone. To them work is inconvenient and uncomfortable—and so sticky; while rest is convenient, comfortable, refreshing—and clean. But they who do not work never experience the real comfort of rest. God worked six days and rested on the seventh—and "was refreshed." That is Divinity's example to humanity—rest and refreshing after work. He who works earns his rest; he who rests when he does not work does

not earn that rest but steals it from some one who has earned it without receiving it. That which is appropriated without being earned is stolen; and this is just as true of unearned rest as of him who, cultivating no flowers of his own, enters his neighbour's garden and appropriates the flowers his neighbour has grown. If you want to know how to enjoy real rest, earn it by real toil. But some people do not know how to rest after they have toiled. They lie down to rest, but seem unable to let go of the rope they have been pulling on all day, lest the load they have been pulling up the hill should roll back again. Let such in imagination tie that rope securely around some giant stump, and then let go of it absolutely, relax every muscle, centre the mind on the most pleasing thought that has ever come to them—and rest. If the burden has been some problem of business or household affairs, drop it; don't worry; it will not stray far away, and will be ready for you when you are ready for it. And you will be much more fit for it, if you have done so.

Good Advice

THE Women's Imperial Health Association of Great Britain has issued the following ten words of admonition and warning, which we pass on for the benefit of our readers:—

1. Keep the windows open day and night.
2. Drink pure water.
3. Breathe through the nose by keeping the mouth shut.
4. Do not spit. If there is chest trouble, use a proper cup or cheap destroyable handkerchief.
5. Eat slowly, take well-cooked meals, and cultivate regular habits.
6. Wear loose clothing of seasonable material.
7. Take regular open-air exercise, in the sunshine if possible.
8. Wash the whole body at least once or twice a week, and the teeth once or twice a day.
9. Work but do not worry. Look on the bright side of things.
10. Before taking a house get the drains certified by the sanitary authority.

The Proteid Element in Food

W. HOWARD JAMES, M.B., B.S.

THE amount of proteid contained in our food is a very important consideration. Proteids contain nitrogen (N) in addition to three other elements, carbon (C), hydrogen (H), and oxygen (O). Other important constituents are sulphur (S) and phosphorus (P). Beef, mutton, poultry, fish, eggs, milk, cheese, peas, beans, nuts, and lentils are examples of protein foods.

With the steam engine and other mechanical contrivances any food that will burn and produce energy, without the production of too much ash and smoke, would be suitable; but in the human body the wear and tear of the tissues must be made up, and as all the

tissues are of a proteid nature, some proteids must be supplied in the food. And again, we should remember that the all-important digestive secretions contain a small percentage of proteids as well as the blood corpuscles. The question is, What proportion of proteid matter should our food contain?

Until recent years it was held that no food could be converted into energy until it was actually transformed into the tissues of the body, that muscular energy could only result from the oxidation of muscular tissue, and mental and other nervous energies from the burning up of nerve tissues. Fats and carbohydrates (starches and sugars) consequently were

considered as being of no value as far as the energies of the body were concerned, the purpose they served being the production of heat only. This theory, however, throws discredit on the economy of nature. It is like first building a house in order to produce a bonfire. The experiments of Drs. Fick, Wislicenus, Traube, E. Smith, and others have clearly demonstrated that all classes of foods will produce energy, and that food is not necessarily built up into the tissues before producing energy by oxidation.

We realise that fuel in the steam engine that leaves too much ash would be decidedly unsuitable; it would entail too much work in its removal. Our foods, after having their energy abstracted by oxidation, leave what we might call "physiological ashes," and these correspond to the smoke and the ashes of the engine. Now, carbohydrates (sugars and starches) and fats, when oxidised, leave only carbonic acid (CO_2) and water (H_2O), which products are readily eliminated by the lungs; proteids, however, do not burn up so completely, and leave ashes which can only be separated from the blood through the kidneys. We know these ashes as urea, urates, uric acid, xanthins, etc. These latter have very complicated formulæ of four elements instead of two, as in the case of non-nitrogenous foods, and when they accumulate in the system they produce headache, lassitude, mental dullness, and finally rheumatism, gout, arterial diseases, and other disorders.

The amount of proteids in our food, consequently, becomes a very important question. To take too little protein food would mean loss of weight from wear and tear, lack of energy and vitality; to take excess would produce the same result as well as producing a liability to many diseases. Excess of carbohydrates and fats can be stored up in the tissues as fat, but the body is unable to store up any surplus of proteids.

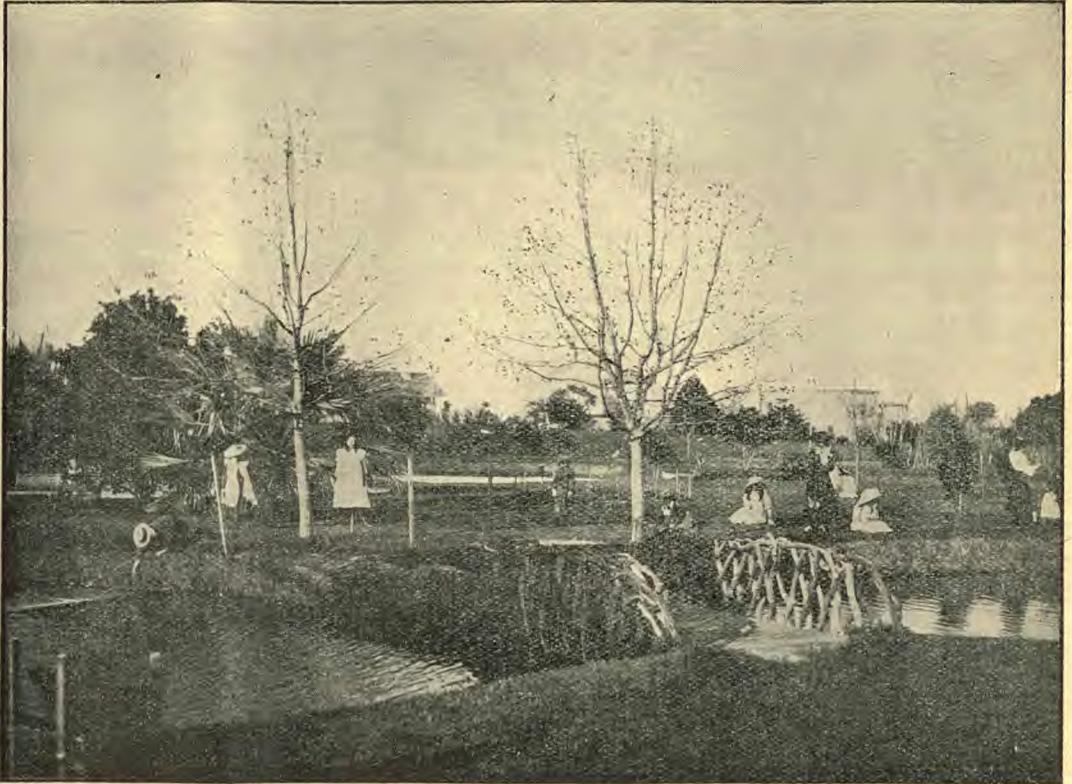
Munk, Wolff, Voit, Rubner, Atwater, and others have made a very large number of analyses of freely-chosen diets

in various parts of the world, and show, with a remarkable degree of unanimity, that the standard of proteid adopted has been almost invariably about $3\frac{1}{2}$ -4 oz. (100-125 grammes) for a man of eleven stone weight doing a moderate amount of work. Chittenden has startled the professional world by demonstrating that health and efficiency can be maintained with a daily intake of proteid of less than half the above amount. The experiments of Chittenden on professional men, athletes, soldiers, and others, are acknowledged generally to be very thorough. Hutchison, for instance, who favours the higher standard, writes: "In the first place it must be admitted that such a large amount of proteid ($3\frac{1}{2}$ -4 oz.) is by no means necessary for making good the mere daily waste of proteid in the body. Very much less will suffice for that, and carefully conducted experiments have shown that no impairment of the stock of proteid in the body is incurred even if the amount in the food is cut down to as low a level as sixty grammes daily. Even if it be objected to such experiments that this minimum consumption of proteid has only been maintained for very limited periods, yet it may be replied that the minimum reached is not much below that which forms the average daily consumption per individual in a large number of healthy races, such, for example, as the Japanese. The reply of scientific experiment, therefore, as far as it can be applied to the problem under consideration, would be that it is undoubtedly possible to maintain a healthy life upon such a daily amount of proteid as is contained in a moderate quantity of vegetable food, and the accumulated experience of vegetarian races fully bears this out."—"*Food and Dietetics*," pages 173, 174.

Major D. McCay, who is decidedly antagonistic to the low proteid diet of Chittenden, makes some startling admissions in his work on "The Protein Element in Nutrition." We will quote a few: "When a survey is made of Chittenden's brilliant piece of work, it must be admitted that he has made out a

very strong case." Page 145. In speaking of the very thorough experiments on all classes of individuals he states: "It must be accepted also that during the period of five months the men showed no signs of diminished strength or loss of bodily vigour." "There is no doubt, however,

stintence from alcohol, condiments, and indiscretions from consumption of rich foods, sweetmeats, etc. With a carefully regulated life such as these men were compelled to pursue, great improvement in health was only to be expected. Even in diseased conditions the regular routine



AUTUMN SCENE, QUEEN'S GARDENS, PERTH, W.A.

S. J. Baird, Photo., Perth

that the reports on these men, while on the restricted diet, show marked increase in strength and skill in carrying out the tests," pages 130, 131.

McCay, however, makes what he considers some very important objections to the low protein diet demonstrated to be amply sufficient in Chittenden's experiments. "The subjects," he states, "were placed under almost ideal conditions for ensuring the success of the investigations: they were made to lead regular lives; their food was carefully chosen and properly cooked; there was a total ab-

of a sanatorium often transforms the bodily conditions in a comparatively short space of time," page 124.

A man who adopts a low protein diet for the sake of his health surely would also be careful in his living and general habits; consequently we can only look on this statement of McCay's as an admission and not as an argument. A man who would not be careful in these matters would certainly not attempt to adopt a low protein diet.

Chittenden points to the fact that the teeming millions of rice-eating Bengali

maintain good health on a proteid diet of not much more than one-third (fifty-five grammes daily) that provided for in the standards of Voit, Atwater, and others. McCay takes exception to the health and vigour of the race being an argument in favour of a low protein diet. He quotes Macaulay, who writes: "Whatever the Bengali does, he does languidly. His favourite pursuits are sedentary. He shrinks from bodily exertion, and, though voluble in dispute, and singularly pertinacious in the war of chicane, he seldom engages in a personal conflict, and scarcely ever enlists as a soldier. The physical organisation of the Bengali is feeble even to effeminacy, . . . his limbs delicate, his movements languid. During many ages he has been trampled upon by men of bolder and more hardy breeds. His mind bears a similar analogy to his body. It is weak even to helplessness for purposes of manly resistance; but its suppleness and its tact move the children of sterner climates to admiration not unmingled with contempt." Chittenden takes the health and the comparative freedom from many diseases, as being due to a low protein diet, whereas McCay interprets every disqualification of character to the same cause.

The Bengali are consumers of opium. McCay takes this fact as being due to their low protein diet. Like the horse which has its oats omitted from its feed, they miss the stimulating influences of the proteids. McCay, however, does not feel quite certain as to his conclusions, for he writes: "While it is impossible to state dogmatically that these differences are entirely due to an insufficient supply of protein in the food, it would appear to be the most plausible, and, as far as the facts go, the only explanation." Page 159. We believe, however, the tropical climate, the consumption of opium, the comparative little exertion necessary in the growth of tropical food, lack of education, and heredity will give ample reasons for their lack of robust character and endurance. With a high protein diet under these conditions these effeminate characteristics

would, we believe, be still more marked.

McCay again points to the Eurasians (Bengali with a mixture of blood of European or other nations of more robust character), and shows that they are more energetic and vigorous. As they live on a higher proteid diet, he gives the diet as the sole cause of their superiority. We would give the cause of this superiority not to diet but to heredity. No more important factor can be found than heredity. An individual with weak parentage will find much more difficulty in keeping himself strong and energetic than the one who descends from those of strong constitution, even though he adopts a much superior dietary. The Eurasians certainly take a higher protein dietary, but this is not the cause of their superiority.

Hutchison, in admitting that health can be maintained on a low protein diet, writes: "This, however, does not dispose of the question. There is such a thing as degrees of health. While one freely admits that health and a large measure of muscular strength may be maintained upon a minimum daily supply of proteid, yet I think that a dispassionate survey of mankind will show that races which adopt such a diet are lacking in what, for want of a better word, one can only describe as *energy*. Now, *energy* is not to be confused with muscular strength. A grass-fed cart-horse is strong; a corn-fed hunter is energetic. Energy is a property of the nervous system; strength, of the muscles. Muscles give us the power to do work; the nervous system gives us the initiative to start it. Muscles do their work on carbohydrates, which are the characteristic nutritive constituents of vegetable foods; the brain appears to require nitrogen, which can only be obtained in a concentrated form from animal sources."—"Food and Dietetics," page 174.

We would ask, does the "corn-fed hunter" obtain his energy from the highly nitrogenous animal kingdom? The Scottish peasants, Hutchison admits, have a "high degree of energy and in-

tellectual capacity," and we know oatmeal forms a large proportion of their dietary. Certainly the oatmeal is supplemented by a liberal supply of milk. Rutger, a German writer, after a series of experiments extending over some weeks, proved that "if the proteid contained in the meat and milk of an animal diet is replaced by a similar quantity of proteid in the form of peas and beans, the nitrogen balance of the body suffers no impairment."—*Zeit. f. Biolog*, 1888, XXIV, 351.

All investigators are in accord in believing that a mingling of three classes of foods is highly beneficial, and that proteids in a concentrated form result in waste and the clogging of the tissues. The carbohydrates and fats are what are called proteid spacers; when they are present in right proportions, the energy of the proteids is utilised to their greatest advantage; but if the proteid element be in excess, their oxidation is impeded, their energy is not profitably expended, and their physiological ashes drown and poison the working cells. Consequently,

all writers recommend the free use of bread and other carbohydrate foods with the proteids. Flesh foods consist chiefly of proteids with a varying amount of fats, and by themselves could not constitute a healthy dietary. Cereal foods, on the other hand, such as those derived from wheat and oats, contain a mingling of the proteid with the carbonaceous elements in such a manner that the proteid portion is fully utilised. Vegetable proteids, the authorities tell us, produce more heat and energy than those from purely animal sources, and we believe this fact is due to nature's perfect combinations of carbohydrates and fats with the proteids. In taking the cereal foods we are partakers of food prepared by nature and in nature's proportions; in the taking of flesh foods, we select our own proportions, and, consequently, injurious mistakes are much more likely to occur. This subject will be of little use unless supplemented by practical illustrations, but these we will leave for another article appearing in the next issue of LIFE AND HEALTH.

Some Symptoms of Dyspepsia and Their Significance

W. HOWARD JAMES, M.B., B.S.

Pressure and Pain

THE stomach is not an organ of touch, and in health, even after a fair-sized meal, the individual has no consciousness of the presence of food; there is a feeling of satisfaction through the stimulating effect of the meal on the nerves and the absorption of the digested fluid parts of food into the blood. At the onset of indigestion some irritant, such as indigestible food, causes the blood vessels in the lining membrane of the stomach to dilate, and this will bring about a feeling of fullness, pressure, or even pain. If the stomach is given a rest at the first appearance of this symptom, the uneasiness will pass quickly away. Continuous feeling of pressure indicates a catarrhal condition,

or gastritis. Continuous pain may be of a neuralgic condition, as in gastralgia, chronic congestion (hyperæmia) of the stomach, ulcer, or even malignant growth.

Many fear cancer when pain is continuous or often repeated, but there is always great loss of flesh, a peculiar yellowish aspect of skin, and a deficiency of acid in malignancy. Acidity never accompanies malignant growths.

Flatulence

Gas may either accumulate in the stomach or the intestine. There is quite a difference of opinion as to the immediate cause of this symptom. In some cases the air, according to some authorities, is actually swallowed in drinking and eat-

ing. This is said to be especially the case in nervous temperaments and people of hysterical nature. Some believe the air is actually secreted from the blood in the walls of the alimentary canal. In either of these cases the air when expelled is odourless.

Most authorities state that flatulence is chiefly due to fermentation of the food. If there is excess of acid in the stomach, the starchy foods have their digestion delayed and they consequently ferment. If the food is not properly masticated and mixed with the saliva, the digestive juice of the mouth, the same thing occurs. Again, in deficiency of acid the proteids have their digestion inhibited, and fermentation results. The taking of food with animal fat, as in pastry, cakes, and fried foods, will give rise to flatulency. The fat surrounds the particles of starch and proteid, and delays their digestion until the intestines are reached. Anything that will delay digestion is liable to cause flatulence. Improperly cooked starchy foods, wrong combinations, as vegetables and fruits, milk and much sugar, tea and coffee, too great variety of food, imperfect mastication, mental depression, chills, all predispose to flatulence. Cabbages, carrots, parsnips, peas, and the coarser vegetables are all liable to produce flatulence.

We believe, however, that gas frequently collects too rapidly to be explained by the fermentation theory. Outside the body, fermentation does not set in for many hours, even when the conditions of heat, moisture, and presence of germinal matter are similar to those found in the unhealthy stomach. It is when the chemical action of the stomach is abnormal, either too much or too little acid, that flatulence arises. We know that gases quickly arise from chemical action of one substance on another. Chemical action in the stomach would account for many cases of flatulence more satisfactorily than the idea of fermentation. These chemical actions are very liable to occur under the conditions already mentioned. Again, where there is excessive

acidity, the pyloric end of the stomach opens, and the acid coming in contact with the alkaline duodinal secretions will cause a quick development of gas. The best remedy for flatulence is that which will keep the reaction of the stomach normal. Frequently a meal of moderately acid fruit will work wonders. This, however, would not be advisable in acid dyspepsias.

Palpitation of the Heart

is frequently due to flatulence. The distended stomach, being immediately below the heart, presses this organ out of its position, causing irregular action. The heart symptoms are often more troublesome than even those in genuine heart disease. Tea, tobacco, and sexual excess will also produce palpitation of the heart. Frequently in these irritable conditions of the heart there is actual pain which may extend down the left arm.

Heartburn, Acidity

Some authorities state that all cases of the more chronic dyspepsias commence with excess of acid produced by irritating or rough, unmasticated foods. Acidity may be due to excess of the natural acid (hydrochloric) of the stomach, or to foreign acids such as butyric and lactic; the former occurs within an hour after the meal, while the latter may not be noticed for hours, till the time of the next meal arrives. These foreign acids are frequently due to insufficient hydrochloric acid. Some cases of dyspepsia are acid right through digestion. In the early part of digestion there is excess of hydrochloric acid, and in the latter part the foreign acids make their appearance. Where there is excess of hydrochloric acid, alkalies such as bicarbonate of soda, carbonate of bismuth, carbonate of magnesia, will give relief. These remedies will also neutralise the foreign acids, but when given at early part of digestion they do harm, as they neutralise the normal acid of the stomach. Healthy digestion, we believe, largely consists in a healthy reaction of the contents of the stomach.

Drowsiness and Sleepiness

Drowsiness or sleepiness is the result of two very different conditions: (1) The excess of blood in the walls of the stomach and the consequent drawing of the blood away from the brain; and (2) the absorption of by-products of digestion along the alimentary canal. Many animals will remain in a state of stupor for hours after an excessive meal from the first cause. Heavy meals, especially when of a bulky nature, will do the same for the human being. This symptom is frequently seen in weak, anæmic individuals, and is relieved to some extent by an hour's rest in the horizontal position. In others, however, a little light exercise, increasing the action of the heart, will give more relief.

The sleepiness, the result of the poisonous products, is seen in those who are constipated, and where there is lessened biliary secretion, often evidenced by pale stools with a more or less disagreeable odour. Purgatives give some relief, but generally the diet has to be considerably lessened in quantity, fat and all foods cooked with fat omitted from the menu, and acid or subacid fruits taken at the close of the meal. Exercise that will produce sweating, thus throwing off some of the poisons, is helpful. Often in this condition there is lack of energy, lassitude, and inability to think or remember. Massage to the abdomen, cold water application to the abdomen and spine, shower baths and all tonic measures that improve the action of the skin, will do good. This condition is often associated with catarrh of the nose and throat.

Vomiting

Vomiting is caused by a large number of conditions, such as kidney disease, gastritis, biliousness, disease of brain and nervous system, shock, cancer of stomach, migraine, hepatic (liver) colic, sea-sickness, strangulated rupture or obstruction of the bowels, irritant food, worms, poisoning, ulcer of stomach or duodenum, movable adherent kidney, etc.

With brain trouble there is no nausea;

in dilatation of the stomach large quantities are vomited at long intervals; in ulcer of the stomach soon after food; in ulcer of duodenum usually two hours after food; in pregnancy the vomiting is in the morning and up to the third month, but sometimes continuous to full term; vomiting of kidney disease is associated with pale, swollen eyelids, and puffiness of the extremities; babies readily vomit when excess of food has been taken.

Vomiting of Blood

The blood from the lungs is of a red colour and mixed with air bubbles. In vomiting, the blood is usually dark, clotted, free from froth, and mixed with food. It often resembles coffee-grounds, especially in cancer. Frequently it is associated with dark, tarry stools. Fully half the cases are due to ulcer of the stomach. About twenty per cent is the result of cancer of the stomach. Where there is absence of menses it may occur, and it seems to take the place of the menses in some women. Sometimes it is simply the result of blood oozing from the mucous membrane. Frequently it results from the congestion of stomach due to heart disease.

It must be remembered that the blood may have been swallowed, and really comes from the lungs, nose, or teeth, and in infants from the mother's cracked nipples.

Waterbrash (Pyrosis)

In some cases of dyspepsia and chronic gastritis there is frequently a sudden appearance in the mouth of a varying quantity of clear-water vomit. It may be only a teaspoonful or it may be half a pint or more. This comes, as a rule, when the stomach is empty, and is generally taken as being secreted from the salivary glands. It may be swallowed and then vomited, or gush into the mouth without entering the stomach.

“Do not tell others that they ought to be cheerful, but instead make them feel that way.”

The Value of Fruit in Maintaining Good Health

W. HOWARD JAMES, M.B., B.S.

IF we were to value fruit and vegetables by the calorimeter, an apparatus for ascertaining by combustion the amount of energy any particular food contains, our estimate would be a low one, for fruits are largely composed of water and contain but little protein (tissue-building) matter, and not a large percentage of carbohydrates (heat and energy materials). About half a hundredweight of apples would be needed to replace the proteid of a pound of beefsteak or one and a half pounds of cereal food. The banana and the cherry, however, contain up to $2\frac{1}{2}$ per cent of protein, and the strawberry over 1 per cent (.5%-1.3%). The most nutritive part of fruit is the sugar it contains. The banana and the grape have a percentage of from 8 to 22 per cent of this important constituent; in fact, the banana rarely contains less than 15 per cent. The pineapple contains from 8 to 15 per cent and the fresh fig from 12 to 18 per cent of sugar. The sugar in fruit is predigested and is absorbed almost immediately into the system; hence the value of fruit juices, such as that of the grape, in conditions of the system where the digestion is poor. Ordinarily cane sugar passes through both the stomach and the small intestines before it can gain an entrance into the blood, and hence frequently is a cause of flatulence and acidity.

In the scientific estimation of the value of food in calories, no estimate can be given of the value of the organic salts fruits contain, for the salts of potash, soda, lime, and iron do not oxidise and produce energy in the same way as the carbonaceous elements of our food. We, however, could no more do without these elements than we could produce energy in the steam engine without the water that is converted into steam, and the

lubricants used to eliminate the friction of its parts.

Fresh fruit is very refreshing on account of the free acids and the agreeable form of water it contains. The free acid ranges from, on the average, 0.3 per cent to 0.8 per cent, while in the lemon it is from 6 to 8 per cent. The acid destroys germs of fermentation and disease in the stomach and small intestines, and probably this, to some extent, accounts for the great value of mature fruit juices in the treatment of such infectious diseases as typhoid fever. A certain amount of acid is required for the proper digestion of our food, and undoubtedly, when properly used, fruit will help digestion. Ripe mature fruit is certainly helpful to digestion when taken after a meal where vegetables have not been used. Where, however, there is already an excess of acid production in the stomach, acid fruits should not be taken. The cooking of fruit to a large extent destroys its refreshing character. Fruit that is not mature must be cooked in order to be digested; cooking does not develop the life-giving properties in the fruit like the natural heat and light rays from the sun. To cook ripe fruit is to lower its health-giving properties. It is now recognised that the uncooked fruits and vegetables contain enzymes (digestive ferments) that act as auxiliaries to those naturally occurring in the human system. These enzymes do not exist in cooked fruits. The juice of the pineapple and the ordinary mature apple undoubtedly help in digestion. The acid juices of the orange, pineapple, and gooseberry protect the throat from injurious germs, and are useful in diphtheria or other infectious diseases of that organ.

Although fruit is acid it contains salts which keep the blood in a healthy, slightly

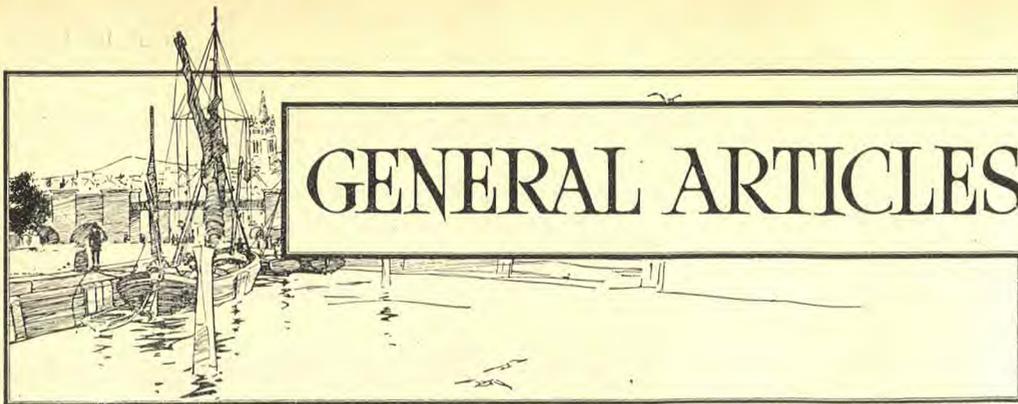
alkaline condition. The acids are neutralised in doing their good work in the alimentary canal, and alkaline salts remain, and, being absorbed into the blood, help to keep that fluid in a healthy circulating condition. Haig has pointed out the fact that the absence of these salts in proper proportion from the circulation retards the circulation in the microscopic capillaries of the tissues. The blood in the capillaries has a twofold action: it gives up energy and it removes waste products. The alkalinity, the result of the organic salts of fruit, keeps the blood in a fluid and readily circulating condition. Absence of these salts brings about lack of energy and symptoms of headache, lassitude, and pain as in rheumatism, gout, etc. Fruits and green vegetables, when taken so as not to interfere with digestion, are undoubtedly beneficial in the prevention and the relief of rheumatic and gouty condition. Dr. Haig gives great prominence to the use of the potato in rheumatic conditions.

The organic salts in fruits again are necessary in the building up of the tissues of the human body. The salts of potash and soda help in the formation of muscles, lime of bone, and iron of the

blood corpuscles. The ash of fruit (that which remains after the removal of the water and the combustion of the carbonaceous products) contains from 40 to 60 per cent of potash, $2\frac{1}{2}$ to 4 per cent of soda (apricot and apple up to 25 per cent), 3 to 12 per cent of lime (20 to 30 per cent in oranges and lemons), and about 1 per cent of iron oxide (mostly in strawberries, gooseberries, and figs, 2 to $2\frac{3}{4}$ per cent). In anæmia (deficiency of iron in the blood) these latter fruits are decidedly helpful.

Fruit contains a fairly large amount of cellulose, which passes through the system in an undigested form, and acts as a natural laxative without any irritation. Foods such as eggs, milk, and rice possess but little undigestible constituents and their too exclusive use may result in constipation, but with the addition of fruit this is obviated. There is no better laxative than fruit, especially figs, prunes, gooseberries, and strawberries. The water in fruit has also a helpful action on the bowels. Fruit should not be taken between meals, except perhaps on rising, when it has a cleansing action on the mouth and stomach and helps the natural action of the bowels.





GENERAL ARTICLES

The Truth About Tea

A. B. OLSEN, M.D., D.P.H.

UNTIL the year 1610 tea was unknown in Europe. In that year the Dutch East India Company imported tea to Europe for the first time, and we are told that it retailed at ten guineas a pound. Pepys mentions tea in his famous diary in 1660 in the following words: "I sent for a cup of tea, a China drink, of which I had never drank before." It seems that tea grew in popularity very slowly, but by the beginning of the nineteenth century it was a well-fixed habit in the United Kingdom, and the average yearly consumption per head of population at that time was one and a quarter pounds. Now the annual consumption has nearly reached seven pounds.

Source of Tea

Tea leaves are obtained from the plants known as *Thea chinensis* and *Thea assamica*, both of which belong to the Camellia order. Tea is grown very extensively in China, from which place it was originally imported, and also Assam, and within comparatively recent years, very extensively in Ceylon and India. There are many varieties, but generally speaking tea is classified as green tea or black tea, the difference however being one that has to do solely with the treatment of the leaves. Indian and Ceylon teas, as a rule, contain more tannin than the China tea, but the amount of the alkaloid poison *theine* is much the

same, although there are slight variations.

When we speak of the composition of tea, we shall refer to the drink rather than the leaves. There are traces of various constituents, but the important ones are tannic acid, the alkaloid *theine*, and a volatile aromatic oil.

Tannic acid, or tannin, is a well-known astringent, and is found in quantities varying from ten to twelve per cent in an average cup of tea. It has an irritating effect upon the delicate mucous membrane of the digestive tract, and it is also known to interfere with digestion, retarding the activities of the pepsin and other digestive agents. Furthermore, the tannic acid is often responsible for constipation of a mild or more serious type, and, generally speaking, its influence upon the stomach and intestinal tract is more or less harmful.

Theine, on the other hand, is an alkaloid and a powerful drug, and in its chemical composition identical with another well known alkaloid found in coffee, *caffeine*, and the average proportion is from two to four per cent. Generally speaking, theine has both a stimulating and narcotic effect and exerts its influence chiefly upon the nerves and the nervous system. It is this alkaloid that gives to the tea the supposed refreshing and exhilarating effects, and if the alkaloid were completely removed tea would not be tea

any longer and would give no satisfaction to its devotee.

The aromatic oil only amounts to about half per cent, and its influence is said to be something the same as that of the theine.

The average cup of tea contains about one grain of the alkaloid, a full medicinal dose, and two or three grains of tannic acid.

Tea and Digestion

We have already pointed out that the tannic acid of the tea interferes with the digestion, prolonging the process. The astringent effects of the tannic upon food material is of such a nature as to make the food more difficult of digestion. Recognising this retarding effect, Drs. Parkes and Kenwood, in their classic work "Hygiene and Public Health," give the following instruction with regard to the use of tea:—

Tea should not be taken with, or shortly after, meals, as the tannin tends to coagulate the albumins of the food undergoing the process of digestion.

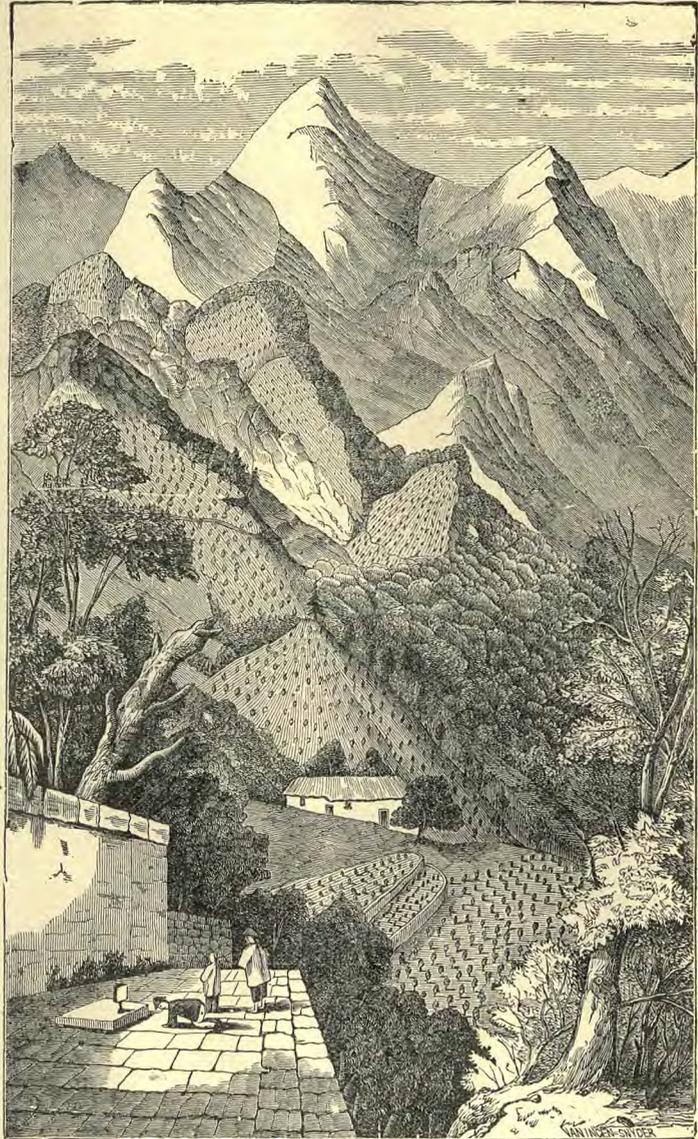
With regard to the excessive use of the drink, they say:—

The abuse of tea leads to weakened digestion, constipation from the astringent properties of the tannin, and nervous depression leading to insomnia and trembling—the effects of the volatile oil and theine.

A "Nervine" Aliment

Gautier classifies tea with coffee, cocoa, alcoholic beverages, and condiments as a nervine aliment. In medical literature the nervine is something that will allay nervous excitement. None the less, tea

is usually taken for its supposed refreshing, exhilarating, and stimulating qualities. But Gautier on another page of his book,



A TEA PLANTATION

"Diet and Dietetics," makes the following observation:—

It is wiser to do entirely without these stimulating drinks when one can, or, at any rate, only to make exceptional and very sparing use of them.

The nervine is a medicinal agent or drug, and we are wholly justified in look-

ing upon tea as a drug. According to Dr. Robert Hutchison, "tea and coffee are in no sense foods."

Further Testimony

In his excellent work on "Food, and the Principles of Dietetics," Dr. Hutchison has the following among other things to say about the influence of tea, coffee, and cocoa:—

The influence of these beverages on salivary and gastric digestion is, on the whole, unfavourable; of their effects on intestinal digestion we have little exact knowledge; Roberts considers that they are practically nil. Roberts found that tea remarkably inhibits the conversion of starch into sugar by the saliva. If there were even five per cent of tea infusion in the digestion mixture, practically no digestion of starch took place. He attributes this result entirely to the tannic acid in the infusion, but found that tea infused for only two minutes had quite as powerful an effect as when the infusion was prolonged for half an hour.

And again we quote:—

The most elaborate investigation of the action of these beverages on digestion in the stomach has been made by Fraser. He found that tea and coffee both retard peptic digestion, but the former to a greater degree than the latter, and that Indian tea has a more powerful effect than China. Further, his observations brought out the interesting result that the digestion of different articles is retarded in unequal measure. Thus, the digestion of the white of an egg, ham, salt beef, and roast beef was much less affected than that of lamb, fowl, or bread.

And finally:—

If tea is taken at all, a good China variety should be selected; it should be infused for as short a time as possible, and should be taken with milk. Second cups should be avoided, and it should be drunk after, rather than during, the meal.

"The Tea Habit"

Professor W. G. Thompson, M.D., of Cornell University, U.S.A., states in his book on "Practical Dietetics," that "the ill effects of excessive tea drinking—the 'tea habit'—are referable to its action on the digestive and nervous systems and are cumulative."

The doctor then goes on to tell us when tea must be avoided, as follows:—

Tea must be avoided in dyspepsia, gastric irritability from any cause, constipation, anæmia, insomnia, and "nervousness," and usually in gastric catarrh, although Bauer recommends weak tea as less likely than coffee to induce heartburn or aggravate diarrhœa. The ill effects of the "tea habit" are even more pronounced in children and youth than in adults.

Tea and Insanity

There are good authorities who believe that the free use of tea encourages insanity. Again we quote from Dr. Thompson's book:—

In a recent report on insanity in Ireland, tea is mentioned as a contributing factor. A very poor quality is there used, and it is often stewed nearly all day, water being added from time to time. This report continues: "Undoubtedly the method of preparation adopted and the excessive use of this article of diet, now so general among our poorer population, tends to the production of dyspepsia, which in its turn leads to states of mental depression highly favourable to the production of various forms of neurotic disturbance.

After this brief discussion, and after quoting from such eminent authorities, we believe that we are entitled to conclude that tea is a drug, and that it should no more be used habitually every day than other drugs. Furthermore, the habitual use of tea is liable to cause loss of appetite, flatulence, dyspepsia, and its accompanying disturbances, irritation of the stomach, gastric catarrh, restlessness, nervousness, and certain sensory disturbances, sleeplessness, trembling of the muscles, palpitation of the heart, insomnia, and various other symptoms and diseases. Nervous persons above all others must strictly avoid tea. Those who would cultivate the highest degree of physical and mental health will find no use for tea in their dietary.

IF subject to headaches, try protecting the head while asleep; and do not wet the head and then go out into the cold. Many headaches are caused by getting the head chilled.

FOR tired feet put a handful of common salt into four quarts of hot water. Place the feet in the water while it is as hot as it can be borne. Then rub the feet dry with a rough towel.

AVOID the use of much heavy foods—fats, roasts, pastries, etc. Do not stuff with sweets. All such foods are burned within the body with the production of a large amount of heat. If three meals are eaten, it is well to make one meal of such light fruits as happen to be in the market.

Milk—Its Uses and Abuses

V. L. MANN, M. D.

MILK is practically the only animal food that contains all the elements necessary for the development and upkeep of the body. There is a considerable difference in the composition of the milk of the different animals, for the rate of growth and the climatic surroundings vary to a large extent. The calf, for instance, will double its weight in forty-seven days and the rabbit in seven days, but the human child takes 180 days to double its weight. The difference in composition is especially noted in the proteid element, that which is especially concerned in the building up of the various tissues of the body. The milk of the rabbit contains over ten per cent of proteid, that of the cow about three and a half, and that of the human being only one and a half. Again, one animal requires much more heat-producing food than another. Fat is the chief heat-producing element in our food. We would expect that the milk of animals in the cold polar regions must contain more of this heat-producing element than that of animals in the more temperate climates. The milk of the whale, for instance, contains 43 per cent of fat, while that of the cow contains from $2\frac{3}{4}$ to $4\frac{1}{2}$ per cent. Milk is essentially a food for the young animal, and its composition under normal conditions exactly corresponds with the body it builds. The fact that a quart of fresh milk is equal to nearly a pound of the best beefsteak will show its importance as a food.

There is no food that varies more in composition than milk. "Milk," according to Pearman and Moor, "forms in many cases the entire diet of children and invalids, and under the present conditions it varies so enormously that a doctor, in prescribing so much milk per day, does not know within thirty per cent how much nourishment is given." "Excepting meats," says another analytical writer, "there is probably no one article

of food which is liable to so wide a variation in its percentage composition as the milk supplied to the consumer. The variations are so great, in fact, as to make it entirely possible that one man may pay nearly twice as much as his neighbour for the same amount of nutrients when both buy it at the same price per quart." When, however, we have a mixture of milk from several cows, its composition does not vary to such an extent. For a family, there is nothing like a good, healthy cow, producing a fairly rich milk. The cow can be kept clean, well fed, and milking can be done under good, hygienic conditions. As has already been stated, milk contains all the elements necessary for the building and the upkeep of the body, viz., proteids, carbohydrates, fats, and mineral matters. We will now deal with each of these important constituents.

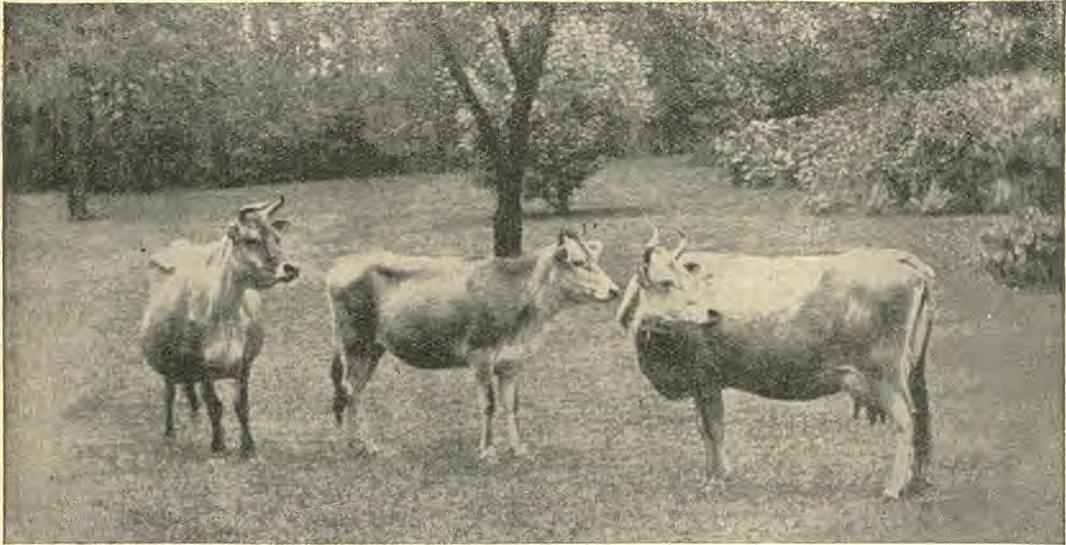
Proteids

The proteids of milk constitute only about three per cent of its total weight. The chief proteid is casein, which is kept in solution by its combination with phosphate of lime, forming not a clear but an opalescent fluid.

There is no feed so valuable in disease as milk. Its value does not depend wholly on its liquid nature and the ease with which it can be taken; its constituents are exactly what the body needs, and they are very easily digested. The proteids of milk are more easily digested than any other proteid either in the animal or vegetable kingdom. Advantage has been taken of this fact in preparing many of the patent foods at present on the market, such as Plasmon, Protene, Sanatogen, Casumen, Brogene, etc. These contain about eighty per cent of proteid, chiefly in form of casein. Those who can take milk freely do not need these preparations, but they are certainly good, though very expensive. For those who need proteids,

but cannot take milk in any form or who cannot take it in sufficient quantity, casein possesses some special advantages over other varieties of proteids. It is, for instance, readily capable of fixing acids, and so neutralising them and lessening their irritability. According to Brandenburg "the power of casein in this respect is three times greater than that of an equal weight of beef." This property makes milk and the casein preparations of special value in those cases of dys-

gout, rheumatism, and allied complaints. Lastly, the casein of milk is so easily and rapidly absorbed that there is little time for putrefaction in the intestine. Milk is undoubtedly a good food in flatulent dyspepsia. It should, however, be given with well-prepared cereal foods, and not mingled with other foods, such as eggs, meat, vegetables, etc. This statement, of course, especially refers to persons with disordered digestion. Milk and casein preparations should not be given with



MILKING SHOULD BE DONE UNDER GOOD, HYGIENIC CONDITIONS

pepsia associated with too much acid in the stomach.

Again, casein contains phosphorus in the form of phosphate of lime and of potash, very essential constituents of muscle and nerve tissue. Phosphorus in casein of milk is in an organic form, and consequently readily enters the blood. All medical men now recognise that the natural constituents of our body, such as iron, phosphates, potash, etc., are much more valuable in our ordinary food than when given in an organic form, as in the shape of ordinary drugs.

Again, casein, unlike the proteids of flesh foods and legumes, is incapable of yielding uric acid by its decomposition, and therefore it can be freely used in

acids, which precipitate the proteid in coarse, indigestible flakes.

Proteids of Human Milk

The proteids of human milk are in a much more easily digestible form than those of cow's milk. The calf is much bigger than the child, and develops more rapidly, consequently cow's milk is richer in proteid, mineral matter, and to some extent in fat. The two chief proteids of milk are casein and albumen. In cow's milk there is four of casein to one of albumen, but in human milk the proportion of the two are equal. Now albumen is much more easily digested than casein, and consequently cow's milk is never so suitable for the infant as its natural food.

Advantage has been taken of this fact in the preparation of proteids for infants in a recent food prepared by A. Wulff and Co. of London, called Albulactin. And again, the casein of human milk is actually different from that of the cow's milk. Cow's casein leaves behind an indigestible residue; human casein does not. And again, the casein of human milk is richer in sulphur than that of the cow.

One of the most important ingredients of milk is fat, which is found in extremely minute globules. One drop of milk, the size of the head of a pin, is said to contain no less than 1,500,000 separate fat globules, and in human milk these globules are smaller still. Fat is taken into our systems in an unchanged condition, but to be absorbed it must be emulsified, divided into extremely fine particles by the secretions from the pancreas and the liver. There is no more perfect emulsion than milk, and the fat is consequently easily absorbed. In the formation of cream, especially when it is scalded as in Devonshire cream, the particles run together to some extent, consequently the fat of cream is not so easily assimilated, more especially when the duodenal digestion is sluggish. Butter when taken with bread is one of, if not the most easily digested of all fats, but this is only so when taken with bread. Its digestibility is due to the ease with which it is emulsified in the first part of the intestine (the duodenum). The quality of milk is gauged by the amount of fat it contains, which should range from 3 to 4½ per cent of its weight. It is found that the other ingredients of milk, the proteids and carbohydrates, vary in exact proportion to the amount of fat, that a milk rich in fat is also rich in proteids and carbohydrates, and that a milk poor in fat is also poor in the other important constituents. In the feeding of young children water is generally added to cow's milk on account of it being richer in proteids and mineral matter, but this dilution makes the solution poorer in fat and carbohydrates (sugar) than human milk, consequently cream and milk sugar should

be added. It should be remembered that, although it is important that the child should have a good supply of cream, that percentage of six or over is liable to produce diarrhoea. This artificial mixture, however, is not so good as the natural food. The fat of human milk has a lower melting point, and is more easily digested than the fat in cow's milk, and again human milk contains much less of the soluble or volatile fatty acids than cow's milk.

Carbohydrates

We depend chiefly on the carbohydrates (starches and sugars) in our food for the production of energy. The proteids are necessary chiefly for tissue building; fat is especially useful for the production of heat. All foods, however, are utilised for these three purposes, even fat is necessary for the development of the brain, nervous system, and the marrow of bones. Milk is not a complete food for the adult, as it contains too little of the carbohydrate ingredients. In order to supply the amount of carbohydrates necessary a man, with moderate hard work, would have to take at least eight pints daily, and this would mean about 140 grammes of proteid, which would be greatly in excess of requirements; 100 grammes of proteid it is now generally agreed, is ample for the upkeep of the body. The addition of bread to milk of course lessens the amount of milk required, and brings up the carbohydrates to the standard diet. The carbohydrate constituent of milk is a special kind of sugar called lactose, or milk sugar. It differs in taste and digestibility from cane sugar, being comparatively free from sweetness. If milk contained the same amount of ordinary sugar as it does of milk sugar, it would pall upon the taste more readily than it does. Adults will tire of bread and milk with ordinary sugar added much more readily than when salt is used in its place. Milk sugar, unlike cane sugar, has very little tendency to be fermented by yeasts; and, as a consequence, is much better borne

than other kinds of sugars in cases of dilatation of stomach accompanied by fermentation. It is always preferable to use milk sugar for very young children.

Mineral Matter

The mineral constituents of milk are fairly abundant, forming about 0.7 per cent. The minerals in milk exactly correspond in kind and quantity to the muscles, bones, and other tissues of the animal it is designed to feed. Muscles require phosphate of potash, and bones phosphate of lime for their development, and both of these salts are found in abundance in milk. Milk also contains iron, a very important constituent of the blood. About five pints of milk will supply all the iron necessary for the adult man. Milk also contains citric acid. A good cow will yield as much citric acid as is contained in two or three lemons. Being combined with lime the citric acid is largely absent (or separates in an insoluble condensed form) from tinned milks, and infants fed on these are liable to a peculiar disease of the blood and bones which resembles scurvy. On this account children who are fed on preserved milk should daily take a little orange or grape juice. Infants fed on fresh milk, however, never suffer from the disease referred to. Lime and phosphorus are present in much smaller quantities in human milk, and occur in a much more digestible form. When it is realised how important phosphorus is to the nutrition of the infant, and the greater ease in which it is assimilated in the organic form, one must see that every possible effort should be made to supply the child with its natural food—its mother's milk. In fact the fat, the casein, and all the constituents in human milk differ from that of the cow, not only in quantity but in organic form. Cow's milk is modified in order to correct these differences, but a truly "humanised" cow's milk is a chemical impossibility.

Water

—The last, but not the least important constituent of milk is water. The solid

constituents of milk are present only to the extent of 12 to 14 per cent. The fact that milk is made up of from 86 to 88 per cent of water shows it, for the adult at any rate, to be a very bulky food and the necessity of combining it with foods of a more solid character.

True Temperance Drinks

THE ideal temperance drink is pure cold water just as it comes from the hand of the Creator. Water is a true quencher of thirst; it cleanses the body tissues, and purifies the blood stream by increasing the elimination of body wastes.

Pure unfermented fruit juices also, either fresh or sterilised, are excellent temperance drinks. In fact there is no more effective way of combating the thirst for liquor than by administering fresh fruit juices freely. It should be understood that the uncooked juice of fruits very quickly becomes alcoholic if allowed to stand, consequently should one desire to keep fruit juice for any length of time, it would be necessary to boil it for a few moments and then to seal it in air-tight bottles. Fruit juice thus prepared will keep indefinitely. Unfermented grape wine is wholesome and delicious, and can easily be prepared and bottled in any home. Other fruit juices, as currant, gooseberry, plum, and strawberry, may be employed in the same way.

For those who desire and can be satisfied with nothing less than a tea or coffee substitute, there are several beverages free from any objectionable properties. Caramel cereal is probably the best of the cereal drinks.—*Selected.*

NEW-LAID eggs can be preserved for months by smearing the shells with pure glycerine on the same day that the eggs are laid, or as near the time as possible. It is best to place them in a position with the smaller end up. Pure glycerine is much better than butter or grease, as it never turns rancid, and thus avoids the danger of spoiling the flavour of the eggs.



The HOUSEKEEPER

Helpful Suggestions for Fruit Bottling

Mrs. Elsie M. Shannan

IT is not the intent of this article to give all the different methods of fruit bottling, but to give a few simple suggestions that will assist the housewife in preparing ripened fruits for use at such times as they are expensive, or cannot be obtained fresh.

One of the most important considerations is the bottle or jar in which the fruit is to be preserved. We have tried several kinds and have found the Mason's, metal-screw-top, porcelain or glass-lined, to be the best. The bottles must be airtight or the fruit will not keep. It is the thorough sterilisation (boiling) of the fruit and jars, and the exclusion of air from the fruit, that preserves it. The reason fruit and any other foods ferment, or spoil, is because of the presence or entrance into them of what is known as bacteria or germs, which are found in the air. These are destroyed by boiling, and it is necessary to keep the fruit sealed in airtight receptacles, or it is a matter of only a short time until more bacteria gain entrance and the process of "spoiling" begins.

Always choose a good quality of fruit; sound and not over-ripe. It should not be quite as soft as for eating. Wash where necessary to remove all dust and sand. A successful way to clean small fruit, such as strawberries, raspberries, and blackberries, is to put them into a colander and dip them a few times in a deep basin of water. Pears, apples, peaches, quinces, etc., will require peeling and coring, and cutting into desired sizes.

We shall give two methods of bottling fruit. First we will consider the easier and more successful; this is to boil the fruit in the jars, especially for those varieties that break easily. See that the jars are thoroughly clean, and examine them carefully for cracks or "chips" around the top. If in doubt about the jars, they may be tested by partly filling with warm water, putting on the rubber rings, screwing on the lids, and turning them upside down. If they do not leak they can be considered safe to use. Be sure that the rubber rings are not perished.

Having your fruit prepared, pack it into the jars very closely, especially the larger varieties. Almost fill the jar with syrup which has been made by dissolving the required quantity of sugar in hot water and cooling it. Put on the rubber rings and lids, giving the latter a turn just sufficient to keep them from falling off, and to prevent the water boiling into the jars, yet not sufficiently to prevent the escape of extra steam from the jars.

The ordinary wash-house copper makes a splendid fruit cooker; prepare it by making a stand that will fit into the bottom; a few pieces of boards nailed together (leaving small spaces between) on a couple of pieces of timber so that the top of this stand is a few inches from the bottom of the copper. Several thicknesses of cloth, or anything to keep the jars from resting on the bottom of the copper, so as to prevent the bottles from breaking, will answer the same purpose.

Now place the bottles of fruit and syrup closely together on this prepared foundation and put sufficient cold water in the copper to reach about three quarters up the sides of the bottles; put on the

copper lid, and light the fire; heat slowly, letting the fruit BOIL at least half an hour (slowly), or until thoroughly cooked. The fruit can be tested by piercing with a silver fork that has first been placed in boiling water for a few minutes. When the fruit is ready, have prepared some of the syrup which has been boiled for at least ten minutes and is still at boiling point. Lift off the lids, finishing one bottle before another is opened, being careful the inside of the lid does not touch anything that has not been sterilised; it is well to invert it, letting it rest on its top surface. Fill the jar to overflowing, removing any froth from the top, and screw down tightly at once. Lift the jar from the copper, turn upside down, letting it rest on its lid on the table, and notice if it leaks. If there is evidence of juice exuding, the air will get in and the fruit will not keep. Sometimes there are uneven places on the outer rim of the lid which may be pressed down with a spoon or knife handle, or an additional rubber may be used, especially when the rubber is thin or the lids are old, and often another lid may fit better, even though it may look the same. Whatever the remedy required, it should receive attention at once. If the jar is left until the fruit is cooling it will be necessary to again bring it to the boiling point. Any exchanged lid or additional rubber ring must be well scalded before adjusting. As the jars cool, the lids can be further tightened.

When the fruit is cold, wash the outside of the bottles and set away in a cool, dark place. If this is not convenient, wrap each bottle in brown paper to exclude the light. Any saucepan or dish sufficiently deep to contain the jars when the lid is in place will answer for a fruit steamer. Remember to always protect the bottom, or the jars are liable to break.

The other method is to put the fruit in an enamel or porcelain-lined saucepan, adding water and sugar as required, Boil slowly. While the fruit is cooking, and just before it is done, the jars, lids, and rubber rings should be thoroughly

washed, and scalded in boiling water. The safest way to do this is to put them into a pan of cold water and gradually heat it to boiling, letting it boil a few minutes, keeping the water at boiling point until the fruit is ready to be put into the jar. Turn all the water out of the jar and place it on several thicknesses of cloth wrung from hot water, or in a basin of hot water. Pour in some of the boiling fruit syrup and carefully lift the fruit into this until the jar is full. Be sure that there is sufficient juice to overflow, and put on the rubber ring and proceed as in the former method.

Some of the advantages of the first-named method are that there is less handling of the cooked fruit, and so it retains its shape; more of the natural flavour is preserved, and it does not escape in steam as when boiled in an open saucepan. The jars, lids, and rubber rings are sterilised with the fruit; this lessens the danger of breakage, especially if the heating is gradual.

It is impossible to make an unwavering rule as to the quantity of sugar required; this will depend on the acidity of the fruit; such acid fruits as gooseberries, plums, etc., will need more than peaches, pears, or the milder fruits, and the sourness of the fruits often varies with different seasons. For any acid fruit we have found it necessary sometimes to use as much as one cup of sugar to three cups of water, and for milder fruits one cup of sugar to six or seven cups of water. We have found it a satisfactory plan to put a small quantity of fruit in a saucepan and measure the water, putting on enough to barely cover the fruit. Then measure the quantity of sugar added to make it palatable, then it is an easy matter to get the right proportion of sugar to make the syrup for the bottling. The small quantity of sugar added does not aid materially in keeping the fruit.

When bottling fruit be careful not to expose the hot jar to cold draughts from windows or doors, or they may break. Always see that the rubber extends a little beyond the lids all around. All jugs,

cups, spoons, etc., used in contact with fruit or syrup after it is boiled must be well scalded before using and kept hot.

It is often advisable to have new rings each season, though any found sound can be used with safety. The bottles can be used indefinitely or until broken. Handling or shaking of the jars after they have cooled and been set away may be the cause of the fruit fermenting.

To open the jars run the blade of a thin knife under the rubber all round and the lid will turn quite easily. Do not pry the lid up. After the bottles are emptied wash and invert them. When dry put the rubber rings inside and screw the lid on and set aside for next season.

Fruit if properly bottled will keep for years and retain its natural flavour, and is wholesome and can be taken by nearly all, whereas jams and preserves often cause biliousness, acidity of the stomach, "heartburn," and various other forms of dyspepsia on account of the large quantity of sugar they contain.

A Few Soup Recipes

Mrs. M. H. Tuxford

Macaroni and Tomato Soup

BREAK twelve sticks of macaroni into inch lengths, and drop into boiling salted water. Let it boil until perfectly tender. Strain two quarts of tomatoes to remove all seeds and skins. When the macaroni is cooked, strain off all water, then add the macaroni to the tomatoes, season with salt, and boil for a few minutes. Beat the yolk of one or two eggs; mix some of the soup with them, and add to the rest of the soup. Serve at once, as the eggs may curdle if allowed to stand.

Tomato Soup

Scald and peel some good ripe tomatoes, add a little water, stew about one hour with one small onion; then strain through a soup colander. Add one tablespoonful of flour rubbed smooth, boil five

minutes, salt to taste, and serve with toasted croutons.

By the addition of some cooked vermicelli, you have another good soup.

Egg Balls for Soup

Boil three eggs hard; and when cold, pound the yolks with some dried herbs and a teaspoonful of flour. Pound until all is well incorporated. Bind with the raw yolk of an egg. Form into small balls, and boil or steam for a few minutes. Then add to any soup.

Creamed Pea Soup

Take one pint of dried Scotch split peas, wash them, drain through a colander; then put them into a quart of water to soak overnight. In the morning put water and peas into the saucepan. Cover closely and boil until the peas are well cooked. When done, rub through a soup colander. If the peas are very dry while cooking, add a little more water. Just before the peas are cooked, prepare about six medium-sized potatoes, cut them in thin slices, and cook in a small amount of water. When cooked, rub through a colander, and add them to the peas; add milk or water to make two quarts in all. Return to the fire, and add one small head of celery; let the whole simmer together about fifteen minutes, until the flavour of the celery is extracted, then remove the celery. Add a small piece of butter, a pinch of dried mint, a tablespoonful of flour rubbed smooth in a little water, and salt to taste.

Cream of Barley Soup

Wash a cup of pearl barley, drain, and simmer slowly in two quarts of water for four or five hours, adding boiling water from time to time as needed. When the barley is tender, add to it one pint of whipped cream, and salt to flavour; then serve. Milk and the well-beaten yolk of one egg may be substituted for the cream. It is not always convenient to procure cream, but the yolk of an egg well beaten is an excellent substitute.

Potato Soup

Cook a quart of sliced potatoes in as little water as possible. When done, rub through a colander, add salt and a quart of hot milk, and reheat. If desired, season with a slice of onion, a stalk of celery, or a little parsley. Add the well-beaten yolk of one egg and a little butter, and serve at once.

If a plainer soup is wanted, omit the milk and egg, substituting water.

Julienne Soup

This soup is made from all kinds of vegetables, and consequently is a summer soup. Weigh one pound of vegetables mixed about equally—carrots, turnips, onions, celery. Cut them all about the same size, very small and thin. Put them in a stew-pan with a little butter and a teaspoonful of sugar. As they become heated, stir until the vegetables look shiny and a light brown. Then add a little boiling water, just sufficient to cook the vegetables without burning. When tender, add two quarts of boiling water, and stew a little longer. Add one tablespoonful of browned flour and one of white, rubbed smooth in a little cold water, and salt to flavour. If in season, add a few green peas. Serve with croutons or toasted bread.

Green Pea Soup

Take two quarts of peas from the garden, wash and shell them; put the shells into two quarts of water, and boil them for half an hour. Drain them through a colander, pressing the shells well so as to extract as much nutritive material as possible; return the water to the saucepan, and put in the shelled peas. Boil till tender, and mash through a colander. Again return to the pan, add one and a half pints of milk, two scant teaspoonfuls of sugar, two tablespoonfuls of butter, and the same of flour rubbed smooth. Salt to taste; boil up and serve at once.

This is a very delicious soup. A little garden mint may be added if desired. To any soup where milk is used, it is

always better to add salt just before removing from the fire, as the salt has a tendency to curdle the milk if it boils too long.

Lunches for School Children

MOST children are expected to employ their delicate brains in arduous school work, while absolutely no thought is given to the kind or the quality of the food which goes to nourish the young brain. No intelligent person would think of working an engine or a horse in any such way.

Some parents dismiss the lunch problem by giving the child a few pennies with which to purchase the noon meal; and more often than not, the money is spent at the nearest confectioners for that which is not only not adequate food, but is actually injurious, if not poisonous. Other parents put up a lunch for the child which is not at all adapted to the needs of the growing organism. Tickling the palate and filling the stomach does not necessarily furnish the required nourishment.

The body requires foodstuffs of three different kinds: (1) the proteids, or albuminous foods, to build and repair tissue, known as tissue foods; (2) carbohydrates (starch and sugar), to furnish the heat of the body and the energy necessary to run the muscles and the brain; and (3) the fats. The carbohydrates and fats are known as fuel foods, because they are burned in the body to furnish heat and energy. In order that the system may be nourished properly, these three classes of foodstuffs should be furnished in fairly definite proportion.

A meal consisting largely of animal food will have an excess of the proteid, and perhaps of the fat, with a deficiency of the carbohydrate. A vegetarian repast, if care be not exercised in the selection, will be deficient in proteid and fat, and excessive in carbohydrates, for the reason that most vegetable foods consist largely of starch.

Suitably prepared and properly eaten,

wheat alone will well-nigh sustain the body. However, we may be thankful that we are not left to the monotony of one article of diet. The Giver of all good gifts has provided us with a great variety of wholesome foods. Wheat, however, in the form of good bread, is an excellent basis for the school lunch. It is rather rich in starch, and poor, if in anything, in fat and proteid. For this reason, in the preparation of sandwiches, it is important to use as filling foods rich in proteid and fat. From a nutritive standpoint, butter is a rational addition to bread, as it supplies needed oil. Unfortunately, there is the risk that the butter may convey to the child the germs of tuberculosis. Were it not for this, it would doubtless be the best form of fat for food, on account of its easy digestibility.

Molasses and syrup are not needed, as they increase the proportion of the carbohydrate, which is already slightly in excess in the bread. This, we may say by way of parenthesis, constitutes one of the objections to the free use of sugar—and it applies to all forms of sugar alike—namely, that it increases the proportion of carbohydrate food, which is apt to be too high in a vegetarian diet.

In order to supply a sufficiency of proteid, there are a number of articles that may be used with advantage. These are dried beans (which may be boiled several hours with occasional addition of water if needed, and then put into the oven to bake. The addition of tomato adds to the flavour without interfering with the food value), peas, lentils (beans are usually preferred for continuous eating), cottage cheese, nut butter, if it does not disturb the digestion, and other nut preparations. Peanut butter has the advantage that it is rich in both fat and proteid.

Sandwiches, filled with some food containing a good proportion of proteid and fat, may form the basis of the noon lunch. In addition, there may be fruit for relish; but the use of rich pastries or concentrated sweets is unwise for the reason

given above, and also for the reason that such foods are apt to be eaten in excess of the demands of the body. It is much better to have exercise and air sufficient to produce a ravenous appetite that will demand an abundance of plain food, than it is to coax a flagging appetite with sweetmeats. The latter process is suicidal; it is stuffing the stove full of coal when the draught is choked up.—*American Life and Health.*

That Spare Bed

Mrs. M. H. Tuxford

I NEVER see a "spare bed" without wanting to hang up the following card:—

"NOTICE!

"This spare bed is warranted to produce neuralgia, rheumatism, colds, consumption, doctor's bills, death."

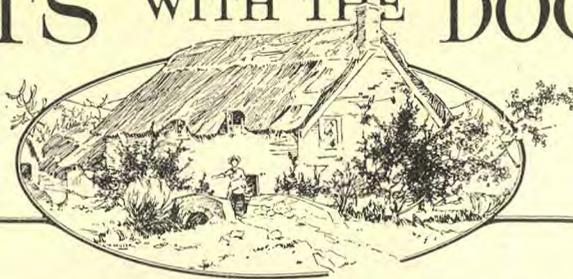
The spare bedroom is always as near a mile from the rest of the sleeping rooms as it can possibly be located. In it everything is as stiff and prim as may be; the sheets are slippery, clean, and clammy, and the stiff pillow-cases rustle like shrouds. The mattress is of feathers, a family heirloom, the last earthly resting-place, perhaps, of many a case of measles, whooping-cough, scarlatina, and consumption.

Shake me down on the kitchen floor; let me sleep in the hay loft; stand me up in a corner; anywhere but on the feather mattress upon the spare bed in the spare room.

Did anyone pass a winter night in a spare bed such as I have vainly endeavoured to describe, without waking up with a start, under the impression that a dead man was pulling at his chilly nose? We must suffer in silence. That spare bed is lovingly reserved for those whom the family most esteem.

"YOU can tell if a bed is damp, says one writer, by laying a hand-glass between the sheets for a few moments. If the sheets are not properly dried, the glass will be clouded.

CHATS WITH THE DOCTOR



NOTICE TO SUBSCRIBERS: All questions for this department must be addressed to the EDITOR, "LIFE & HEALTH," WARBURTON, VICTORIA, and not to Dr. W. H. James, who will treat correspondence only on usual conditions of private practice. Subscribers sending questions should invariably give their full name and address, not for publication, but in order that the Editor may reply by personal letter if he so desires. Because of this omission several questions have not been answered. To avoid disappointment subscribers will please refrain from requesting replies to questions by mail.

1. Pruritis

"G.W." (Brisbane) writes: "At intervals I suffer from the entrance to the urinary canal becoming very itchy, inflamed, and sore and somewhat swollen. At such times I have rather an unusual thirst, and feel very irritable, am easily fatigued, and my back aches a good deal. On this occasion my gums also are inflamed and sore."

Ans.—It is necessary to have the water examined. It may contain sugar or other abnormal ingredients. Sugar in the urine would cause these symptoms. Treatment for diabetes, however, should not be commenced until one is certain of the complaint. Apart from diabetes, our correspondent should avoid meat, tea, coffee, and sweets, and take a plentiful supply of fruit (fresh preferable) and vegetables, and drink freely of water between meals. Wash the parts twice daily with coal tar soap and very hot water, and use carbolic oil (5 per cent) or ichthyol ointment (10 per cent).

2. Open Pores on the Face

"Cuticle" writes: "Is there any cure for open pores on the face?"

Ans.—Avoid all fatty foods and foods cooked with fat, and anything that "upsets the liver." Wash the face thoroughly in hot water and rub into the skin glycerine and rose water (equal parts of each). At night-time (three times weekly

use the following ointment:—

R̄ Resorcin grs. x (10 grains)
Sulphur ʒss (half dram)
Adeps ʒij (two ounces)

3. Skin Rash

"H.W." writes: "My husband suffers with a rash on the body which comes out in small pimples and itches distressingly. It sometimes leaves him for about four or five weeks and comes again."

Ans.—Skin complaints are not necessarily due to impure conditions of the blood; they are frequently the results of microscopical germs which lodge in the superficial layers of the skin. With a good condition of blood, however, the skin is less likely to be the seat of irritation, for there will be fewer impurities to be thrown off and fewer for the germs to live on. Health reform is very important in all skin diseases. A strictly vegetarian diet is very helpful. We would advise a warm bath twice weekly and daily sponging of the skin. Use Wright's coal tar soap. When the rash appears apply the following lotion at night:—

R̄ Calaminae ʒij (two ounces)
Oxide of zinc ʒij (two ounces)
Lime water Oj (one pint)
Carbolic acid ʒss (half an ounce)

Shake up very thoroughly before using.

4. Starchy (?) Urine

"Mrs. E.C." writes: "My little girl is troubled with what appears to be starchy urine. Drops of the urine, when dry, look just like white spots of raw starch."

Ans.—The deposits will be chiefly phosphates. If shaken up in a tube and a little acid added it would dissolve. This is chiefly a symptom of dyspepsia. Individuals under a nerve strain are liable to these deposits. Probably a little acid (such as half a teaspoonful of lemon juice) after meals would relieve the symptom. The rules for healthy digestion must be adhered to.

5. Bleeding in the Throat

"C.G." complains of frequent bleedings from the throat during the past three years. Two doctors have told her that it is due to the breaking of a blood vessel in the throat and that her lungs are perfectly healthy.

Ans.—Bleeding from the mouth may come from the gums, nose, or throat, it may be a sign of consumption, hydatids, or ulcer of the stomach, or it may take the place of menstruation. Probably in this case it is as the medical advisers have stated. Apply freely morning and night plenty of cold water to the neck. In the morning gargle the throat with the following:—

Sodium bicarb; borax and salt (equal parts). A teaspoonful to half pint of water. At night paint the throat with glycerine of tannic acid.

6. Gastritis

"Mrs. F." (Brisbane) writes that her daughter (aged six and a-half years) "for two years has had gastritis about every four months. The last four turns have been brought on by a cold. She does not keep down a teaspoonful of water for two or three days. Fruit disagrees with her. She is inclined to be constipated. Her tongue is coated at the back and she gets wind and pain in the stomach at times and suffers with acidity. She takes syrup; is it good?"

Ans.—Only three meals a day should be taken. Milk foods should agree well, but in cooking see that they are cooked at a low temperature—never being above boiling point. Eggs also should be lightly cooked. Boil the water and cook the eggs in it after it has been taken off the stove. The beef tea mentioned in the letter would be better omitted, although it may, as suggested, operate on the bowels. The diet given by "E.C." is satisfactory in other respects. Stewed fruits, prunes, and non-acid fruits should agree. Water should be taken freely. Macaroni, vermicelli, and other albuminous foods should suit this case. During the attacks rest in bed, keep off all food. Give small lumps of ice to suck. Apply hot fomentations to the abdomen. Sometimes iced cloths over the stomach give more relief. Five-grain doses of bismuth carbonate in water are very helpful during the attacks. Sponge whole body daily with cold water, and see that the child is in the open air as much as possible.

7. Painful Menstruation

"M." writes regarding the above.

Ans.—Many of these cases require a slight operation—the dilatation of the mouth of the uterus. Use every night for one week before menses are expected a twenty-minute hot hip bath (102° F., with feet in water at 105° F.). Then sponge with cold water. The drugs that give most relief are Hayden's viburnum compound—one teaspoonful in hot water frequently and ergoapiol (P.D. & Co.) globules (one or two globules three or four times a day) for one week before the time.

8. Sick Headache (Migraine)

"Gertie" writes: "After a little excursion, such as a day's outing, I have sick headaches with vomiting. My eyes are a little weak; would this have anything to do with causing the headaches? Have been taking a nerve food. Would you advise me to continue it?"

Ans.—Eye-strain is one of the most common causes of sick headache. We

would advise that the eyes be tested and, if necessary, suitable glasses worn. We have absolutely no faith in the nerve foods and tonics. Osler, a recent medical writer, states: "Avoidance of excitement, regularity in the meals, and moderation in diet are important rules. I have known cases greatly benefited by a strict vegetable diet." We would advise the abstinence from all stimulants, such as alcohol, tea, coffee, and cocoa. A good, large, warm enema before the attack comes on will lessen its severity. During the attack the patient should be kept in bed and absolutely quiet. Fruit diet and abundance of sleep are essentials.

9. Freckles

"Complexion" writes: "Will you please tell me the cause, prevention, and cure of freckles? I am sixteen and my face is covered with them. Would you recommend the use of good talcum powder for the toilet as a preventive of sunburn?"

Ans.—Freckles is a deposition of pigment immediately under the epithelial lining of the skin. They are hereditary just as the dark skin of the African or the yellow skin of the Oriental, but of course not to the same extent. Undoubtedly exposure to bright sunlight increases the pigmentary deposit. We know of no successful treatment. When the deposition is in patches electrolysis is successful; but this must be applied by a specialist. The advertised remedies will disappoint. We do not think it advisable to use any powder for the toilet. The washing the face with oatmeal water and after drying, the use of glycerine and rose water (one ounce glycerine to half a pint of water) will keep the skin soft. Use a good, unscented soap for ordinary washing.

10. Enriching of Mother's Milk

"C.R." asks how to enrich her milk and asks as her milk is poor would it be advisable to wean her baby. "He suffers with wind. Is liquorice powder safe for

a child of fifteen months?" "C.R." states she is a vegetarian, but has been advised to take underdone meat.

Ans.—We certainly would not advise this course. Flesh foods do not contain the element (fat) in which "C.R.'s" milk is deficient. All foods prepared from oats are especially valuable as long as they are taken in a digestible form. All foods made with milk, malted nuts, macaroni, and any nourishing food will help the milk. Avoid taking food between meals. Well-cooked gruel or groats may be taken at bedtime. It is a good plan to take fresh milk with each meal. The general health must be attended to and good hours are essential. The night's rest must not be cut short, eight or nine hours are needed by the nursing mother. Live outdoors as much as possible and see that there is abundance of fresh air in the bedroom. Do not wean baby, but if necessary supplement breast milk with a feed of cow's milk and water occasionally. Liquorice powder can be taken by a child of fifteen months. If the bowels can be regulated by diet the result is much more satisfactory.

11. Cheese and Substitutes for Meat

"A. McK." asks why cheese is considered unwholesome and what are the objections to using a little curry powder in the flavouring of certain dishes. She states she is greatly benefited by the monthly visits of LIFE AND HEALTH, but would like to see more recipes of dishes which are substitutes for flesh foods.

Ans.—The objection to cheese is that it is decidedly indigestible. The maturing of cheese to which it owes its flavour is entirely due to the action of germs. Curry acts as an irritant to the lining of the alimentary canal and also to the tissues of the liver. From a perusal of articles in the editorial department of this issue it will be seen that all cereal foods are substitutes for flesh foods, that they contain all the nitrogenous principles needed by the system and in the correct

proportions. Oatmeal, lentils, peas, macaroni, vermicelli, milk, eggs, nuts, and nut foods will give an ample supply of proteids. A high proteid diet is not advisable for anyone, except perhaps consumptives, who are constantly consuming their own tissues. A limited use of dried beans can be used by the hard-working man.

12. Glycero-Phosphates and Brain Foods

"A.H." is anxious to follow the doctor's prescription in the taking of the above for nervous trouble, and asks for a list of foods containing the elements of nerve tissue.

Ans.—Many authorities consider it very doubtful whether inorganic salts can ever become part of the human system except when first built up into organic matter by the vegetable or animal kingdom. We do not believe that the above will build up nerve tissue, though they may act as a tonic and stimulant to some extent. All nourishing and easily-digested food is good for the development of the nervous system. "A.H." will find all that is needed in oatmeal, wheatmeal, nuts, eggs, milk, and similar foods. Such foods contain all the necessary elements without the use of inorganic compounds containing phosphorus, etc.

13. Rheumatism

"A.W." (Hurstville) writes for a friend who has been suffering on and off for fifteen years with rheumatism. She also suffers from flatulency. Her diet is the ordinary one: Tea, meat, potatoes, green vegetables, and milk puddings, also stewed fruit sometimes. She is troubled with constipation, having to take an aperient every day, generally cascara.

Ans.—All flesh foods and tea should be given up entirely, as both contain ingredients which tend to produce rheumatism. Tea also interferes with the digestion, and would produce both flatulency and constipation. Substitutes for flesh foods are amply provided for in the various cereal preparations, milk, eggs,

and nuts. Oatmeal is not only very nourishing, but it also has laxative properties. A teaspoonful of Agar Agar powder (a carbohydrate) in milk night and morning will help the constipation. Potatoes, green vegetables, and fruit of all kinds are beneficial for the rheumatic. Fruit should be taken at the close of two of the meals of the day and vegetables at mid-day meal. Do not take vegetables and fruit at the same meal. Sponge the body with hot and then cold water once or twice daily. Avoid sweets and excessive amount of sugar in foods. These simple rules when followed for some time will be found to benefit rheumatic cases considerably. A mild, even, and dry climate is advisable.

"P.O.C."—To "P.O.C." we give the same advice.

14. Loss of Vitality

"Mrs. J.L." states that she is suffering from loss of vitality and also that doctors' medicines have done her no good.

Ans.—The description given is too vague for an outline of treatment. Daily sponging of the whole body with cold water and drying with a rough towel would be helpful. Patients in writing should give symptoms fully, and not merely state what they consider the disease to be.

15. Superfluous Hair

"L.W." asks for a permanent cure for superfluous hair on the face and hands.

Ans.—There is no treatment better than electric needles, but these can only be used by a specialist. Each hair has to receive treatment.

16. Sleeplessness

A correspondent complains that he has not had any sleep for years, and dates his insomnia back to a shock.

Ans.—Very often sleeplessness is the result of insufficient muscular work. A brisk walk or some other muscular exercise before bedtime will help in these cases. Everything that excites mental

activity, as deep study or exciting reading, should be avoided. If the feet are not warm a hot water bottle should be used, or better still, generate heat by exercise. The last meal in the day should be light. All stimulants should be avoided, especially tea and coffee. All flesh of warm-blooded animals tends to stimulate and keep the blood in an unhealthy condition and should be avoided. The bowels should be kept regular and the digestion attended to. Tobacco in some causes sleeplessness. Very often the worry that one will not sleep drives sleep away. Go to bed with the feeling that you do not care whether you sleep or not. Be philosophical and remember at bedtime worry and anxiety can do no good; be careless about the cares of life; look on the night as a time when all anxiety and cares can be allowed a rest, as a real holiday for the mind.

A neutral bath (97° F.) in a quiet room for half an hour before bedtime is often a help—spread a sheet over the top of the bath. Three good fomentations to the spine followed by gentle rubbing above the spine is efficacious in many cases. Fomentations to the abdomen and a hot foot bath will draw the blood away from the brain and help sleep. The blood vessels of the abdomen are capable of holding nearly all the blood in the body. Cold cloths should be kept on the head at the time of the hot foot bath or fomentations, and should be continually renewed. In many cases thorough treatment at a sanitarium for some weeks is necessary. One gets into a habit of not sleeping just as one gets into many other hurtful habits.

17. Piles

“Wellington” writes concerning the above: “I have tried several remedies such as ointments, injecting lemon juice, and taking sulphur internally, and although I get relief I do not get completely rid of them.” “Wellington” also asks if an operation is advisable, and “if the first operation was not a success,

would a second be advisable and a sure cure?”

Ans.—An operation should always be successful. The piles are completely removed. We have never had to operate a second time, and relief has always been complete. Our correspondent sends us a newspaper clipping recommending the use of sulphur internally and the injection of lemon juice into the bowel, which it states cured completely two or three cases. Sulphur operates on the bowels and keeps the stools of a soft consistence so that the piles are not injured, and lemon juice undoubtedly acts as an astringent. The remedy cannot do harm and would probably give relief.

18. Constipation; Diseased Tonsils

“S.O.I.” writes: “I suffer from constipation and nearly always have a bad taste in my mouth, especially in the mornings on waking. I have been told I should never drink milk or eat raw fruit. My tonsils seem to be spongy and unpleasant, affecting my breath.”

Ans.—Both the bad taste and constipation are signs of imperfect digestion. Bad teeth, however, would keep up a bad taste in the mouth. Milk when scalded often has a constipating effect, but fresh fruit is helpful unless there is acid dyspepsia. Oatmeal porridge at breakfast is good for the bowels. Vegetables at one meal and fruit—fresh or stewed—should be taken at two meals. Tea, hard-cooked eggs, fried foods, and rich, complicated dishes should be avoided. Take regular exercise, especially such as will bring the abdominal muscles into play as in gardening, wood chopping, rowing, or lying flat on the floor and raising first the body and then the legs repeatedly. Cold water applications to the abdomen night and morning tone up the musculature of the bowels. The bowels can be opened when necessary by an injection of warm water or warm water and soap. This should be followed by an injection of half a pint of cold water to be retained and absorbed. The

best purgative is cascara sagrada in small doses two or three times a day. Half a teaspoonful of cascara evacuant (P. D. and Co.) two or three times a day will as a rule keep the bowels regular. The smaller the dose found necessary the better. Agar Agar powder in teaspoonful doses with a little milk is efficacious with some. This preparation is a food and not a drug. Probably the regulation of the bowels will help the tonsils. Paint them daily with the following:—

R_x Acidi tannin ʒij
Glycerini acidi borici ʒj

and twice weekly with tincture of iodine. An operation may be necessary for their removal.

19. The Tired Feeling

“Larcom” writes: “For the past three months I have been suffering with the tired feeling. I do not feel able to do my work. I sleep and eat well, but I am drowsy the whole day long. My head is dull in the morning and I feel in a bad temper with everything and am also fretful. I seem to have no life in me; do you think sleep in the daytime would be harmful? I can sleep well at night and at any time during the day. When I rise it is with a heavy head. I have very little work to do.”

Ans.—The effect of even a small amount of many foreign substances in the blood will produce surprising results. One quarter of a grain of morphia often will temporarily relieve pain in any part of the body and produce a sound sleep; a similar amount of strychnine would produce general convulsions and perhaps death. Decomposing foods produce violent poisonings, known as ptomaine poisoning. Undoubtedly badly-digested food, especially that which results from poor intestinal digestion, will load the blood with imperfect products which produce symptoms such as described by our correspondent. Work that produces sweating will get rid of some of these products and give relief, but work which

is not followed by increased elimination of poisons often intensifies the symptoms. Very frequently in these cases there is a deficiency of the natural acid of the stomach. In order to relieve the symptoms the whole alimentary canal must be got into healthful action. The bowels must be kept regular. Laxatives that produce excessive action of the bowels often increase the symptoms. Two or three vegetable laxative pills as prepared by Burrough, Wellcome and Co. will make a good start in treatment. Subsequently the bowels should be kept regular by the use of liquid cascara sagrada: ten to thirty drops in water three times a day, or teaspoonful doses of Epsom salts first thing in the morning. Morning and evening doses of Agar Agar powder—one teaspoonful in milk—will in some keep up a regular action of the bowels. For a time we would advise that the food consist chiefly of dextrinised foods, such as rusks, granose biscuits, zwieback, and fruit. Tea and coffee relieve the symptoms but in the end do harm; they only give very temporary relief and certainly should be altogether avoided. We would also recommend the use of fresh, moderately acid fruits at the close of morning and evening meals. Avoid the use of all flesh foods, eggs, and milk. Sponge the body twice daily with cold water and use a good rough towel. A teaspoonful of lemon juice after meals is certainly helpful. A sleep in the day can do no harm as long as it is not too soon after meals. Keep the mind as pleasantly engaged as possible. Fats and sweets must be eliminated from the diet. Be sparing in the use of butter. Fried foods and foods cooked with or in fat should be avoided altogether. The plainer and the simpler the diet the better.

UNANSWERED QUESTIONS

We frequently receive questions that are of such a nature that they cannot be answered in these columns. Subscribers are asked to carefully read the notice at the head of “Chats” in reference to answer by post.



Two Contented Little Girls

THIS is a story about a little girl who lived in a small house near the seashore with her father and mother, and who had no brothers and sisters of her own, and no playmates. Her name was Mabel, and because she had no one to play with, she used to "make believe."

Mabel's playhouse was not like the playhouses of other little girls. It was on the side of a ledge at the top of the field behind her father's house. She "made believe" that the ledge was a lighthouse, and that she was the keeper of the light. An old tin lantern fastened to a broomstick, which Mabel had pushed well into a crevice in the ledge, was the light.

Mabel would say to herself that she was the lighthouse-keeper, and she kept a watchful eye on vessels that came round the point. She had a comfortable seat made by the formation of the rocks, almost like a natural armchair, with a very high back and arms and a broad seat, so broad that she could lay her whole length on it. This rocky seat faced the bay, and it was just above it that the light hung; and here Dinah, the assistant lighthouse-keeper, generally rested.

Dinah was a big, black, rag doll that Mabel's mother had made for her. She had blue beads for eyes, a pale pink silk nose, and a bright-red worsted mouth. Her hair was as kinky as a ravelled black wool stocking could make it, and her dress was a faded blue calico well-covered by a brown gingham apron.

The assistant lighthouse-keeper was supposed to tend the light when Mabel was not there. A wooden salt-box gave the assistant the needed shelter from storms. The box was a little short for Dinah's length, so that her legs had to be doubled under to get her completely into it. But Dinah did not mind. Mabel had told her of all that shipwrecked sailors had to undergo if lighthouse-keepers were careless and neglected a light, and Mabel felt sure that Dinah was willing to be doubled up if necessary.

When Mabel was eight years old a very wonderful thing happened. Her cousin Flora, a little girl Mabel's age, came to visit her.

After her arrival, one of Flora's first questions was, "Have you a playhouse?"

"I have a play lighthouse," answered Mabel.

"What is that?" asked Flora, looking at Mabel in astonishment.

"Come and see," said Mabel, and the two little cousins went up to the ledge, and Flora saw Dinah and the tin lantern, and for the first time heard about lighthouses.

"But a real playhouse has broken dishes and mud pies, and you ask other little girls to come to tea," said Flora.

Mabel shook her head. "I shouldn't like that kind," she said, "and I couldn't ask any little girls to tea, because there aren't any little girls for miles and miles."

"O dear!" said Flora, who had two little sisters, and a good many playmates. "You must be lonesome all the time."

Now it was Mabel's turn to look surprised.

"What is being lonesome?" she asked.

Flora tried to explain, but the best she could do was to say that being lonesome was wanting someone to play with. But Mabel shook her head. "I always have Dinah," she said, "and I can make believe that little girls come on visits; and I can play that I am a sea-captain and my ship is in a big storm. I expect to be a sea-captain some day, or a light-house-keeper."

It was a very wonderful summer to both the little cousins. Flora had her own playhouse at the foot of the ledge, with broken dishes and mud pies, and Mabel came to tea, just as her cousin had told her other little girls did. Flora often visited the lighthouse, and learned to know the difference between a sloop and a schooner, and the names of sails. But each little girl was satisfied with her own playhouse.—*Selected.*

The Figure That Lied

E. W. Frentz

ROY MARSHALL had been in school nearly three years, and almost all the time he liked it. It was fun to read and write, and geography was easy. But the number work was not like the other studies. It was a good deal harder, and he had to work longer at his lessons. Peter Greenwood, who sat just in front of him, got on much better than Roy did in the number work, and this made Roy unhappy, for always before, in the reading and writing and other things, he had kept ahead of Peter. Roy could not see how it was that Peter could add up long columns of figures and multiply and divide, and always get the right answer, when he himself worked just as hard, and even harder, and often got a wrong answer.

One day the teacher, looking over Roy's shoulder at his paper, pointed out a mistake he had made, and said, as she turned away, "Remember, Roy, figures do not lie."

It seemed a funny thing to say, and

Roy thought about it a good deal. Figures must be very good if they always told the truth. He wondered if it was easy for them. He tried always to tell the truth himself, but sometimes it was not easy. Once or twice he had been punished for things he had done, and had told the truth about, when it had seemed almost as if he would not have been punished if he could only have told a lie about it. But still he knew how his father and mother felt about it, and so he did his best to tell things just as they were.

But figures must be strange things if



"HE HURRIED OUT AND PLAYED MARBLES TILL DARK"

they never told a lie. Perhaps they were real and alive, like himself, and had to do things sometimes that were hard and that they did not like to do. At any rate, he thought about it a good deal.

The examinations came in March. Roy knew it weeks ahead, and he knew, too, that he ought to be reviewing the work he had gone over; but it was just marble-time then, and it was hard to stay indoors and study when everybody else was out playing marbles.

The examination in number work seemed to Roy easier than he had thought it would be. He did all of the first six examples, and was pretty sure he had got them right. But the seventh was a hard one. He worked and worked on it, and still he could not do it, so he skipped that and did the others, and then went back.

He tried and tried again, but it would not come out right.

Then, when he was very tired, he looked up just as Peter Greenwood asked to leave his seat for a drink of water. Peter left his paper on his desk, and although Roy did not intend to look, he could not help seeing some of the examples. Number seven was right before his eyes, and where Roy had the figure eight, Peter had a nine.

Roy went over his own work again and saw that it ought to be a nine, so without thinking much more about it, he changed his own work and put down the nine where he had had the eight.

Being in a hurry, he did not make a very good nine. It was hunchbacked and stooped over, with a big head, that seemed to be hanging down. But he turned in his paper, and hurried out and played marbles till dark.

After supper that evening he began to think about the examples again, and he remembered the figure nine that he had put down in place of the eight. He remembered how it looked—how it was bent over, and how it hung its head, as if it was ashamed of something. He kept thinking about it, and even after he had gone to bed the figure stood there before his eyes, looking mean and sorry.

The more he thought about it the more it seemed to him that he had made the figure lie, when it did not want to, and had not meant to. That was why it looked so mean and ashamed.

The first thing the next morning Roy went straight to his teacher. "Please may I change one of the answers in my examination paper?" he asked.

"Why, my dear boy," she said, "I couldn't let you do that. It wouldn't be fair. If you have looked up the answer out of school you must not change it now. That would not be right."

"Oh, yes'm, it would, because one of my figures lied," said Roy, eagerly. "He didn't mean to, but I made him; but I didn't mean to, either."

"Why, child, what do you mean?"

Then Roy told the teacher all about it: how he had not got the right answer himself, and how he had seen Peter's paper, and put down the figure he had seen there.

The teacher laughed and hugged Roy the way his mother did sometimes. Then she took out his examination paper, and where the poor, mean-looking figure nine had stood she put a great big eight that stood up so straight and looked so strong and honest that anybody could see at a glance that he was telling the truth, no matter if he had made a mistake.

And now Roy knows that if figures ever lie it is not because they want to, but because some one else makes them.

The Water Cure

A SWEDISH farmer who lived on his wheat farm in Minnesota was taken ill, and his wife telephoned the doctor.

"If you have a thermometer," answered the physician, "take his temperature. I will be out and see him presently."

An hour or so later, when the doctor drove up, the woman met him at the door.

"How is he?" asked the doctor.

"Vell," said she, "I ban put the barometer on him like you tell me, and it say, 'Very dry,' so I give him a pitcher of vater to drink, and now he ban gone back to vork."

A Victory of Politeness

DOROTHY was so homesick at her first party that the hostess' mother suggested that it would be better for her to go home. Dorothy gladly accepted the idea, but a few minutes later, answering a timid knock at the door, the hostess' mother found Dorothy bathed in tears.

"Well, Dorothy, I am glad to see you again. Did you decide to come back?"

"No m'm, I f-f-forgot t-to say I ha-had such a nice time!"—*Christian Register*.

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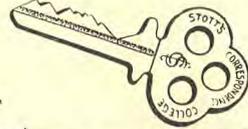
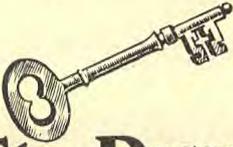
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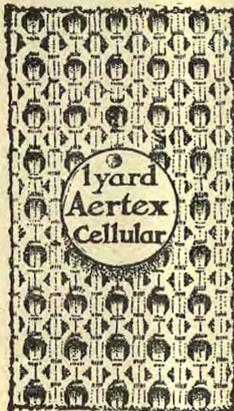
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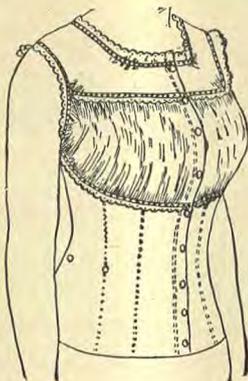
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