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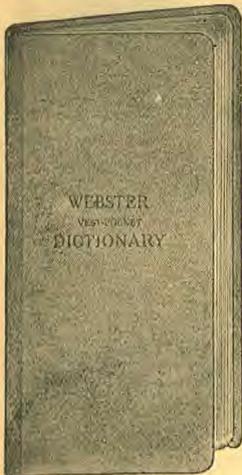
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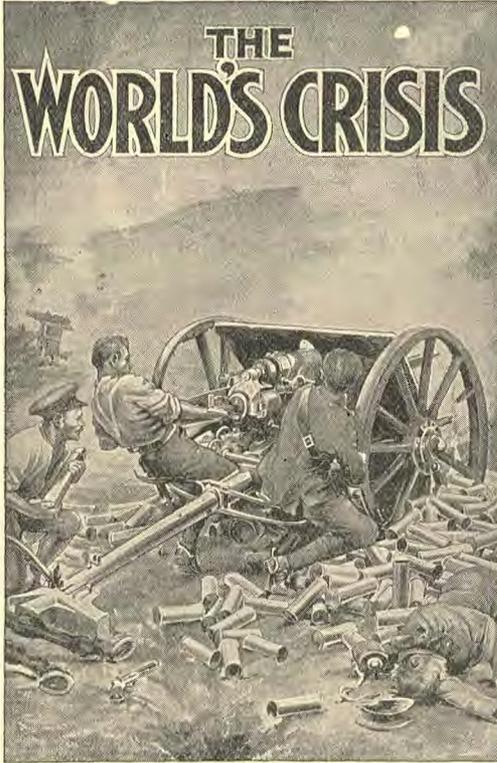


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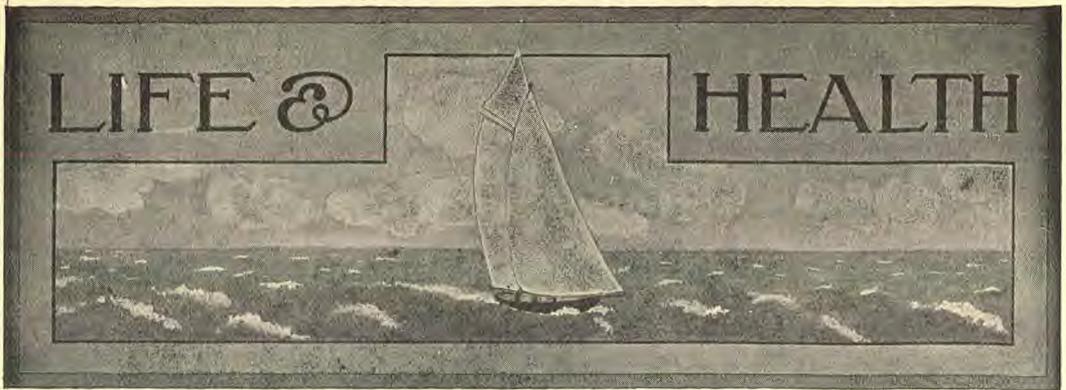
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AN excellent device for keeping food in hot weather is an underground larder. It should be ten feet below the surface.

THEY who will eat flesh foods should know that meat which has been frozen putrefies rapidly when off the ice, and summer diarrhœa in camp and in the home is often traceable directly to the putrefaction of such meats.

REFUSE from the horse stable is the best possible incubator for the eggs of the fly. In even a small heap they will breed by the millions. Receptacles for this refuse should be screened to prevent egg laying therein; and large wire fly-traps, properly baited, in the vicinity of these receptacles, will greatly help in the control of this pest.

IT is interesting to note that a Danish physician, Dr. Bang, has established a herd of cows that are entirely free from tuberculosis. He has built this herd up with calves that were the offspring of tuberculous mothers; but these calves were taken away from their mothers immediately after birth, and were fed entirely upon sterilised milk.

LEPROSY is said to be nearly extinct in Europe, whereas, in the Middle Ages, it was widely prevalent. It being a much more repulsive disease than tuberculosis, the idea of segregating its victims took root early. That it is a disease propa-

gated by contact rather than by inheritance has been abundantly proved in India. Children of lepers, when removed from their parents, do not develop the disease.

ONE writer on hygienics states that the standard of cleanliness in the kitchen may be very accurately gauged by the number of flies encountered there in the summer time. A gentleman visiting a certain city in the State of Victoria recently entered a restaurant for breakfast. He found four flies drowned or drowning in the pitcher of milk placed on the table for his use and the mutilated remains of another still clinging to the loaf of bread that had crushed out its young life. It is safe to say that he ate lightly, and now avoids that side of the street when hunting for a restaurant. The gastronomic shock occasioned by this experience was almost sufficient to make a second meal for that day unnecessary. Is it too much to say, with our knowledge of the ability of the fly to spread disease, that a restaurant or a private kitchen operated with so little regard to the fly menace is itself a menace to the public health?

Earning Your Breakfast

A GOOD HEALTH suggestion for the head of the house:—

Mow your lawn before breakfast.

It may not be as good for the lawn to

mow it before breakfast as to mow it after supper.

But it will be better for you.

And you will live longer to enjoy the lawn, and enjoy yourself more while you are living.

One of the reasons for this is that it will give you a real feeling of superiority over your neighbour who feels that he must take his breakfast in bed, or, what is next to it, do nothing before breakfast to earn a breakfast.

Another reason is that, with your blood circulating vigorously and your sluggish liver aroused out of its torpor, you are in better condition to eat, your appetite will be better, and you will feel that you have a real jewel of a cook who thoroughly understands her business.

Your toast may be slightly overtoasted, your eggs a little overdone, but you will never see it, and your stomach will not know the difference, and when noon comes, you will be wondering whether you had any breakfast at all or not. It may cost you more to live; but it will be worth the money.

Try it. It will give you a good deal of satisfaction to prove the editor wrong. And it will give the editor a good deal of satisfaction to know that while you are trying to prove him wrong, you have been working off that superfluous adipose tissue, hardening up your muscles, getting real live steam into your boiler, and finding less occasion to scowl and grumble at the cook.

Try it. It will save you doctor's bills, lengthen your life, and when your subscription to this magazine expires, you will look pleasant when we ask you to renew.

For the Child's Health

Is your boy puny and sickly and caring little for food?

Get him a good dog—not a bull dog nor a pug—don't you know we grow to look like those we associate with? Get him a nice, intelligent Scotch collie, or a

Newfoundland, or a hound, and let them romp over the hills together and through the fields and woods. It won't hurt the dog, and it will do the boy no end of good. He will take on a more healthy look inside of a week, he will take an interest in the energetic things of life, and he will get an appetite that will make you wonder if you can continue to keep both him and the dog.

Try it.

Is your daughter sickly, no appetite, moving around listlessly, and not much interested in life?

Get her a pony of *her very own* to ride. Let her know it's hers. Or if you can't really afford a pony for her to ride, then think up some kind of a hobby for her, and get her to riding that. It may not be so good as the other, but it will be better than nothing. If possible, let it be something that will keep her out of doors a good deal. A nice little camera will help. Then get her interested in seeing how many different kinds of birds she can shoot,—with the camera only,—and let her make a collection of the photos with the name and family of each bird and a little family history of it attached to the photo. This will be a wonderful help. But it is only one of many suggestions that might be made in this line, any one of which might be just as good. You will be surprised at the change it will make.

Try it.

Carefulness in Tuberculosis

MEDICAL authorities of repute now consider that a good, strong, robust constitution is one of the strongest safeguards against consumption. Dr. W. H. Dickinson, M.B., D.P.H., tuberculosis officer of the city of Newcastle-on-Tyne, in a paper read before the Northern Branch of Medical Officers of Health, states that while consumption may be a family disease, and family connections may tend to encourage the growth of the disease, yet the trend of opinion is now almost wholly in favour of the infection idea. He says:

Where consumption is common or prevails to a considerable extent, it is found that its infectious character has been to a considerable extent lost sight of. Whereas, where it is rare, the consumptive patient is generally looked upon as a source of danger, and is subjected to many inconveniences.

Some ninety per cent of the population over sixteen years of age show evidences of tubercular infection, and Dr. Maegli stated that he could not remember having performed a post mortem examination on any subject over thirty years of age who did not present some sign of having been infected with the tubercle. The disease being so widespread, it seems only reasonable to deduct that some are by nature less resistant to it than others.

Some subjects of post mortem examination show evidences of having been attacked by the disease more than once, and finally dying of some other trouble after their lungs had healed. Where there are fewer centres of germ distribution the danger of infection is, of course, less; and where the system is equipped to resist the inroads of the germ, its attacks occasion little or no inconvenience. Just what that internal equipment is, it is impossible to say, as, many times, those appearing robust in health succumb to the attack of the insidious germ. The only safe course, where there is an affliction of this kind, is to be exceedingly careful, and this care should be exercised by both the patient and his friends. The patient should exercise care for the sake of his friends, and the friends should exercise care for their own sakes and the sakes of those dear to them; for none can tell who may and who may not survive an attack of this dread destroyer. Plenty of food, good digestion, pure water, fresh air in abundance, seems to be the best defence against tuberculosis.

Drugs and Mental Unbalance

IN a work recently issued by Dr. R. Armstrong-Jones, of the London County Asylum, on "Drug Addiction and Mental Disorder," the position is taken that the use of drugs is largely responsible for the increase of insanity. His observation of the many cases of insanity that came under his direct care caused him to arrive at the following conclusions:—

1. Drugs, and the habit of drug taking, are a cause of insanity and are a public danger.
2. The symptoms are a serious injury to health, and a deterioration of all the elements of the mind, but mainly of the moral faculties.
3. The victims are mostly among the cultured, the artistic, and the best brain workers of the community.
4. Such a destruction of the ablest and best minds is preventable.
5. Restriction of the sale of dangerous drugs is urgently needed in the public interest.

This remedy must be applied by those who observe the havoc wrought. It cannot be left for those who are the victims to apply the remedy, any more than it can be left for a drowning man to throw himself a life preserver. The man or the woman who is a slave to the habit has been robbed of the power to resist, or to plan escape, or to carry out the plans of his friends. Their chief concern is how to make sure of a continuous supply of that which they know is ruining and killing them. And the same principle applies to the liquor traffic. There is no remedy but the complete prevention of all general sale of these enslavers of mankind.

Why Drinkers Are Fat

IT is not true of all drinkers of alcoholics, but the tendency is too marked to escape notice. A writer in the *World's Advance*, Chicago, says it is due to the fact that alcohol usurps the functions of the fat, and the fat accumulates. He explains:—

It is noticeable that those addicted to the use of alcoholic beverages often reveal a tendency to corpulence which is proportionate to their use of the drug. This fatness is not a sign of health. It is not even an indication that alcohol is harmless. It is merely the result of the complete oxidation of the substance of alcohol by the human body. The body will oxidise a two-ounce quantity of alcohol in twenty-four hours, and will do it so completely that no trace of alcohol can be found in any excretory substance. This simply means that the unnatural heat produced in the body by the presence of the stimulant answers, for the time being at least, for what would otherwise be produced by the expenditure of fats and carbohydrates. These latter are the fuel stored up by the body and normally burned up in the production of necessary bodily heat. When alcohol is consumed it furnishes heat—though not a natural heat—and this expenditure is avoided. The fat is therefore stored up in the body unused, and corpulence is the necessary result. This, of course, is not a normal condition nor a proper process. It becomes more unnatural with increasing use of alcohol.

Tickling Our Appetites

Expensive, Useless, Dangerous

YOU want health. Everyone wants health. When you want something that you haven't money enough to purchase, you begin saving or trying to increase your earning, and when you have the money, you purchase what you have been wanting for days or weeks or years.

But when you want health and haven't it, and someone tells you you can have it by ceasing to overload your stomach, by cutting off the tobacco habit, the liquor habit, the too-many-meals-a-day habit, the late-to-bed habit, the sweetmeat habit, and the swallow-without-chewing habit, you feel that the price is too much to pay, or you keep on doing the things you shouldn't in spite of the fact that you know you oughtn't.

Or maybe you think, "I'll leave off a little to-morrow, and a little more the next day, and by and by I'll be rid of it." You try it for a day or two or three, and then you forget all about it for a while. You start in again, and you forget again, and then you decide it's no use trying any more.

Why not make the regaining of your health as much a business as any other business? For surely your success in business depends upon your health. When your health is on crutches, your business is on crutches, too. You will not give your horse a half bushel of grain at one feed, when you know the best quantity of feed for him is four quarts. Do you think more of your horse's health than of your own? Do you think more of him than you do of yourself and those dependent upon your earning capacity? But you take good care of your horse's stomach while you stuff your own out of shape and stretch its walls so tight that it can neither churn its contents nor secrete the digestive juices to take care of them. Is that good sense? You know it isn't. Why do you do it? Oh, your appetite craves the food, your stomach yawns for it. Well, the grave has a habit of yawn-

ing, too. It is better to let the appetite crave and the stomach yawn, and let the grave wait.

You know that tobacco is a poison; that it is neither food nor drink; that a great portion of your system's vitality is used up in combatting that poison; that it is in many cases a cause of blindness; that it weakens the heart and sometimes completely ruins it; that its use by you makes your very presence offensive to many good people. Yet when the physician tells you this, and that you must give it up if you would regain your health, you flinch and squirm, and try to make him believe it's something else that is to blame; that you are worrying over the war, stock depreciation, business depression, etc. He knows it isn't so, and so do you. Is it real good sense to try to have him doctor you for something you haven't got, and try to make yourself believe that what is hurting you is really doing you good? You know it isn't.

If the doctor tells you you have measles, you accept his advice, and begin to take something to drive them out.

If he tells you that tobacco is injuring your health, why not accept his advice then also, and take a good course of treatment to get that poison out of your system?

But, generally speaking, you don't do it. You would rather tickle your appetite right now in the blissful present than provide for good health for the distant future. You would rather eat five meals a day now and suffer for it some other time than eat two or three meals now and enjoy good health at some future date. You would rather swallow your food without chewing now and eat zwieback and granose biscuits in the years to come, than to chew your food properly now and have something worth chewing on your menu as the years go by. A little girl who was warned against eating a second piece of cake lest it should make her sick, replied, "Pass me anuzzer piece, and send for the doctor." So do many of us older children fondle and tickle our

appetites at the expense of health and of life.

This is all wrong. And it is childish, too. Let us be sensible men and women, putting a tight rein on our cravings and lopping off every ruinous or poisonous or debasing or weakening habit, and cherish our health as the most priceless of treasures. Only once are we in this world. Let us not make fools of ourselves for the momentary gratification of a perverted appetite. We really have no claim to high place of honour or preferment in this world if we cannot govern two so small and insignificant things as the tips of our tongues and the tops of our palates.

If we are ill, let us make a business of getting well. If we are well, let us make a business of keeping well.

War Sanitation and Its Lessons for Us

THE present war has emphasised the imperative need of absolute cleanliness in the preparation of food and the disposal of waste and sewage. The problem of sanitation has been one of the biggest problems of the war, and as much depended upon the solution of that problem as upon any other that had to be solved. The various armies solved it; they felt that they must. As a result, there has been no great epidemic outbreak such as was feared when the war began and when the prodigious nature of the struggle began to be realised. The best medical men in the world, and the best students of sanitation in the world, threw themselves into the undertaking, and the world has not had to bear the burden and affliction of a plague or epidemic in addition to the plague of war. For this deliverance the world may indeed give thanks.

One of the first considerations was the necessity of preventing the carrying of disease by the harmless looking *musca domestica*—the house fly. This necessitated the screening of places where food was prepared for the men, the quick removal of offal from the stables, the sani-

tary disposal of sullage waters from the kitchens, laundries, and wash basins, and sanitary toilet facilities. All this was done; but they went further and provided against even the soiling of the ground by the slopping of sullage water.

What made all these arrangements necessary?—The pernicious activity of the house fly. He breeds in filth—it is his native element. He lives on filth—it is his meat and drink. He wades through filth with as much abandon and enjoyment as a human being walks over emerald lawns and among sweet-scented roses. And when he has done all that, the tempting odours of kitchen and dining-room lure him, and he walks over our food with all six of his feet sticky with filth and the germs of death—provided we let him.

But the armies are not letting him. Those responsible for the health of the soldiers know the danger, and guard against the attack of the fly as carefully as they do against the attack of the regiments of the opposing army. The result is that there has never been a great and protracted war in which the percentage of sickness and of death from disease has been so low as in this war. There is no question also but that the careful protection of the wounds from fly contamination has helped perhaps as much as the anti-septic treatment in reducing the ratio of deaths from wounds. Soldiers of the American Civil War, and of other wars, tell gruesome tales of the results of fly infection of their wounds.

What lesson should civilians draw from these military precautions and their results? The home should be no less carefully protected from the fly plague than are the camps of the soldiers. The heads of the house should exercise the same vigilance that the heads of the armies have found it necessary to exercise. Every house should be screened from top to bottom with full-length window screens. If the heads of the armies neglect to take these wise precautions against the fly, plague and sickness enter the camps, and men lose their lives, those responsible for

the neglect are censured and are censurable. If those in charge of our homes neglect these precautions, and sickness and death enter—no one is responsible? It is a sad dispensation of Providence? We do not think so.

Screens are not expensive. Some would no doubt rather screen their whole farm than lose one of their children. But that is not necessary. Full-length window screens that can be hinged or hung on at the top and fastened in with hook

and eye at the bottom are the best. They can be easily removed in the winter and packed away with the screen doors. This makes the cleanest, most efficient, and, in the end, the cheapest fly protector. With such an arrangement the flies are kept on the outside. This, with the proper disposition of stable refuse, and sanitary toilet arrangements, will do for families what it is doing for armies—forestall much sickness and prevent many premature deaths.

Dyspepsia—Continued

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

INDIGESTION arises either from some constitutional weakness or from some functional disorder of the alimentary canal. With a weakened, debilitated, or poisoned constitution the digestive organs suffer with the rest of the body. The digestion not being carried on properly makes the constitutional trouble more prominent. Frequently it is difficult to determine which comes first, the constitutional derangement or the dyspepsia, and which should receive special treatment. In most cases both the digestion and the constitutional trouble must receive attention. Unless food is digested and formed into pure blood the system cannot be nourished. Supply the system with proper nourishment and the stomach must, with the other organs of the body, be benefited. The treatment must have a twofold object: (1) The correction of the constitutional trouble, such as tuberculosis, anæmia, kidney or heart disease, rheumatism, or local abdominal trouble, such as ulcer of stomach or duodenum, appendicitis, gall stones, or ovarian trouble; (2) the selection of the most nourishing and digestible food the organs of digestion can prepare for assimilation.

Frequently where there is debility, where the system wants more nourishment, as in consumption and anæmia, the symptoms of dyspepsia have, to some

extent, to be disregarded. The food often is digested, although the process may be accompanied by acidity, pain, or flatulence. With the intake of more food the stomach itself is strengthened, and the symptoms gradually disappear. In constitutional troubles mistakes are often made by abstaining from certain kinds of food or limiting the amount of food on account of the dyspeptic symptoms. It is wise, however, to select the food that is digested with the least inconvenience, but it is, at the same time, imperative to see that it contains the proper proportions of carbohydrates, proteids, and fats, and that sufficient quantities are given. Repairs are made by the food digested and assimilated into the system, and if food is not supplied in requisite amounts recovery is impossible. Frequently where the system is weak and the stomach cannot digest sufficient food, a complete rest in bed for two or three weeks will do good. In bed there is less work done and less heat given off from the body, consequently less food is needed, and what is digested is largely used up in repairs. Frequently in debility there is increased appetite on taking a complete rest in bed, and this undoubtedly is due to the fact that the limbs and body, not being exercised, require a less supply of blood, and thus allow a fuller supply to

the digestive organs. Sometimes, however, complete rest acts in quite an opposite manner, and lessens the digestive powers by diminishing the circulation. In general health light exercise is good after meals, as it increases the circulation in the organs of digestion. Strenuous exercise, however, is harmful, for it diverts the blood to the muscles and skin.

Functional Dyspepsias

Under this heading are included quite a heterogeneous class of cases in which the digestion is performed painfully and with difficulty, but in which no organic changes can be found in the organs of digestion, such as ulcer of stomach or duodenum, appendicitis, or gall stones. In all these cases foods that are easily digested should be selected, such as—

(1) Farinaceous foods : Stale white bread, granose or wheatmeal biscuits, rusks, zwieback, plain biscuits, rice, tapioca, sago, and arrowroot.

(2) Vegetables : Asparagus, cauliflower, spinach, French beans.

(3) Fruits : Baked apples, or the juice of oranges or grapes.

(4) Sterilised (not boiled) milk, eggs cooked below boiling point, macaroni.

Mixed dishes, foods cooked a second time, pastry, scones, new bread, cheese, sweets, and preserves must be avoided altogether. If meat is taken, it should be underdone, and fish should be boiled or steamed. The most digestible flesh foods are mutton, sweetbreads, tripe, and chicken, whiting or gar-fish.

In all forms of dyspepsia, food should be well masticated, meals should never be hurried, amount of fluid with meals should be strictly limited. Tea, coffee, and cocoa should be avoided altogether. There should be comparative rest for half an hour before meals and one hour after meals. Meals should be eaten in comfort without anxiety or worry. Not more than three meals should be taken during the day, and absolutely nothing should be taken between meals. Even an apple is too solid to be eaten between meals. We will, for the sake of convenience, deal

with the various forms of dyspepsia under four headings: (1) Defective secretion (hypochlorhydria); (2) Excessive secretion (hyperchlorhydria); (3) Defective mobility; (4) Gastralgia, excessive sensibility.

Defective Secretion

Sometimes the secretion is almost altogether in abeyance (achylia). In these cases there is usually loss of appetite, the flow of saliva is lessened, there is a feeling of heaviness after meals, and frequently acidity develops three or four hours after meals. It should be remembered that if the food is passed rapidly from the stomach into the intestine, it will be satisfactorily digested. It is where the motor power of the stomach is deficient that flatulence and slow digestion occur. With defective secretion the food should be finely divided, pounded, minced, or sieved in order to facilitate its passage through the stomach. Thorough mastication should be insisted on. Food that is solid outside the body may, by mastication, be perfectly fluid in the stomach; and liquid foods, such as milk, may form solids in the stomach. These facts should be remembered. Meat should be avoided, as it causes proteid decomposition in the intestine with offensive eructations, and perhaps diarrhoea. The place of meat can be taken by eggs cooked below boiling point, macaroni, peptonised milk (where the ordinary milk disagrees). Here the patent casein preparations are useful, such as plasmon, biogene, etc. In these cases well-masticated, dextrinised foods are very serviceable, such as zwieback, granose and wheatmeal biscuits, and toasted corn flakes. When these are well masticated they are of fluid consistency in the stomach, and quickly pass out into the intestine.

Hyperchlorhydria

This is a common form of dyspepsia in persons of a nervous temperament, in the young, and in anæmic girls. It is frequently of reflex origin, being due to some organic trouble of the digestive organs, such as gall stones, ulcer of the stomach

or duodenum, or appendicitis. In these cases the secretion is of a very acid nature. The symptoms are very variable, but, as a rule, do not develop for an hour to three hours after food. There is a good deal of heartburn, burning and acid eructations, with at times severe pain. There is usually a great deal of difficulty in the digestion of starchy foods, such as potatoes and bread. Starch foods require an alkaline secretion for digestion; the excessive acidity of the stomach delays digestion and favours decomposition of these foods. Continued secretion of excessive acid secretion is liable to develop ulcer of the stomach or duodenum. In these cases food must be selected that will fix the excess of hydrochloric acid. Hutchison writes: "Much discussion has taken place as to whether the diet, in cases of hypersecretion, should be mainly animal or vegetable in constitution. On the one hand there is no doubt that an animal diet 'fixes' the excess of hydrochloric acid most efficiently; whilst on the other hand there is abundant evidence to show that in the long run a mainly vegetable diet leads to a permanent diminution of acid formation. An animal diet is therefore the best palliative, whilst a vegetable diet is more strictly curative in effect." Milk and lightly-cooked eggs are of special value in these cases. Sometimes milk, on account of requiring very little acid for its digestion, is followed by the acids of decomposition, such as butyric or lactic acid, etc. In these cases milk can often be taken if diluted with water or lime water, or if some alkali be taken, such as bicarbonate of soda, bismuth, or magnesia to lessen the excessive acidity. Plasmon or sanotogen will also absorb the excessive acid. It is better to lessen the acidity by proteid foods than by alkalies of any kind. If the proteid foods will not absorb the acid, it should be neutralised, as the excessive acid secretion will irritate the delicate walls of the stomach, causing irritation, pain, and sometimes ulceration.

Fats are very useful for the purpose of inhibiting the secretion of hydrochloric

acid. One to two tablespoonfuls of almond oil may be given before the meal, or olive oil may be taken with the meal. Cream is also valuable; it is better in the form of sterilised, separated cream. Scalded cream and butter may result in the development of acids other than hydrochloric. Each patient, however, should be a law unto himself in these matters. What agrees with one disagrees with another. Acid fruits should be altogether avoided and everything of an irritating nature, such as much salt, red meats, meat extracts, gravies, sauces, mustard, pepper, soups, spices, pickles. Sugar and all sweet or sour things should not be eaten. Bread and potatoes should be taken very sparingly. The best vegetables are French beans, cauliflower, spinach, and marrow. Tea, coffee, and all alcoholic beverages should be avoided. Warm water or milk and water are, however, beneficial. The treatment in acid dyspepsia is thus somewhat different from that of the usual forms of dyspepsias.

Where there is excessive secretion of the normal acid of the stomach revulsive (alternate hot and cold) compresses can be employed with advantage twice daily an hour before meals, or if the above is not agreeable, a continuous heating compress over the upper part of the abdomen. Hot douches or fomentations over the spine are also useful. Hot water may be sipped a short time before each meal. Hot water may also be taken after the meals to dilute the gastric contents and thus lessen the acidity. This treatment is quite different from that in hypochlorhydria (lessened gastric secretion). In this case cold douches and cold percussion are advisable over the stomach, or cold wet girdle over stomach half an hour before meals, and frequently repeated during fifteen minutes. Dr. Kellogg states that a cold enema to be retained and taken two hours after eating increases the mobility of the stomach. Where there is deficient secretion, the drinking of much fluid directly before, during, and after meals must be avoided.

Atonic or Flatulent Dyspepsia

In these forms of dyspepsia the movements of the stomach are defective; and, consequently, the food remains too long in the stomach, with the result that acidity and flatulence supervene. The acid developed in this case is not the normal acid of the stomach, but foreign acids, such as butyric, lactic, etc. It is always advisable in acid dyspepsia to have the stomach contents analysed in order to discover whether it is a true case of hyperchlorhydria (excess of hydrochloric acid), or whether the acidity is due to foreign acids. In the latter case the latter acids often develop on account of the normal acid being deficient. The line of treatment in each case is very different. In flatulent dyspepsia bulky foods, such as green vegetables, must be avoided. The presence in the stomach of solids and much liquid at the same time is very injurious, for under these conditions the fluid part of the meal is unduly retained in the organ, and tends to dilate by its mere bulk and weight. The meals therefore should be comparatively dry, and it is better not to drink for at least a couple of hours after solid food has been taken. Green vegetables, peas, lentils, should be avoided altogether where there is much flatulence, and starchy foods should be strictly limited. Hutchison in "Food and Dietetics" states: "Restriction of fluids is also of special importance in cases of flatulence, tea especially being peculiarly noxious to these patients." Page 532. The most easily digested vegetables are the flower of cauliflower, spinach, and marrow. Fruits (except the pulp of baked apples or stewed prunes), sugar, jam, and soups should be omitted from the dietary. Zwieback, crisp toast, rusks, and similar preparations should largely take the place of ordinary bread.

Hyper-sensibility of the Stomach

There are a large number of cases where severe gastric pain and uneasiness are developed apart from any, as far as can be ascertained, adequate causes. They are chiefly found in nervous tem-

peraments, and require special treatment in each case. The food generally should be of a bland character, and frequently a rest in bed is of advantage. As soon as the pain ceases, a liberal dietary is necessary in order to improve the state of the blood and the general health. Anæmia, deficiency of iron in the blood, should specially be attended to by appropriate remedies. As a rule, with the improvement in general health, the pains disappear.

"Leave Your Headache Here"

Eulalia S. Richards, L.R.C.P. & S., Edin.

"LEAVE Your Headache Here."—Thus read an attractive little card in a chemist's window not long since. This is an invitation which would appeal to many a weary sufferer, for most people suffer with headache some of the time, and some people most of the time.

To leave your headache at the chemist's, paying sixpence for the accommodation, is not a bad bargain at first thought. But one who rightly values his health will think twice before availing himself of this invitation.

This deal is somewhat like the luggage and cloak room business in our large railway stations. A passenger who is burdened with a heavy bag or suitcase may, by paying a small sum, leave his parcel in the care of the attendant. But after a short time he must return and claim his burden. So the person who is suffering from a severe headache may, by paying a small sum to the chemist, leave his burden of pain there for a short time. But the hour usually comes, sooner or later, when the sufferer must take up his burden again. The average headache powder does not cure, but merely stupefies or deadens the nerves which, like faithful sentinels, warn the body that it is being injured by some indiscretion or indulgence. The active principle of most headache powders is one or other of the coal-tar products. These are powerful drugs which, in addition to their other actions, have a depressing or weakening effect

upon the heart. In the medical journals one reads rather frequently of cases of serious or even fatal heart failure due to the use of headache powders. Of course, the physician who understands both his patient and the drug he is prescribing may occasionally order, with due caution, the coal-tar products for the relief of pain. But it is a most dangerous custom for the layman to dose himself with uncertain quantities of a powerful drug of which he knows nothing.

Headache is not a disease in itself, but is a symptom of disease or a sign of some abnormal process in the body which should be arrested. Hence when a person suffers from a severe headache, he should seek to find and remove the cause of the pain rather than resort to a dangerous remedy which may remove the pain temporarily but at the expense of the health.

It is not always possible to ascertain the cause of headache, but in the majority of cases one has not to search long to find the cause, nor is it usually difficult of removal.

In exceptional cases, headache of a severe and persistent character is caused by inflammation, or tumour, of the brain and its coverings.

Among the common causes of headache are the following: *Eye strain, anæmia of the brain, congestion of the brain, and indigestion with constipation.* Let us consider briefly these four causes of headache together with the most rational remedies, bearing in mind that a true remedy is one which not only relieves the pain, but also removes the abnormal condition which causes the pain.

1. *Eye strain* is a far more common cause of headache than is generally understood. Very few persons possess eyes which are strictly normal or symmetrical in development. Even slight deviation from the normal may result in considerable nerve tension or eye strain. Pain caused by eye strain is usually felt in the forehead and temples or in the lower and back part of the head where the visual

nerve centres are located. Any person, whether child or adult, who, though in apparently good health, suffers from frequent headaches should have his eyes tested by a competent oculist, and should wear glasses if there is need of them to correct optical defects. Even normal eyes gradually alter after forty years of age, so that the average individual requires spectacles at least for close work after that age.

Many a sufferer from frequent and persistent headache has been effectively cured through wearing correct glasses.

Anæmia of the Brain.—A distressing form of headache is caused by anæmia, or insufficient flow of blood to the brain. Persons who are anæmic either from severe illness or hæmorrhage may be subject to this form of headache. The face is pale, the lips are colourless, the patient is weak, becomes breathless with exercise, and may faint without apparent cause. In such cases the patient must have the best of care, including rest, abundance of pure, fresh air, and a nourishing diet. For the immediate relief of pain in the head those measures should be employed which cause an increased flow of blood to the brain. The patient should recline with the head on a level with or even lower than the body. This may be accomplished by raising the foot of the bed and using a flat pillow or none at all for the sufferer. Hot water fomentations applied to the face and neck will encourage the flow of blood to the head, and so assist in relieving the pain. We have seen anæmic patients who suffered with severe headache, when propped up by several pillows, experience almost instant relief by lowering the head and raising the foot of the bed.

Congestion of the Brain.—This is certainly a much more common cause of headache, which occurs in full-blooded individuals. The face is usually flushed, and the blood vessels in the neck and temples throb painfully. The treatment for such patients is just the opposite of that suggested for anæmic patients. A spare diet and careful regulation of the

bowels are essential. When the headache is severe, the patient should lie with the head and shoulders well raised. Cold water compresses frequently changed should be applied to the face and neck to lessen the flow of blood to the head. At the same time a hot foot-bath may be employed to assist in drawing the blood away from the brain. Even a very severe headache, if caused by congestion of the brain, will usually yield promptly to this treatment.

Indigestion with Constipation.—By far the most common cause of headache is *indigestion with constipation*. The man who chooses his food thoughtlessly, and eats hastily, perhaps worrying about business meanwhile, is certain to suffer with indigestion sooner or later. The stomach, being overburdened with ill-assorted and indigestible food, fails in accomplishing its duty. The bowels, too, become sluggish and inactive. As a result of this condition the blood becomes poisoned through the absorption of toxic substances from the stomach and bowel. This auto-intoxication, or self-poisoning, as it is called, results in headache of a severe type along with other symptoms, such as loss of appetite, palpitation of the heart, sleeplessness, or in some cases drowsiness, mental depression, hysteria, and neurasthenia. The cure is obvious. A careful regulation of the diet, simple, nourishing foods being chosen, will accomplish much. The food should be taken at regular times (two or three meals in the day) and must be masticated with thoroughness. Daily exercise in the open air quickens the circulation, improves the digestion, and increases the activity of all the vital bodily organs. A daily evacuation of the bowels is most necessary, particularly in these cases of auto-intoxication, or self-poisoning. A person subject to these severe constipation-headaches can usually tell several days before the attack that it is approaching. The indigestion is rather more troublesome than usual, the bowels more sluggish, the tongue coated, the head dull, and the spirits depressed. Prompt treatment just at this point may prevent

the attack altogether, or at least greatly lessen its severity.

The following procedure is strongly recommended: Simplify the diet markedly, letting one or two meals each day consist largely or wholly of fruit. Drink an abundance of water, from eight to ten glasses, in the day. This flushes the excretory organs and rids the body of poisons. Take a dose of some simple laxative, as Epsom salts, cascara, or liquorice powder. While waiting for the medicine to act, thoroughly cleanse the lower bowel by means of an enema. For this purpose use warm water containing a teaspoonful of salt to a pint of water.

A moderate dose of laxative may be taken again on the next or the following day, though of course the aim should be so to regulate the diet and other habits of life that buoyant health, without the aid of medicine, may be the result.

Amount of Food Required

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

"INQUIRER" (Sydney) is anxious to adopt a non-flesh dietary, and asks, "Could you give me an idea of the quantity of food and the calories each meal of the day should consist of to keep one in proper condition so as to avoid overeating; and yet, on the other hand, take enough to properly keep the body sustained? I should also like to know what food value tomatoes have."

A calorie is the amount of heat required to raise one pound of water 4° F. Under ordinary conditions a man transforms less than one-sixth of the available energy of his food into work, the rest goes for the production of heat in the body. Rubner, and his estimate is now generally accepted, gives the following standards of calories daily required:—

| | Calories. |
|---|-----------|
| (1) Rest (e.g., clerk at a desk) ... | 2,500 |
| (2) Professional work (e.g., a doctor) ... | 2,631 |
| (3) Moderate muscular work (e.g., a house painter) | 3,121 |
| (4) Severe muscular work (e.g., a shoemaker) | 3,659 |
| (5) Hard labour (e.g., a blacksmith or navy) | 5,213 |

The following table will give the amount of different kinds of a single food required to produce 3,500 calories:—

2 $\frac{1}{8}$ lbs. dried peas; 2 $\frac{2}{3}$ lbs. cheese; 3 $\frac{1}{8}$ lbs. bread; 5 lbs. eggs; 10 lbs. potatoes, milk, or fish; 15 bushels of apples. It takes about 6 lbs. of beef to produce 3,500 calories, the amount of energy required for an average worker. Hutchison gives the following table of energy values of some foods:—

Energy Value Per Ounce in Calories

Milk 20, cream 126, butter 222, plasmon 86, egg (in one) 70, white flour 100, bread 70, wholemeal bread 62, biscuits 112, rusks 98, oatmeal 130, rice 98, sago, tapioca, and arrowroot 96; macaroni 100, dried peas 92, green peas 22, boiled potato 25, cooked carrots 110, cabbage (raw) 8, spinach 10, figs (dried) 92, stewed figs 50, prunes 87, raisins 106, apples 14, grapes 20, bananas 28, almonds 174, walnuts 182, hazel nuts 190, sugar 115, marmalade or jam 98.

About 100 grammes (3 oz.) of the calories should be supplied by proteids. Nuts contain about 16 per cent of proteid, bread stuffs 8 per cent, cheese 30 per cent, milk 3 per cent, peas, beans (dried) 25 per cent, eggs 14 per cent.

Hutchison, in his chapter on "Amount of Food Required in Health," sums up as follows: "One may sum up the standard amounts of the different nutritive constituents required daily thus:—

Proteid, 120 grammes (3 ounces)
 Carbohydrate, 500 grammes (18 ounces)
 Fat, 50 grammes (1 $\frac{4}{5}$ ounces)

"These would yield the following amounts of energy in calories:—

| | | | |
|--------------|-----------|---|------------------|
| Proteid | 120 × 4.1 | = | 492 |
| Carbohydrate | 500 × 4.1 | = | 2,050 |
| Fat | 50 × 9.3 | = | 465 |
| | | | = 3,007 calories |

"Such a standard may be regarded as suitable for a man of average build and weight, and doing a moderate amount of muscular work, and if a greater intake of energy is demanded, it should be met by

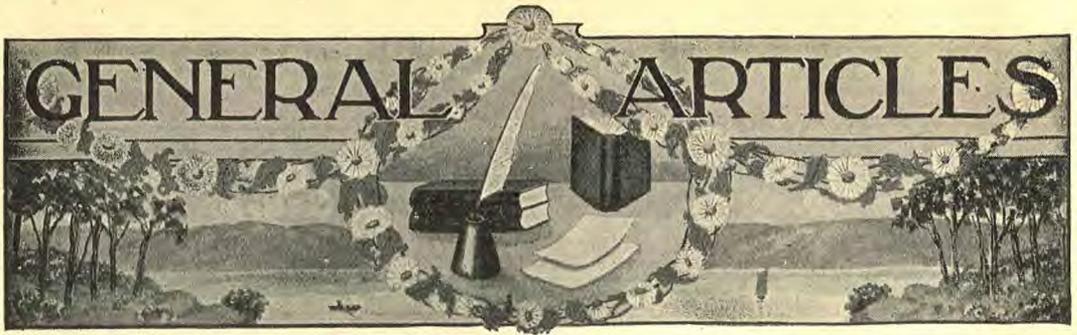
increasing the amount of fat consumed." —*Food and the Principles of Dietetics*, page 29.

To produce the required amount of calories 23 oz. of dry food would be consumed daily. The relative value of the three principal constituents of foods is: Proteids, 4.1; carbohydrates (starches, sugars), 4.1; fat, 9.3.

Twenty-three ounces of dried food represents about 45 oz. of ordinary food (omitting vegetables and fruit, but including potatoes). Tomatoes, like other fruits, contain but little nourishment, and in estimating amount of food required they can be left out of the reckoning. Fruits are a valuable adjunct to the diet on account of the mineral salts they contain. Tomatoes are rich in citric acid, and consequently should be avoided in acid dyspepsia. When milk, eggs, bread, and rice are included in a dietary, one has no need to worry about the food being in any way deficient. Peas, beans, and lentils should be taken sparingly, especially by one of sedentary habits. Nuts supply fats and proteids, and form an excellent food. They contain 15-20 per cent proteids, 50-60 per cent fats, and 9-12 per cent carbohydrates. "No man," it has been said, "need starve on a journey who can fill his waistcoat pocket with almonds." About 700 walnuts would supply the necessary amount of proteid required by the body every day. Malted nuts is a valuable food. The composition is as follows:—

Water, 4.5 per cent; proteid, 23.6 per cent; fat, 20.4 per cent; maltose, 49.3 per cent; and mineral matter, 2.2 per cent.

AFTER you have once secured bodily symmetry it will take only a few minutes of well-directed exercise each day to retain it. Even if you have to work for a good portion of the day, you can surely find a few minutes before dressing in the morning, or after disrobing at night, for the requisite exercises.—*Macfadden*.



Encouraging the Industry of Children

CAROLYN SHERWIN BAILEY

A UNIVERSITY professor whom I know has one brilliant son. Almost from the day that the boy was born his father planned his education; as soon as he could read, this education was started, having in mind the boy's college and university courses. His child reading was guided along academic lines, leading his interests into the fields of history, science, and literature. He began studying Latin and Greek at thirteen. He passed his college examinations easily because he had an unusually good memory and wonderful powers of concentration, but it was a noticeable fact that he never seemed really to enjoy his school work. He attacked it with an it's-necessary-but-boring air, and also as if he were trying to make a good record in order to please his father, not to satisfy any ambitions of his own.

Then he entered Harvard, as it had been planned from his babyhood that he should do. He was seventeen then, and he easily completed his course, and was graduated at twenty, having finished four years' work in three. His next step was to enter the Boston School of Technology, upon which his father had decided, as the boy had shown an interest, half submerged by his classical education, in mechanics.

To his father's amazement, the day after his graduation, the boy rebelled. Gentle, docile, anxious to please all his life long, he suddenly developed the tenacity of will of a wild beast, hunted but escaped.

"I am not going to 'Tech.,'" he told his father. "I am tired of being educated, and I am going to work. I've got a job in a machine shop that will pay me enough to feed and lodge me, anyway, this summer, and I can do the thing I've wanted to always—work with my hands. I've longed for years to work and you haven't let me. You never asked me what I wanted to do, and so I've studied to please you. I'm almost of age now and I'm going to please myself."

The boy's father was crushed at first as he saw the boy in jumper and overalls working from seven to twelve and from one to six for two pounds a week, but the results in the boy's development soon made him change his mind. The boy's slender frame filled out, his chest broadened, his eyes grew luminous and bright. Through the coating of soot and grime of the machine shop there shone the clear light of the boy's new-found joy of spirit. He was at the work for which he was born, and he was happy.

One of the crying faults of the average home is the laziness of the children. It reacts upon the community in the indolence of the grown-up children. Mrs. Housewife rides in her automobile instead of walking, and she telephones for her day's supplies instead of going to the market to select them. The result is an increased cost of living and a waste that is even more dangerous than this, that of the individual. Both children and adults

fail to give themselves to work as much as they should. The tendency of this century seems to be a most deplorable burying of our talents.

How can we make our children industrious? mothers ask.

**Parents Sometimes Responsible for
Childish Laziness**

This is not the point at all. The average child, if he is physically and

that a certain sultry ninety-degree day was too oppressive to keep the primary children in school until the end of the session, so he ordered the schools to close for the day at one o'clock. In one of the districts where the children came from homes of comparative luxury and the children's welfare was very carefully considered, there was a new road in process of construction, and a huge steam roller was taking its lumbering way up



TURNING IMAGINATION INTO INDUSTRY

mentally and morally well, is a dynamo of industry. He hasn't an ounce of laziness in his make-up. He doesn't want to be waited upon, to be helped over life's bunkers, to be over-educated. He wants to do something and to do it by the sweat of his brow and the blistering of his hands. It is difficult to believe it, but parents cause most of the laziness of the normal child.

Examples of the indomitable industry of children are all about us. A public school superintendent in a very progressive New England town decided recently

and down the street. Instead of going directly home the children, tired, perspiring, but happy, followed the steam roller up and down in the torrid heat of the sun, intent and concentrated upon its mechanism, and playing that they, too, were driving it. They did not know that the thermometer registered high; they were working, and they were oblivious to everything but that.

Imagination Blooming into Industry

Our homes are full of similar instances. The little girl sewing for her doll folds

and cuts and stitches her scraps of lace and bright cloth for hours at a time; she stops only when we rouse her from her day dream of domesticity by asking her to put away her work and do something that we wish. The small baker of mud pies, seated in the sunny comfort of the garden, and spreading out his rows of mud cakes and loaves and pastry on a board, is a little captain of industry until we stop him because he is soiling the rompers that we have to wash and iron. A young man who is a successful architect has surprised his family by his wizard-like skill in designing.

"I never knew that George was especially interested in architecture when he was a boy," his mother said when the boy brought home a much-coveted European prize for his work.

"You never let me finish the houses I wanted to build with my blocks," the man said a bit sadly. "You always said that they were too high and I'd tumble them down and make too much noise."

We must sometimes interfere with the doll play of little daughter when we have something more vital for her to do. We can't let the baker of mud pies carry on his blissful occupation to the point of ruining his garments, and we need to have the children's help in preserving the peace and quiet of our homes. The suggestive part, however, of the almost unflinching concentration with which little children carry on their play is that it proves their willingness to work and to work hard. At first this work is along the lines of a child's instinctive interests, make-believe; but this play of the imagination presages the work of the adult. The doll seamstress, if we encourage her, will sew later for her own babies with all the devotion that she dresses her dolls. Mud-pie making develops into sculpture, and to build well with blocks often means to carry on one's life business with all the precision and originality in making a block house.

Our first step in curing the lazy child is not to interfere with, but to encourage, his concentrated play.

Like most of the good habits that we wish to establish in children, that of industry has a physiological basis. If children's muscles are trained to work, we will not need to urge them to work. The impulse to be busy about something will then become so natural and habitual that it will not need the urging of adults.

The first work of the little child is usually muscular. The toddler fills his wheelbarrow with sticks or stones, trundles it from one end of the garden to the other, empties it, and then repeats the trip. Often he carts his load all back to the starting point before he finishes his play. The impulse is not that of doing anything definite with the load but to concentrate upon loading and unloading. The result of the small carpenter's art as he hammers for an hour or so at the pile of blocks in the woodshed is a very crude little toy cart, but the emphasis is upon the muscular effort of hammering.

Cultivate the Industry Impulse

We must grasp this pregnant impulse of the little child to use his muscles in one continued line of activity, and turn it into established habits of work if we are to train him to efficient adult life.

As far as possible, in the beginning of this work training, follow the child's interests. We may be quite sure that the very young child is interested in carrying, in the work of his mother and father, and in building, the latter being the childish expression of the constructive impulse. The first real work that the children do in the home may be a carrying over into real life of these instinctive interests. To carry a glass of water or milk to some member of the family or from one table to another, to fill and empty a basket of kindlings or chips, to gather fruit or vegetables or berries or flowers in a basket, to put in their proper places in the pantry or cellar the supplies brought to the house by the grocer or vegetable man, to put boots and rubbers in their proper places and wraps and clothing on the proper hooks, are all valuable kinds of work for the younger child.

dren, and those that help to develop working muscles.

The impulse of children to imitate, on a lower plane, the activities of their parents has an important place in their training to be industrious. The small girl should have every opportunity to work as her mother does, even if this is only possible of carrying out on the plane of play. Let her wash and iron for her dolls, bake something simple, as cookies or biscuits, set the home table, arrange flowers, make beds, dust, or be responsible for the order of a drawer or two or a shelf in the pantry or in the linen closet. The small boy needs to watch his father at work in the home or about the home garden or fields, and then try to do a part at least of his work. He needs a good set of garden tools that he may prepare flower and vegetable beds, rake leaves and grass, and make and clean paths. He should have, as well, his own set of carpenter's tools that he may try to keep the house in order, mending, tinkering, putting up shelves where they are needed, making flower boxes, and doing odd bits of manual labour that are not only of utilitarian worth to the family but of value to the boy who does the work.

Importance of the Natural Bent

The desire that is born with every child to make something with his hands is tremendously important in training him to work. It differs in kind and degree with each individual child, but it is vastly important for the parent to discover it and to give the little one the means to develop it. Perhaps it is the scrap-book making desire; give the child a good pot of paste, a pair of blunt-pointed scissors, as many scrap books as he wishes, or a card file, and piles of old magazines through which to search for pictures, verse, and articles of interest. A child who made dozens of scrap books, carefully collecting, cutting out, and classifying his clippings according to the subjects that interested him, animals, outdoors, games, toys and the like, developed a marked interest in jour-

nalism. To-day he is one of our best-known newspaper editors.

There were never before such adequate materials and outfits for helping children to work on the plane of their own childish interests. There are dolls' garment patterns, and materials and directions for making dolls' hats; there are architectural blocks, meccano and other engineering outfits, clay modelling and painting sets, manual training kits, sand boxes and sand moulds, poster making and cardboard construction materials, basketry, weaving, bead, and the most fascinating paper doll outfits, the latter including paper houses



PUTTING GOOD TOOLS TO GOOD USE

and furniture. For a child to have the equipment for carrying on even one of these occupations is to develop his working muscles to a marked degree.

Dawning of the Duty Idea

All work must not be play for the child. When the age of fantasy has passed, usually at nine or ten, and reason begins to develop, work must be accomplished for work's sake, regularly and well. Usually, if a child has had proper work training in the early, impressionable years, this stage will be reached easily and naturally. Having always accomplished a certain amount of work suited to his strength each day the child will continue to work, cheerfully and industriously.

With the beginnings of the child's reasoning powers there comes the dawning

altruistic spirit. Children begin to realise that there are other individuals than themselves in the world. Before this period they were naturally selfish, but now there comes to them a realisation of their dependent relation to the world about them. A new word finds its place in their vocabulary, duty. Now they need to be led to work, not for their own uses of the imagination and of play, but because this is a work-a-day world, and it is their duty to work for others.

Working to a Programme

One mother who has been able to accomplish quite wonderful results in developing the work habit in her three children, two little girls of eleven and ten and a boy of eight, plans their day's duties as a programme, which is typewritten and posted in the living room. There is a time for each task and a time length for finishing it. The girls' duties include airing their rooms and making the beds, setting the breakfast table, waiting on table, and doing the dishes. After school they do simple sewing and mending for the house, and they iron the handkerchiefs and doilies. The boy looks after the order of the cellar, takes out the ashes and brings in wood and feeds the ducks and the hens. This work which the children do is so arranged that it takes only an hour and a half of the entire day. The children accomplish it cheerfully and easily. An unexpected development of it has been the fact that the children want to do more than is actually required of them. The girls are learning, at their own request, how to cook, and the boy is helping to build a new henhouse.

Our own attitude toward work has much to do with the point of view of our children in relation to it. It would seem that we have lost the fine respect for labour of our great grandparents, who tilled the soil and made its fertile acres burst into bloom and fruit for their uses, who raised the flocks whose wool they spun and wove into their garments, whose larders fairly burst with the preserves and spicy condiments that were as much a

part of the season as were the sun, the blossoms, and the fruits. It is so easy to have our work done for us by hirelings or by machinery, that the spirit of work, a respected, venerated spirit, has gone from our homes in many instances, and this is bound to react upon the attitude of children toward work.

The home where homely tasks are treated as opportunities for fine endeavour, where washing and ironing and baking and sewing and cleaning are done, if they have to be done, as fine arts, performed with cheerfulness and joy, will find a wonderful reaction in the children. They will not only want to work also, but they will demand work, accomplishing it as well as they can, and loving it.

The Exception

The child who does not like to work needs careful study, for he is the exception. The cause may lie in the fact that he was discouraged, interrupted too much in his great working business of play when he was in his early, impressionable years, and on account of this has acquired a habit of dallying over tasks or flitting from one occupation to another without concentrating upon any. Perhaps he has not been held to a schedule of work in the home, has not worked definitely at certain hours at certain tasks, but has drifted from one task to another without finishing any. Perhaps he is not well. This is more often the cause of child indolence than we realise. A lack of nutrition or an over abundance of foods that do not nourish results in anæmia, and the child's muscles are not in fit shape for work.

The encouraging part of the whole problem, however, is the fact that every well child is a natural worker if rightly encouraged and helped. Our part is to watch for his working impulses and to feed them for growth.

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

The Tobacco Habit an Enemy to Health, Endurance, and Perfect Physical Condition

C. H. Price

Physical Director Y.M.C.A. Gymnasium

WITHIN the past month I have heard two men who have much to do with the education of boys say that the cigarette is ruining the majority of the boys of this country, because it is affecting their ability as students, and is lowering their moral stamina. The use of the cigarette by boys and growing young men is also impairing the health of older men. No boy or young man can afford to permit the cigarette habit to enslave him, because slavery to the use of tobacco in any form will undermine the health.

He who will be a successful athlete must leave all devitalising practices alone. He must practise to increase his strength, speed, and agility; not to undermine them. He must gain, by careful study and work, a stock of reserve force that will be ready for use when needed for some special exertion. He must have a sound heart and a good pair of lungs. In fact, he must be in exceptionally fine physical condition, with every part of his body ready to serve him when the day of trial comes. A man's training is given to increase his endurance, so he must leave tobacco alone; for all trainers know that the use of it will affect the heart's action, and the heart, as the seat of the qualities of endurance, must not be mistreated. The man who courts athletic supremacy to-day will win it much easier if he is not a habitual user of tobacco. The same may, of course, be said of all other habit-forming drugs.

True, we cannot all make athletic records that challenge the world's most competent men, but every young man has it in his power to cultivate soundness of body and maintain the good health thus obtained. This can be accomplished by following some good system of rational physical exercise with persistence and regularity, and by eliminating what is

detrimental in any way to the bodily functions. Leave all impediments behind, and you will be rewarded with steady nerves, vigorous muscles, and a physical condition that will indicate the health and endurance that is so desirable to us all. And this blessing does not stop with you, but is passed on to your posterity.

Tobacco is an enemy to all those con-



RIISING WITH NATURE—A WARBURTON TREE FERN

ditions. It eats away at the vitality, and, gradually weakening the nerve force and muscular activity, it leaves a man with a physical organism less responsive to his will and greatly diminished in tone. The young man of to-day, if he will be most successful in life, will prepare for the future by taking care of his body in the present. It requires some thought and care at first, but after a time will become a matter of habit.

Training wisely for some special event is productive of good results physically, but training for life is better. In athletics only a few excel and carry off the

honours, but it is within the grasp of every young man who enters into training for life to gain his reward. It may not come in the form of medals and banners and athletic glory, although it may, and has, to many who have these high standards. It will come, however, in spiritual growth and improvement. Good health and endurance, through the care of the body, mean an athletic young manhood,

a stalwart maturity, and sturdy old age. Each will link itself into the others, and every link is a link of gold that brings golden opportunities as the years pass. The progress will be a steady growth upward to the end. Where is the young man who covets a less desirable goal? Try it, young man. It is worth the sacrifice of a few puffs of choking, poison-laden smoke to gain it.

Is Alcohol a Food?

T. D. CROTHERS, M.D.

SUCH a question would sound strange to many persons, and yet it is seriously asked and answered in a very confusing way. Many years ago alcohol was recommended by eminent medical men as a valuable stimulant very useful in many forms of disease. In those days, disease was thought to be a state of low vitality and depression requiring correction. Alcohol was supposed to keep up the energies of the body until nature could come to the rescue and drive out disease. This theory has fallen into disuse, and the causes of disease which were supposed to be this or that are now found to be entirely different. Alcohol is supposed by some to give energy to the body, similar to that furnished by food; and this view is based on the evidence of the senses, and the supposition that the increased heart's action following a dose of spirits is due to increased vigour. Now all is changed; studies on the physiological action of foods or of alcohols are conducted on a higher plane and with more perfect instruments of precision. Still the old delusions of food values linger among those who have not kept pace with modern discoveries.

A few years ago a noted chemist announced as the result of some new investigations, that alcohol has a food value which can be demonstrated by exact researches. Later, when this was questioned and the proof for such statements

called for, he was unable to give them, and when the experiments, which he said sustained his theory, were examined, the errors were so numerous that his conclusions were found to be unsupported. The dogmatic way in which he defended his theories created a stir in scientific circles, and stimulated more exact investigations, all of which failed to find any real value in alcohol other than that of a depressant and narcotic. The evidence is conflicting, and many of the authors affirmed that alcohol is a food in a very limited sense, but was a dangerous one, and hence should not be used. Other authors agree that it is expensive as a food, and, while it liberates some energy which can be utilised to sustain the strength of the body, it is impractical to use it.

In these discussions there is so much confusion and so many sources of error, that no author cares to defend authoritatively the theory of its food value. The principal contention is, that by the oxidation of alcohol in the body certain force elements are liberated, which are in the nature of concentrated foods. A second theory is that alcohol increases the digestive fluids, and in this way aids digestion and the assimilation of foods. To this there are so many exceptions and qualifying conditions that any clear statements are impossible. A noted chemist has shown conclusively that while the quan-

tity of digestive fluids is increased by the action of alcohol, the quality is greatly diminished, and that one who takes spirits before or after eating with a view of creating an appetite succeeds, but at the expense of weakening the digestive powers, making it harder for the system to take up and appropriate the food introduced. In other words, the man who drinks to create an appetite for food eats more than his system requires, and therefore increases the waste matter to be disposed of in the body. He is practically making a gormand of himself and destroying his capacity to make use of the food taken in the body. The best answer to this question, Is alcohol a food? which science gives, has been made from a study of the effects of alcohol on the senses and organic activities of the body.

If alcohol is in any possible way a food, it cannot depress or lower the activities of the body. Foods do not do this. Experiments have been made in Germany and in America, on the effects of small doses of alcohol on the brain and sense activities, which have shown that instead of giving any new power and vigour to the body, alcohol actually detracts from it.

Thus Professor Krapelin, of Heidleberg, has made many experiments, examining the senses, muscular powers, and mental strength of healthy persons for the purpose of determining their normal condition and to find some standard from which to judge of the effects of spirits. These persons were then given small quantities of alcohol, and measured to determine the difference between the conditions following the use of alcohol, and the previous one in health. It was found that the eyesight was notably affected; a person who normally could see letters thirty feet away could not, after using alcohol, see them at a greater distance than twenty or twenty-five feet. The sense of sight was diminished and obscured. Where sounds were heard in health two feet from the ear, after using alcohol they had to be brought up to fifteen or eighteen inches.

The same with muscular power; the ca-

capacity of life to push and to pull was diminished markedly by alcohol, although the person was unconscious of this condition. The rapidity of thought tested by a stop watch and an electric battery showed slowing down of the mental process. Memory tests both before and after spirits were taken showed the same failure. The heart's action, which at first was increased, was later depressed as far below the normal as it had been raised above it. The temperature of the body was also lowered. In all this there was a marked paralysis, or slowing up of the normal activities of the body. If alcohol were in any sense a food this could not happen, or if alcohol added any energy to the body which it did not have before, these results would be different. The amount of alcohol given was half an ounce and upwards, equivalent to a small dose of whisky or other spirits.

These experiments prove without question that alcohol can in no way act as a food or force producer. Further researches show that alcohol is a toxin, that is, a substance poisonous to the body. It is known to be a water absorber, and wherever it comes in contact with the substance of the body it soaks up the water rapidly and so becomes an irritant. When alcohol is used on the surface of the body, the rapid absorbing qualities, extracting the water from the surface, produce intense redness and burning when applied continuously. Alcohol taken in the mouth has the same sponge-like action, burning the throat in its passage to the stomach, and drinking up water from all tissues it comes in contact with. Chemists have shown that when taken into the stomach it stops digestion until this water-absorbing property is satisfied, and that it is quickly absorbed into the blood-vessels, affecting the blood cells and diminishing their power to carry oxygen to all parts of the system.

The poison of alcohol, no matter what changes it undergoes in the stomach or other parts of the body, favours the growth of other poisons and destroys the



capacity to utilise the food particles; in this way increased waste follows, and general derangement of all the delicate chemical processes so essential to health. These are only some of the facts which are becoming more and more settled from each new observation and study. Its real condition and activity are concealed; for while it paralyzes

force and diminishes the general power of the body, the person is unconscious of the actual condition. Thus the supposed action of increasing the heat of the body is found to be literally cooling it off. The increased flow of blood to the surface causes a sensation of heat, but chills the body more rapidly. The supposed greater strength is followed by greater exhaustion. Its value as an appetiser is quickly followed by indigestion and other stomach troubles. The common, every-day experience shows that persons who use alcohol are less vigorous, more imperfectly nourished, more

subject to colds and liable to disease than persons who do not use it. A large part of the mortality due to pneumonia occurs in persons who have used spirits both in moderation and to excess. A large number of rheumatic cases are traceable to the injuries which come from the use of spirits.

The contention of many persons that

these pronounced effects only occur in large doses is not sustained by a careful study of cases. When alcohol is taken in small doses it may not show its effects at once, but it is cumulative, that is, one dose added to another constantly grows until by-and-by the action of all breaks out in some derangement of the body. The claims that alcohol may have acted as a food in sustaining the body are clearly explained by its narcotic properties slowing down all the processes of the body, always at the expense of permanently deranging and disturbing the normal conditions of life. Many years ago Dr. Adams of London sought to prove that alcohol, if properly administered, would lengthen out and perpetuate life. He found two persons willing to make the experiment. Alcohol was given with foods and without it, and they were permitted to exercise in conditions most favourable for strength and vigour. The result was, that in a few weeks, debility, exhaustion, and delirium followed, and the experiment was a failure.

The common observation is that persons who use spirits continuously show great inferiority of vigour, with lowered vitality and extreme susceptibility to many very serious and fatal diseases. In fact, all physicians recognise that the use of alcohol is the foundation and a prominent predisposing cause of disease. The supposed vigour of beer-drinkers is a delusion. Workmen on the docks at Liverpool and in the breweries, who are given large quantities of beer, have very low vitality and die early, mostly from heart disease. The supposed antagonism of spirits to contagious disease is found to be a myth and not sustained by careful examination. It is difficult to understand, in view of the vast array of facts from the laboratory, from the sick room, and from the common observation, how alcohol can be considered to have any food value! Breeders of dogs find that the continuous use of alcohol retards the healthy growth, and is necessary to make dwarf dogs, or to diminish the natural growth. All this indicates clearly that the food value of



alcohol is a fiction, or that its force or power producing quality is also a delusion, and that these appearances are explainable in another and more satisfactory way.

The arguments so often used, based on the cases of persons who have used spirits for a long time, and are still able to do the ordinary work of life, are always found delusive, when examined. I have never found persons of this class to confirm the impressions which seem real from a general study of their history. Thus, one man for a long time was considered to illustrate the food value of alcohol, having used large quantities in his daily work. In reality it was found that his use of spirits had been very irregular with long intervals of abstinence and active outdoor work; also for many years he had been growing feebler, mentally and physically. He was boastful, childish, and stupid. Alcohol had destroyed his moral sense and made him an automaton at his work. He was found dead in his bed, and all of his family which followed him were degenerates and died early. In this case alcohol used as a food was at least the most dangerous one. This, I think, is a fair example of other cases quoted to illustrate the value of alcohol as a food. The general rule may be laid down that alcohol is a tissue-poison in all quantities, and that in no way can it properly be said to be a food, or even a proximate food in any particular. Clinical experience and careful observation more thoroughly settle this question than any chemical theorising.

Normal Breathing

A. B. Olsen, M.D., D.P.H., in "Good Health"

IT has always been recognised that children of both sexes breathe alike, but until some twenty or thirty years ago it was generally believed by most people, including many physicians, that there were two types of respiration for adults, a masculine type for men, and a feminine type for women. Doubtless there are

still many people who hold this erroneous belief at the present time, and the reason, as we shall see later, is not far to seek.

The "Feminine" Type

The lungs may be likened to a pair of bellows with the hinge, or fixed point, at the base of the neck and the handles at the waist-line. Under normal, natural conditions the movement of the chest increases during expiration and inspiration as we pass from the neck to the waist, the largest amount of movement both forward and sideways being in the region of the waist, where the ribs are most free and movable. If you take a tape and pass it round the chest just under the armpits you will find that the difference in circumference between the empty and full chest will amount to half an inch or more in the case of a girl of twelve or fourteen who has never worn stays. If the tape is now passed around the waist, the difference in expansion will be considerably larger, indicating greater movement.

But what are the conditions in the modern woman of western civilisation? Just the reverse. If she has worn stays, and the great bulk, nay, practically all modern civilised women of the upper classes of society are addicted to this custom, then we shall find that the movement of the lungs is the greatest in the upper chest,



and least at the waist-line. Here we see the characteristic heaving of the chest, which is believed by so many people to be a mark of femininity. This is known as chest-breathing, or the costal type of respiration.

The "Masculine" Type

Now let us examine the average adult man and see how he breathes. The type is the same as that of a girl or boy. There is but little movement in the upper chest. Expansion increases as we approach the waist-line, and here we find the maximum.

Suppose we encase a young man, whose ribs are still elastic, in stays, thus giving him a feminine waist. If we now notice the expansions of the chest and waist-line, we shall find that the man encased in a corset breathes like the modern woman. Expansion in the waist-line is markedly diminished, while the heaving of the chest is apparent.

Only One Type

There is but one normal type of breathing, and that is the type which we find in the boy or girl or in the adult man who neither wears stays nor tight belts, either of which would hamper the movement of the lungs, and tend to produce the so-called feminine type. The truth of this statement is easily determined by examining the breathing of a natural woman, and this usually means a working woman who has never worn corsets. The German peasant woman who accompanies her husband to the field and assists him in the agricultural work has not acquired the habit of constricting the lungs and interfering with their freedom. Indeed, she would find it impossible to do so and at the same time accomplish that which, in the natural condition, she is able to do. The same is true of the peasant women elsewhere, in Italy, in Wales, in France, or in Ireland. The Indians of America, the negroes of Africa, and the Mongolians of China all possess but one type of breathing, and that is the natural type, with the greatest expansion at the waist-line.

The Natural Type

It must be evident that anything which interferes with the normal action of the lungs is detrimental to health, and there is no doubt that corset constriction interferes with the health and the efficiency of the modern woman. And such interference with one of the most vital organs of the human body is not infrequently fraught with serious and even grave consequences. Surely the modern woman has the right to breathe in a natural way like men, and it is for her to insist on this right, and to make it possible to enjoy the fullest capacity of her lungs. This means doing away with corsets entirely, as well as all constricting bands at the waist-line, in order to give perfect freedom to the natural movement of the lungs.

New Antiseptic Found

DR. ALEXIS CARREL, of the Rockefeller Institute of Medical Research, and Dr. Henry D. Dakin, of the Lister Institute, have discovered after exhaustive experiment at the Compiègne military hospital what they claim to be the ideal antiseptic, says a despatch from Paris. The most powerful antiseptic known to science is hypochlorite of lime, but its use is injurious to the tissues, owing to its acidity, and it does not keep. Drs. Dakin and Carrel have found these two defects are remedied, respectively, by the addition of carbonate of lime and boric acid. Wonderful results have been obtained with the new antiseptic, and if applied in time it is said to make infection in wounds henceforth impossible. Prof. Landouzy explained the new antiseptic to the academy of science, whose members said the discovery would be of great importance in surgery.—*Selected.*

FOR binding up cuts and wounds always use linen, not cotton, as the fibres of cotton are flat and apt to irritate a sore place, while those of linen are perfectly rounded.



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.

394. Flatulence and Dull Hearing

G.B. writes: "I am fifty-six years of age, suffer very much from flatulence and feeling of fullness in the pit of the stomach, but my greatest trouble is dullness of hearing. I can hear very well if the speaker is close to me; at a distance I hear a voice, but cannot hear the words. . . . My husband is very deaf; would talking so loudly to him cause the dullness of hearing with myself? I have no pain or discharge of the ears."

Ans.—Symptoms of indigestion and deafness are very frequently associated. All are acquainted with the fact that indigestion causes a coating of the tongue, but it is not so generally known that it causes throat and nose trouble. The Eustachian tube, which communicates with the ear, opens in the upper part of the throat behind the nose. Catarrhal conditions of the throat and nose are liable to extend up these tubes and interfere with the free admission of air to the inner ear. The drum of the ear thus loses its proper shape, and hearing becomes dull. The catarrhal condition also prevents the free movement of the small bones in the ear, which are so essential to good hearing.

Attention to the digestion is very important in all these cases. All rich foods should be avoided, particularly those cooked with fats, and especially when fried or baked. Avoid cakes, fresh bread and scones, much sugar, much butter, or

scalded cream. Take with each meal a fair quantity of dry food, such as granose biscuits, zwieback (doubly-baked bread), or toasted corn flakes. Fruit at the close of the meal is beneficial, except when vegetables form part of the meal. Avoid altogether cocoa, tea, and coffee, and drink freely of water between meals and on retiring and rising.

395. Scalp Complaint

Mrs. R. J. F. writes: "I, and my little girl aged ten years, have been troubled very much with a scalp complaint. It started with itching about the end of last winter. Now it is like a little rash or scaly sore all over our heads."

Ans.—We would advise the free use of the following ointment, which should be well rubbed into the scalp every evening:

R Resorcin grs. xx (20 grains)
Sulphur Precipitata ʒj (one dram)
Adeps (Lara) ʒiii (2 ounces).

396. Noises in the Head

M. C. writes: "I would be glad to know what is the cause of ringing noises in my head. I am in good health, but for some months past I have had head noises which are very distressing. It is worse at night when I lie down. I have had several bottles of medicine which did me no good."

Ans.—Tinnitus aurium, noises in the head, are caused by a great variety of

conditions. Hissing, humming, or roaring noises are generally due to disease of inner ear (labyrinthine diseases); bubbling noises to middle ear catarrh. Sometimes it is due to Ménière's disease (associated with great giddiness and vomiting). Nasal or aural polypi sometimes cause noises in the head. There are, however, a large number of conditions which produce noises in the head, such as chronic alcoholism, anæmia, or aneurysm of brain, kidney disease, gout, indigestion, obstructed Eustachian tube, syphilis, etc. A careful medical examination is necessary in order to discover the causes before any treatment can be recommended.

397. Aching Shoulder

A. E. C. writes: "I have suffered for some time with a nasty shoulder at times. It is just like something creeping all over my shoulder, then it goes hot and cold. I do not know at times what way to hold my neck with the aching of it and my shoulder."

Ans.—We would advise hot fomentations followed by short, cold compresses. Also galvanic electricity and massage to the parts. The symptoms point to some nerve trouble.

398. Grinding of Teeth, Whooping-Cough, etc.

"Query" writes: "My wife has a small scab on her nose near the front; it no sooner dries and lifts off than another one takes its place. This has been going on for a year or more. Our six-year-old boy is terrible for grinding his teeth while asleep. What is the cause and cure? He has been in good health, but since the hot weather came in, will eat nothing. He is just now getting whooping-cough. How should he be treated?"

Ans.—On removing the scab from the nose surround the sore with vaseline or lard, and paint the raw part with pure carbolic acid. Then allow to heal. If not successful, a medical man should be consulted. The grinding of teeth in the

sleep in children is due to either parasites in the intestines or to unhealthy condition of the intestines (auto-intoxication). Watch the motions for worms or part of worm. Give (after a 12-hour fast) in the morning three grains of santonin and follow in four hours' time by good dose of castor oil. For threadworms inject a solution of common salt (one ounce to a quart of water) daily for several days or quassia chips (one ounce to pint of boiling water). Attend to the digestion, and see that the food is of simplest nature.

There is no specific remedy for whooping-cough. Almost every drug in the pharmacopœia has been tried. See that the child gets plenty of fresh air night and day. Isolate from other children, and burn all the sputum. The diet should be simple. Avoid sudden changes of temperature. Give a spray of two per cent of resorcin in water. Foment the chest, and give cold sponge daily. Let the child drink freely of water.

399. Rheumatoid Arthritis

E. J. R. writes: "I am a sufferer from rheumatoid arthritis, am twenty-nine years of age, and have had it for four years. I have had various treatments, massages, vaccine, etc. I am not completely crippled, but of late find that my feet and knees get very stiff, and am not quite so active or able to walk as much as I have done. . . . In the morning I take a glass of hot water with just a pinch of salts and saltpetre. Do you think this is harmful?"

Ans.—This disease requires prolonged and patient treatment. It is sometimes called poor man's gout. A good, nourishing diet is required. Flesh foods, especially the red meats, should be avoided. Take daily a neutral bath at 95° F., and allow to cool till about 90° F. The body should be well rubbed during the bath. Massage is useful. Spend as much time in the open air as possible, but avoid sudden changes of climate. Olive oil, if it agrees with the digestion, would prove beneficial. If the bowels are constipated,

small doses of salts before breakfast are good. It is better not to take the salt-petre.

400. Onions

C. E. H. asks our opinion about onions.

Ans.—They are generally regarded more as condiments than foods. The large Spanish onion is richer in nutrients, and may rank as a food. On account of the excess of cellulose they are good in constipation. Asparagus and onions are the only vegetables which contain appreciable amounts of uric acid-forming bodies, and consequently we are told they should be avoided in gout. We believe, however, the objection to onions in the dietary is more theoretical than practical.

401. Acne

“Victorian” writes: “I have a very clear skin (and good colour) with the exception of my chin, which has pimples. If I stretch the skin I can see tiny lumps no bigger than the head of a pin, and even smaller, which have in them a long, thread-like matter when pressed on. Whether I press them (which invariably results in inflaming them) or not, these big, yellow-headed pimples come after a week or so. Sometimes they have no head at all. They seem to be deeply seated, and just a big, sore, inflamed lump is there.”

Ans.—The diet should be carefully attended to. Avoid rich foods, foods cooked with fat, especially when cooked at a high temperature, as in baking and frying, pastry, hot bread, scones, and all “flesh foods. See that eggs (which should be used in moderation) are very lightly cooked, not brought to boiling point. The usual blood mixtures advertised for this trouble are absolutely useless. What is wanted is good blood, which can only result from good food prepared and taken in a healthful manner.

Great patience and perseverance are needed in treatment. Steam the face over boiling water, or wash with soap and hot water, and then use smart friction

with a rough towel. Press out the black heads and contents of pustules. Use the following lotion: Precipitated sulphur, 2 drs.; prepared calamine, 40 grs.; spirit, 1 oz.; rose water, 9 oz. Allow to dry on the face. If the acne does not soon yield, use the following lotion:—

℞ Corrosive sublimate 12 grs.
Spirit 1 oz.
Almond emulsion 8 oz.
Glycerine 1 oz.

Apply these lotions frequently during the day, and allow to remain on face until the next application of steam and friction. An ointment may be used with advantage at night, such as:—

℞ Sulphur xxx grs.
Calamine prep. xxx grs.
Lanoline ʒj
Acidi carbolici xv grs.

In persistent cases a vaccine should be prepared from the pustules, and injected weekly till the eruption disappears.

402. Sore Throat and Asthma

A. B., Queensland, writes: “Since I was eighteen years old I have had trouble with my nose and throat, and have had some bone cut away and growths burnt. One doctor told me my throat was very relaxed, but within the past two months I have had bad attacks of sore throat. I get a dry, choking feeling, and in half an hour I can hardly breathe, and keep coughing, and feel a dry pricking in my throat. . . . My husband suffers with his chest. He goes to bed quite well, and wakes up with a wheezy noise in his chest and a difficulty in breathing. Often he is free from it for weeks.”

Ans.—The throat should be medically examined. A good gargle and nose wash should be used daily. Equal parts of salt, borax, and baking soda would be serviceable. Use a teaspoonful of the mixture to six ounces of warm water. Bathe neck and upper part of chest twice daily and freely with cold water. Take plenty of exercise in open air, and be careful in selection of a good, healthful dietary.

For an attack of asthma apply large fomentations to chest and spine till relieved. Fomentation cloths are best made out of a flannel blanket; they should be one yard long and nearly as wide. Wring out of boiling water, and enclose in a dry flannel fomentation cloth. This moderates the heat, and also prevents it from cooling too rapidly. Nitre fumes, burning nitre on red hot ashes, and fumes from stramonium leaves, give temporary relief. Build up the general health of the patient. The digestion should be specially watched. Take outdoor exercise. Apply hot and cold to spine, cold friction and cold wet towel rub. These increase the vitality of the organs and the skin. The air of the room should not be too dry. A dry climate with a medium altitude is beneficial. The treatment of asthma, however, varies largely with the individual. No rules can be given which will suit all cases.

403. Grey Hair

"L. F." asks for the treatment of the above.

Ans.—Grey hair is due to the papillæ of the scalp not secreting a sufficient amount of colouring matter to colour the hair, hence the greyness commences at the root of the hair. The hair itself does not lose its colour. Many of the hair tonics on the market are injurious, and dyes contain lead and other poisons. We know of no remedy for grey hair. Friction with cold water and shampooing will delay the loss of colour.

404. Vaccination

"Quambatook" submits several questions *re* vaccination which space will not at present permit us to answer.

We believe all the lymph at present used in Australia is from the calf, that it is absolutely free from any disease, as it is prepared with the most scrupulous care. When the instruments used are sterilised and the arm of the child is clean, no harmful effects can be produced

by vaccination. No child should be vaccinated before the age of three months. From three to six months is a good age for vaccination.

405. Headache

D. O. M. writes: "For six months I have suffered with my head. If I stoop down to do anything it begins to throb, and when I stand up again a thick haze covers over my eyes. I had my eyes tested by an eye specialist three months ago, and I have been wearing glasses for three years, but my head does not seem to get better. The pain is like as if it is being crushed. Please give me a remedy and something to prevent losing my hair. I am sixteen, and in good health otherwise."

Ans.—The headache is evidently a congested one due to excess of blood in the brain. This may be brought about by a number of causes, such as constipation, auto-intoxication, heart or kidney disease, and other conditions, such as troubles of womb and its associated organs, etc. We would advise that the bowels be kept regular by the use of proper diet. Avoid tea, coffee, and cocoa altogether. Sleep in well-ventilated bedroom. Before retiring take a prolonged (one-half hour) hot foot, or better, leg bath, applying at the same time cold compresses to the head. Wear a heating compress over the abdomen. Sponge body freely every day with cold water.

For the loss of hair the circulation in the scalp should be stimulated by frequent massage with cold water (ice-water), friction with suitable hair brushes, and hot and cold douches. Rossiter, in "Practical Guide to Health" recommends the following lotion to be used after shampooing (p. 476):—

R̄ Quinine Sulphate 30 grains
Tincture of Cantharides 1 dram
Spirits of Aromatic Ammonia 1 oz.
Bay rum 5 ozs.
Oil rosemary 5 drops

M Sig.: Rub into scalp after shampooing.

- ℞ Tinc. of Cantharides 1 ounce
 Carbolic acid 1 dram
 Castor oil $1\frac{1}{2}$ dram
 Bay rum 4 ounces
- M Sig.: Rub into scalp after shampooing.

406. Fake Croup and Laryngitis

Mrs. G. A. writes: "My child seemed quite well on going to bed, but a few hours later was awakened with a slight cough, gasping for breath, nostrils expanding with each breath, a deep indentation between ribs, and very depressed, with each breath, feverish and thirsty. The breathing is worse after dosing, next morning slightly worse, and continued getting worse till the third day. The voice by now is little better than a whisper. The coughing was very dry till the third night, when the membrane seemed to loosen; then the child seemed to improve, and was well in a day or two but for a croupy cough. This is the second attack in six months. Is this a case of true croup or laryngitis diphtheria? The throat looks quite healthy as far down as can be seen. Could a physician decide if a child had laryngitis diphtheria without a swab being taken and analysed? Is antitoxin injurious to the system if no diphtheria is present?"

Ans.—This is a case of false croup with some inflammation of the lining of the larynx (laryngitis). Where there is any suspicion of diphtheria (true croup) a swab should be microscopically examined and antitoxin used at once. Even though no diphtheria be present the antitoxin cannot do any harm to the system. Diphtheria is often followed by paralysis of various parts of the body and a weak heart. Where antitoxin has been used these sequelæ are often mistakably put down to antitoxin, and the physician is very unjustly blamed. During the paroxysm apply frequently hot fomentations to the throat, or place the child in a hot bath (103° or 104° F.), and sponge back, chest, and throat freely with cold water. The cold sponging should only be for a couple of minutes. When lividity occurs

and the child appears about to suffocate, dash cold water into the face. Dr. Osler in his work, "The Principles and Practice of Medicine," states: "By far the most satisfactory method of treatment is the cold sponging. . . . Too often the poor child, deluged with drugs, is longer recovering from the treatment than he would be from the disease. . . . A prompt emetic, such as wine of ipecac, will usually relieve the spasm, and is specially indicated if the child has overloaded the stomach during the day."

407. Synovitis

"Worried" writes: "I had a fall and hurt my knee about three months ago; it did not trouble me until about eight weeks ago, when it began to swell very much. The doctor said I had fluid on the knee cap, and must have perfect rest, and paint it with iodine. There is no improvement."

Ans.—The treatment recommended by the doctor was perfectly sound. Sponge the knee with very hot water for one full hour twice daily, or apply hot fomentations for same time, repeatedly renewing. Ordinary flannel is too thin for fomentations; it is better to use blanket. As much rest as possible should be given the knee. Between the hot applications apply compresses to the knee surrounded by thick layer of flannel. Massage is useful when the pain and soreness have disappeared. The application of equal parts of tincture and liniment of iodine often prove serviceable.

408. Tobacco and Chest Complaints

A correspondent writes that some years ago he was strongly recommended by a medical man to smoke in order to prevent some pulmonary disease extending from one lung to the other. He finds that he gets a choking and difficult breathing when he leaves off smoking; so he desires to know if it would be injurious for him to leave off smoking altogether.

Ans.—Tobacco and its alkaloid nicotine are never used medicinally. They have

been tested in all complaints, but they have never given any favourable results whatever, nor even temporary benefit. It would be impossible for tobacco juice to help the lung itself, for its final effects are only injurious. We believe the choking and the difficult breathing would disappear after the habit had been relinquished for some time. Tobacco belongs to the same family as stramonium, which is used a great deal in asthma. Tobacco smoking gives temporary relief in a few cases of asthma, but more relief is obtained from the stramonium leaves. These can be burnt on hot ashes on a fire shovel with or without nitre, or they can be purchased in cigarette form. These remedies, however, should only be employed when absolutely necessary. It is a very popular idea that tobacco is a disinfectant. It may mask offensive smells, act as a deodorant, but it certainly has no disinfectant properties at all. It simply lessens the resisting power of the tissues with which it comes into contact and renders the individual more prone to infection and disease in general.

409. Purin-Free Dietary

"WORRIED" asks for a dietary free from uric acid, which he believes is the cause of his headaches and bilious attacks and occasional attacks of rheumatism.

Ans.—Uric acid belongs to a series of substances called purins. These are the result of insufficient oxidation of nitrogenous substances in the body. They are known as uric acid, xanthin, hypoxanthin, adenine, and geranin, and are composed chiefly of two elements, carbon and nitrogen; and not being very soluble in the blood are consequently excreted

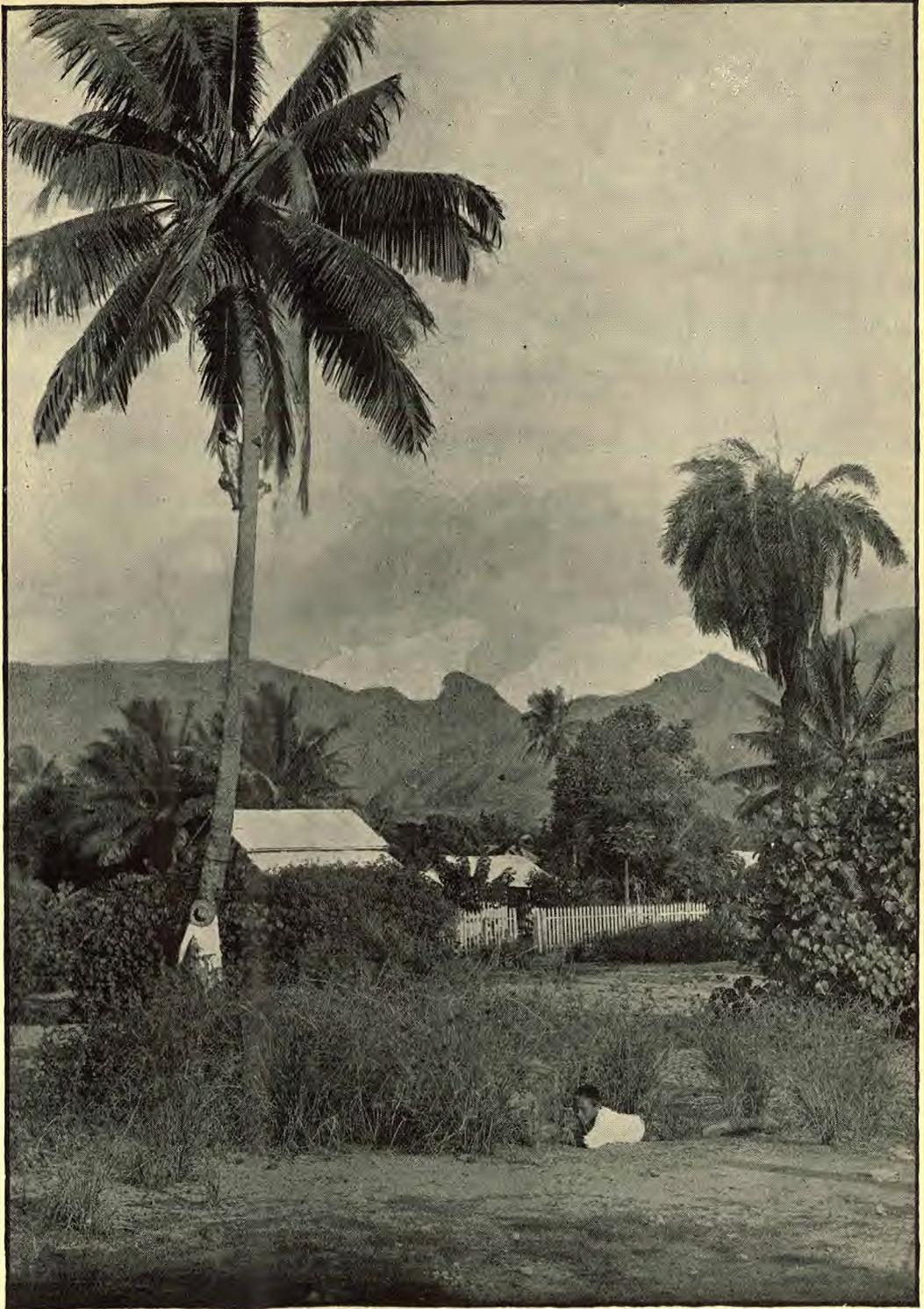
from the system with difficulty. They consequently are causes of gout, rheumatism, neuralgias, headaches, and kidney diseases. These purins, besides being found in the tissues of the body (especially the muscles), are found in certain articles of diet, especially meat, meat extracts, peas, beans, lentils, tea, and coffee. Walker Hall gives a table of foods with the proportion of purins they contain. It is as follows:—

The Purin Contents of Foods in Grains per Pound, Pint, or Teacup

| MEATS | | FISH | | OTHER FOODS | | BEVERAGES | |
|--------------|-------|---------|------|-------------|------|------------|------|
| Sweetbread | 70.43 | Salmon | 8.15 | Beans | 4.16 | Porter | 1.35 |
| Liver | 19.26 | Halibut | 7.14 | Lentils | 4.16 | Ale | 1.27 |
| Beefsteak | 14.45 | Plaice | 5.56 | Oatmeal | 3.45 | Lager Beer | 1.09 |
| Sirloin | 9.13 | Cod | 4.07 | Asparagus | 1.50 | Coffee | 1.70 |
| Chicken | 9.06 | | | Onions | .06 | Ceylon Tea | 1.21 |
| Loin of Pork | 8.48 | | | | | India Tea | 1.05 |
| Veal | 8.13 | | | | | China Tea | 0.75 |
| Ham | 8.08 | | | | | | |
| Mutton | 6.75 | | | | | | |

In choosing a diet there are many other considerations than the mere amount of purins contained in the food. Pork, veal, and ham, for instance, contain less purins than beefsteak, but they are not so easily digested, and upsetting the digestive organs, they interfere with the general health and the action of the skin and excretory organs. The following foods are free from purin bodies: Milk, white bread, potatoes, cream, butter, fats, eggs, apples, grapes, figs, dates, raisins, macaroni, cheese, and nuts.

One of the advantages of the purin-free foods is that they are not so appetising, and overeating is less liable to be indulged in. They also restrict intestinal putrefaction and prevent auto-intoxication. If, however, they prove indigestible, these advantages are more than counter-balanced.



SCENE IN TAHITI: CLIMBING A COCOANUT TREE



The Proper Care of Children

Dr. E. S. Maxson

WHAT care should children have in order that they may grow and develop properly?

First, in regard to sleep. It is important to see that children have their due amount of sleep. A young infant normally sleeps eighteen hours out of twenty-four. A child of four years should sleep eleven hours out of the twenty-four, and a child of ten years should sleep nine hours. Of course I am merely speaking of averages; for some children require more sleep than others. It is important, however, that the little people have their sleeping hours encroached upon as little as possible.

It is far better for each child to have a bed by itself. In this way contagious diseases are less likely to be communicated, and in the case of young infants the danger from overlying is avoided. The child's sleeping room should be thoroughly aired. In the winter time it may not be wise to leave open the window in the room; but it may be practicable to open a window in an adjoining room.

The matter of diet is necessarily one of very great importance. Milk is not only the proper nourishment for infants, it should enter largely into the diet of older children. Cow's milk for children should always be fresh and clean, but should not be too rich in cream. Dr. L. Emmett Holt, of New York, who is perhaps the most celebrated specialist in diseases of children in America, thinks that Jersey milk is ordinarily too rich for children. The average healthy child should take,

altogether, from a pint and a half to one quart of milk each day.

Many of the vegetables, when well cooked and mashed, may be given to your children. Such, for example, are baked potatoes, vegetable marrow, and asparagus. On the other hand, none of the vegetables that are eaten raw, as radishes, onions, and cucumbers, are suitable for children to eat.

In the diet of children, cereals, when well cooked, are of great value. Rolled oats or some of the wheat preparations are to be commended. These also tend to lessen the decay of the teeth. These cereals should be eaten with milk, and preferably without sugar. Toasted stale bread is better than fresh bread for children.

Very little cake, except sponge cake, should be given to children under seven or eight years of age.

Sweets are a great source of temptation. Dr. Holt places sweets among the things that should be especially forbidden. On the other hand, he recommends for young children the use of the juice from sweet oranges, also the eating of stewed fruits, as apples and prunes.

It is very important for both children and adults to avoid eating between meals or before going to bed.

Children should be trained as far as possible to have the bowels move regularly at the same hour each day.

The clothing of children should be light but warm. The legs and forearms, being at a distance from the heart, should be warmly clad in cool weather. When

the feet become wet, the shoes and stockings should be changed at once.

The matter of exercise is of importance. The infant takes exercise by waving about its arms and legs, and later by creeping. Older children are naturally active. There is nothing so good as exercise in the open air. Some of the running games are to be recommended for strong children. Children should be encouraged to play with soft rubber balls that will not injure the fingers, or cause other accident. In my opinion boys should be discouraged from playing football.

Children should receive a bath often enough to keep them clean. Naturally some children who play in the dirt require more attention in this way than others. Some children enjoy sea bathing. Parents should be careful that their children do not remain in the water too long. If the lips turn blue and the teeth chatter, the child should come out of the water. Care should also be taken that the surf does not strike against the side of the child's head so as to injure the hearing.

Not only should the teeth be kept clean, but parents will be doing their child a great service by regularly having some good dentist examine and care for the teeth.

Mental strain should not be overlooked in children. This overstrain is made manifest by irritability of temper, headache, and by restlessness in sleep.

In the lives of children and young people there are periods in which mental fatigue is more easily induced than at other ages. The first fatigue period comes between the ages of seven and nine years. The second fatigue period usually occurs in girls about the thirteenth year and lasts for several months. The second fatigue period in boys generally comes a year later, or at the age of fourteen.

A child might better go more slowly in his studies than break down in health. It is not always a calamity for a child to have to repeat some of his work in school.

I would exhort parents to be ever vigilant in looking after the interests of the children that God has given to their care.

Importance of the Children's Teeth

Harvey W. Wiley, M. D.

AT the joint session of the American Public Health Association and the American Mouth Hygiene Association held in Jacksonville, Florida, Dr. Wiley read a paper on "The Importance of Mouth Hygiene," which appeared in the May issue of the *American Journal of Public Health*, from which the following is taken:—

"As I look at the matter, it is highly important that we should begin our work of conservation of the teeth long before the children enter the school. The tooth is a tissue which needs a particular kind of nourishment. While it is true that there is no such thing as special food for nerves, or brains, or muscles, or teeth, it is true that a properly balanced diet is necessary for the general sustenance of the body. The tissues of the tooth are composed chiefly of lime, phosphoric acid, and nitrogen. The foods that contain the proper amount of these bodies are therefore fundamental in securing the proper growth of the teeth. The campaign for sound teeth in the child should be inaugurated many years before his birth.

"The temporary teeth of children should be good, solid, and enduring, in order that they may remain in place until the permanent teeth are ready to erupt. Otherwise the permanent teeth may be extremely irregular in character and deformed in contour. If decay sets in in the temporary teeth, it is highly important that it be arrested by a filling of a cheap character, but nevertheless sufficiently enduring to last as long as the temporary tooth. Thus the proper direction of the permanent teeth is secured; and at the same time they are not subject to any special germ of deterioration by reason of contact with decayed temporary teeth.

"In regard to the production of teeth of the right character as a function of food, I may say that the milk of a healthy mother has in it all the elements neces-

sary to nourish the temporary teeth. As some of these teeth, however, erupt after weaning, it is of the utmost importance that the child, after weaning, be fed a diet sufficiently rich in tooth-building material to produce a complete temporary set of teeth of the best quality, and to lay a foundation for the production of the permanent teeth. My own experience leads me to believe that the child, after weaning, should receive a generous supply of pure, clean, wholesome milk from tuberculin-tested cows, and at the same time be fed cereals which have not been denatured. Of these, wheat, Indian corn, barley, and oats are types. Rice which has not been polished, which has not lost the important principles of the rice bran, may also be given once or twice a week in moderate quantity. As soon as the temporary teeth are sufficiently developed, hard substances, such as toast, zwieback, or wheatmeal biscuits, should be given daily in sufficient quantity to develop, by the proper exercise of their functions, the character of the teeth. Fruits and vegetables suitable for the child's nourishment are not to be neglected. A little spinach once or twice a week is excellent in the furnishing of some of the elements, such as iron, which are important.

"The things to be avoided in the nourishment of the young child are starch, sugar, sweets, and polished rice. The child that is fed on good, wholesome milk and such cereals, fruits, and vegetables as I have mentioned, needs scarcely any other adjunct for the nourishment not only of his teeth, but of all the tissues of the body. If milk is not given in some considerable quantity, a little powdered carbonate of lime or a little lime water may be given from time to time to supply the deficiency of lime in the cereals, where the phosphoric element is usually in excess. Such a diet will develop in the child a normal growth of temporary teeth and lay the proper foundations for those of a permanent character. If you do not get good teeth in childhood, you will never have them. The mature molars are of but little account.

"When the first permanent molars begin to crop, the necessity for continuing this diet is still paramount. In fact, the whole regimen of the child, as long as growth continues, should be based upon a balanced ration in which all the elements necessary to nutrition are present in proper quantities. This idea of the balanced ration in respect of the development of good teeth is somewhat at variance with the common practice of dosing children from earliest childhood—in fact, almost during infancy—with sweets. My own experience shows that a child has no natural sweet tooth. If he is not fed sugar and other sweets, he will have no craving for them; in fact, may have a positive dislike for them. Nature not only is one of the best chemists, but also one of the best hygienists. In the sugar which she puts in milk she finds no place for a sweet taste, milk sugar being almost devoid of sweetness.

"I am more and more convinced by experience, study, and observation that the common practice of feeding children sugar, sweets, and starches is highly detrimental, and especially so to the development of the teeth. It is a common idea, which I think is a correct one, that the eating of sugar and sweets is bad for the teeth. It is not so much that it tends to produce decay in the teeth. That, in my opinion, is not the chief objection. The eating of sugar and sweets unbalances the ration and interferes with the proper composition itself during growth, thus leaving it especially subject to the ravages of decay.

"The child who has hard, sound, regular teeth needs to be taught the principles of proper care. This means, of course, in the first place, the proper functioning of the teeth. There must be an abundance of chewing of the right kind, and it must be well done. The tooth is different from any other organ of the body. To be in prime condition, it must be properly exercised. In order that it may be kept from the ravages of decay, it must be kept clean. Eternal vigilance is the price of good teeth."

Effects of Food on the Face and Character

Mrs. M. C. Wilcox

MANY of the readers of this journal are women who have the preparation of foods that compose the physical elements of the character, as well as training the mind. Then, O my sisters, if you long for physical beauty, as well as mental, look well to the pure, unstimulating class of foods you place before the children; see that no love for strong drink is formed at your table, that no abnormal thirst is created there by rich and highly-spiced foods, abundance of sweets, and wrong combinations. It is impossible to have a clear and beautiful skin, a bright and lustrous eye, and to think pure and beautiful thoughts with an inflamed stomach and clogged system. Many, many a life has gone astray because of the appetite formed at the mother's table. Meditate upon these things, my sisters.

Study the beautiful, think the beautiful, live the beautiful, and you will *be* beautiful in both character and face.

Stepping Stones to Inebriety

ONE of the predisposing causes of inebriety is the pernicious practice of "cradle drugging." Heaven alone can know all the terrible results of dosing infants with soothing syrups.

Some one has said, "Where Herod slew his hundreds, a certain well-advertised soothing syrup has undoubtedly slain its thousands." The child is often fed with improper food which sours on its stomach, and, as a consequence, its nerves cry out with pain. A spoonful of soothing syrup soon quiets the cries of the child by actually deadening its nerves, and the unconscious child cries out no more. An unnatural sleep follows. The nervous system is thus deranged, and the result is the setting up of an unnatural rhythm and an abnormal clamouring. A law of rhythm pervades all nature. The sun rises and sets. The heart beats at certain

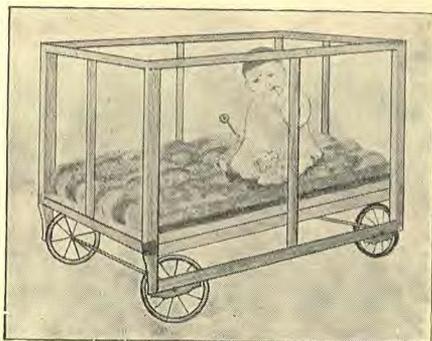
intervals. The lungs work with rhythm.

The nervous system presides over the rhythm of the human body. We can plainly see that if the nervous system is deranged these periodical impulses are interfered with, and they are seen manifesting themselves in the fitful outbursts of childhood, and inebriety and debauchery of manhood.

The young man whose nervous system became so deranged in infancy, has been largely robbed of the will-power and self-control a beneficent Creator bestowed upon him when first he breathed.

The Baby Cariole

AN excellent contrivance for keeping the baby happy without handling—a play



box, a crib, and a carriage in one. It gives the baby freedom and safety. It can be rolled about the house, onto the porch, onto the lawn, and keeps the baby wonderfully contented for hours at a time. The sides are wire screened, and with a screen or mosquito netting over the top, the baby can be completely protected from such disease carriers as flies and mosquitoes.

"ONE of the things recommended as likely to relieve sick headache, is to have the eyes receive attention. Sometimes the troubles arise from eyes, sometimes from ears, sometimes from nose, as well as from the stomach and liver."



Recipes for the Preparation of Food for the Sick

GEORGE E. CORNFORTH

IN previous issues we have given general directions for the preparation of food for the sick. Following are a number of the most useful and valuable recipes for the preparation of special dishes.

To make a broth containing the valuable mineral or medicinal elements of vegetables, the following recipe may be used:—

Vegetable Broth

One pint of finely chopped celery, one pint of finely chopped carrots, one-half pint of finely chopped turnips, one-half pint of finely chopped onions, one-half pint of tomatoes, four sprigs of parsley, one and three quarters quarts of cold water.

Put the vegetables to cook in cold water, and heat them gradually till just below the boiling point. Keep them at this temperature for about four hours. This may be accomplished by cooking in a double boiler. Cooked in this way, no odours are given off, and therefore nothing valuable is lost. Drain off the water. This broth may be served simply with the addition of salt, or cream may be added, which will increase both its palatability and its nutritive value.

This recipe is only an example. Other combinations of vegetables may be used, adding to them an equal bulk of cold water after they are chopped, and proceeding according to directions for this recipe.

Cream Asparagus or Spinach Broth

Season the water in which asparagus or spinach has been cooked, with cream or salt. Serve hot. It may be necessary to dilute the broth with a little water, that it may not be too strong to be palatable.

Cream Celery Soup

Two stalks of celery (tough outside stalks will do), three-quarters quart of milk, two level tablespoonfuls of flour, one level teaspoonful of salt.

Instead of all milk or water, milk and water and cream, or milk and cream may be used.

Grind the celery through a food chopper, being sure to save any juice that runs out of the chopper. Put the chopped celery and the juice into the milk, and steep in a double boiler one-half hour. Strain out the celery. Press well to extract all the juice. Put the liquid back again into the double boiler and heat again to boiling. Thicken with the flour stirred smooth with a little cold water. Add the salt.

This recipe may be used for cream lettuce, cream cucumber, or cream water cress soup by using four large lettuce leaves, one medium-sized cucumber, or a few sprigs of water cress, instead of the celery.

Bean or Pea Broth

Thoroughly wash one pint of pea beans, Lima beans, or split peas, and put them to cook in two quarts or more of cold water. Bring them to the boiling point slowly, and simmer gently for several hours, adding boiling water, if necessary, till the water in which the beans or peas are cooking becomes rich. Drain off the water, of which there should be not more than one pint; season with salt, and it is ready to serve.

When properly made, this broth is so rich that when cold it is jellylike in consistency.

Oatmeal Gruel

One-third cup of rolled oats, one pint of water, one pint or more of hot milk, one and one-fourth level teaspoonfuls of salt.

Add the salt to the water, and bring to a boil in the inner cup of a double boiler. Stir in the rolled oats. Boil over the fire two or three minutes, then set the inner cup in the outer cup of the double boiler, which contains boiling water, and continue the cooking for three hours or longer. Then rub the oatmeal through a strainer. Add hot milk to make of the proper consistency for gruel.

Barley gruel, corn meal gruel, rice gruel may be made by the same recipe, using one-third cup of pearl barley, one-fourth cup of corn meal, or one-fourth cup of rice, instead of the rolled oats. And in the making of the corn meal or rice gruel one hour's cooking of the cereal is sufficient. It may be necessary to cook the barley four or five hours.

It may sometimes be desirable to make the gruel entirely of water.

Barley Water

One-fourth cup of pearl barley, two quarts of cold water.

Thoroughly wash the barley, and let it soak in cold water for one hour or longer, then put it to cook in the two quarts of cold water. Let it come to a boil, and simmer slowly till reduced to one pint of liquid. Strain off the broth. Season with salt, reheat, and serve plain, or seasoned with a little cream.

One-fourth cup of raisins or figs cut into dice may be cooked with the barley if desired, or a little lemon rind may be used and the broth sweetened with a little sugar.

Rice Water

One-fourth cup of rice, one quart of cold water.

The so-called "natural brown" rice, or rice from which the bran has not been removed, is best for this.

Wash the rice thoroughly by whipping it in hot water with a batter whip and turning off the water several times, then put the rice to cook in the cold water. Heat to boiling, and simmer slowly till the liquid is reduced to one pint. Strain off the broth, season with salt, and with cream if desired; reheat, and serve.

Toasted Flake Gruel

Cook one cup of corn flakes or wheat flakes in one cup of water till thoroughly softened. Rub through a fine strainer, add a little hot cream or milk, and salt to season.

Hot Malted Milk

Put one-fourth cup of malted milk into a glass. Moisten it with enough hot water to make a smooth paste, then add boiling water to fill the glass three-fourths full, stirring with a fork till the milk is dissolved.

Hot Milk

makes a nutritious drink for a sick person.

Is a Vegetarian Diet Adequate?

Frederick M. Rossiter, B.S., M.D.

THE purposes of food in the economy of human life may be briefly stated as follows:—

1. To furnish suitable material for the repair and building of the tissues.

2. To furnish energy for the production of heat necessary to maintain the proper body temperature.

3. To supply force to enable the functions of the body to be performed; or, in other words, that work may be done.

Of the thirteen elements that enter into the formation of the human body, oxygen and hydrogen form more than two-thirds of the total weight, carbon about one-fifth the total weight; next comes nitrogen, then calcium and phosphorus. The other seven elements are present only in small quantities. All of these elements are furnished by the vegetable kingdom, and only by the vegetable kingdom, for the animal is dependent directly or indirectly upon plant life for its food.

Oxygen, carbon, hydrogen, and nitrogen are the great energy and force producers, as well as tissue builders, of the body. These elements abound in plant life in such a form as to meet fully the needs of the animal body other than the air we breathe and the water we drink.

That the vegetable kingdom does furnish a diet of sufficient quality to keep the body at the highest point of efficiency is witnessed by more than half of the human race and the entire animal kingdom. Most of the manual work in the world is performed by men and women whose food is obtained from plant life, with a total or nearly total absence of meat. This conclusively proves that vegetable foods are force and heat producers and tissue builders.

The cow grazes all summer in the meadow and the sheep on the hillside. In the autumn both are fat and in the best of physical condition, the result of simply eating grass. There is a very small percentage of fat in grass, yet the animal puts on no inconsiderable quantity

"WHERE light and air do not enter, there the doctor finds frequent admission."

of fat. If fat is lacking in a food, the body makes fat from carbohydrates. If, then, the animal is able to keep in the best of physical condition by eating succulent grasses, where water predominates and the food elements are greatly diluted, surely man ought to be able to maintain his vital forces at the maximum point of efficiency by partaking of the fruits of the vegetable kingdom, where the food elements are concentrated, containing the

teid, 30.9 per cent; fats, 49.2; and carbohydrates, 16.2. The food value per pound of almonds, peanuts, pecan nuts, English walnuts, chestnuts, is more than three times that of beefsteak.

Many of the cereals are not only rich in proteid and starch, but some of them contain considerable fat. Oats have over six per cent of fat, and corn about five per cent; while wheat, rye, and barley have about two per cent. The fat of the



"THE VEGETABLE KINGDOM FURNISHES A DIET OF SUFFICIENT QUALITY TO KEEP THE BODY AT THE HIGHEST POINT OF EFFICIENCY"

least amount of waste material, in the form of cellulose.

The foodstuffs required by the body for heat production, for work, and for repair are proteid, starch, and sugar, fat, and mineral salts. These all abound in plant life. Meat is rich in proteid and fat. The very best meat contains less than 20 per cent of proteid, whereas peas (dry) contain 26.70 per cent; lentils, 24.81 per cent; and beans, 23.12 per cent. In addition, these foods contain from 56 to 59 per cent starch, and more than twice the percentage of mineral salts found in meat. In addition to these foods, almonds, pecan nuts, peanuts, beechnuts, and many others, contain more proteid and fat than the best of meat, and in addition are rich in carbohydrates and mineral salts. For instance, the almond contains proteid, 21 per cent; fats, 54.9; carbohydrates, 17.3. The peanut, pro-

teid is estimated at about one-fifth of the total weight. It is evident that this indispensable foodstuff is abundantly supplied in nuts, ripe olives, and some of the cereals. Then, in some mysterious manner, fat is made from starch in the body.

Furthermore, nature has lavished upon mankind a marvellous variety of the most delicious fruits, which are indispensable to the healthy body. While with a few exceptions they do not possess a high nutritive value, they are rich in acids, sugars, and mineral salts, all of which are needed in the body.

Plants are the natural food builders. In these natural foods there are no products of disintegration or waste such as are found in flesh foods. Furthermore, plant foods are always built up under healthful conditions, whereas meat may be diseased during the entire life of the animal, or made so by the conditions incident to

slaughter. The process of life in the animal tears food down or breaks it up into its elements again, and then forms it into a more complex molecule, but more unsuitable for food, because of the waste products held within its structure.

Vegetable foods tax the excretory organs less than a meat diet, and require less oxygen in their oxidation, and hence have a tendency to increase the duration of life, as their conversion into brain, bone, and muscle is accomplished at a less expenditure of energy. A flesh diet increases the quantity of urates, phosphates, sulphates, and other waste products, hence increasing the work of the kidneys. The consumption of meat increases the function of uric acid and its antecedents in the blood and tissues of the body, which are well-recognised factors in many chronic diseases. Moreover, meat diminishes the alkalinity of the blood and increases the acidity of the urine. Fruits and cereals increase the alkalinity of the blood and also of the urine, an important factor in the prevention of disease. Physiologists who advocate meat as a necessary article of man's diet, universally admit that civilised man eats too much meat for his best good.

Sir Henry Thompson says, "It is a vulgar error to regard meat in any form necessary to life." Again, "To many it (meat) has become partially desirable only by the force of habit, and because their digestive organs have thus been trained to deal with it." Then he says, "A preference for the high flavours and stimulating scents peculiar to the flesh of vertebrate animals mostly subsides after a fair trial of milder foods when supplied in variety." This variety can be found in the list of cereals, vegetables, fruits, and nuts.

When a well-balanced diet of these foods is partaken of, there is no desire for meat. Usually, when there is a craving for flesh foods after once having given them up, it is because the body is not receiving sufficient proteid, fat, or salts.

Nature amply furnishes man with food of sufficient quality, quantity, and variety

to meet all the needs of the body under all circumstances and conditions, and when he wisely subsists upon such food he is better off physically, mentally, and morally.

The Housewife and the Deadly Germ

It has come to be recognised by scientists and physicians that the germ carrier is one of the most prolific propagators of disease. Among those whose activities have been most readily recognised in this particular are the common house-fly, the flea, the bed bug, the louse, the sand-fly, and the tsetse fly. It has also come to be known that there is a seasonable variation in the spread of certain diseases corresponding with the time of maximum multiplication of certain insects. "This is a circumstance," says one writer, "which could not be accounted for by mere coincidence, and has drawn the attention of investigators to the insect as an important actor in the drama. An illustration of this is seen in malaria. The height of the breeding season of the mosquito bears a definite relation to the epidemiology of this disease. In our large cities the highest curve in the death rate of infants from gastro-intestinal disease corresponds with the fly season. It is this fact which has started the watchword "a flyless city" in many of the large cities of the United States. As a result, campaigns have been inaugurated against the fly by the local health authorities, and rewards are offered for the greatest destruction among these pests. Destruction of these flies is saving the lives of many infants."

The millions of flies destroyed in the cities that have entered upon the anti-fly campaign has already sensibly reduced the fly-plague in those localities. The campaign is started as soon as the fly season begins, and results not only in the destruction of the flies actually caught, but also in preventing the laying and hatching of many millions of fly eggs. In those cities it is no uncommon thing

to find many houses in which a fly is never, or very rarely, seen. Screened windows, screen doors, fly-paper, and fly traps not only keep flies out of the house, but prevent their wiping their dirty, disease-laden feet on the food which you set before your loved ones. It is a fact that the tidiest and neatest and safest house-keeper is the one who keeps the food of her family freest from germ contamination through the agency of the fly.

Diet and Long Life

THE long life of the Bulgarians is not due to the fact that they consume buttermilk—they do not use much buttermilk—or that, as later suggested, they eat garlick three times a day, but that they live largely on a simple diet, and that they are a pastoral people, having few large cities, eighty per cent of the population being agriculturists. Among any nationality you will find those who attain to a great age, whether their food be skimmed milk and potatoes, as in Ireland; olives and black bread, as in Italy; onions and black bread, as in Spain; figs and black bread, as in Turkey; or acorns and corn meal, as among the Indians of America. You will not, however, find many centenarians among those who habitually consume six course banquets and take little exercise. If you want to live thus, you must prepare yourself for a short life, that will not be a merry one, either, closed up, as it probably will be, with Bright's disease or cancer.—*Brain and Brawn.*

Household Hints

A NEW clothes line should be boiled before being used. This makes it last longer, and prevents stretching. New pegs should be soaked in cold water for twelve hours to prevent them from splitting.

When washing window-paint or cupboard doors, etc., use a little whiting on a

flannel instead of soap. It will remove all dirty marks without injuring the most delicate-coloured paint.

To turn a jelly out of a mould without breaking it, try rubbing a little of the best olive oil on the shape before pouring in the jelly. If you do this you will never have another broken jelly.

When hanging clothes to dry, remember always to hang stockings by the toes, nightdresses by the shoulders, and skirts by the hem, and so prevent them from dragging out of shape.

When beating eggs, if a whisk is not handy, try using three forks instead of one. They are just as easy to hold as one, and the egg can be beaten in about a third of the time.

Soap is a useful preventive of blisters on the feet. Before starting for a long tramp protect yourself against blisters by soaping the feet of the stockings on the inside. For broken blisters or chilblains zinc ointment is very useful.

When only half the contents of a tin can has been used, never leave the remainder in the can. Turn it out into a glass or earthen vessel. The action of the air and the acid on the tin produces a poisonous condition in canned foods.

“POSSIBLY your own or other children have sometime marred your wall-paper; or perhaps it has been slightly raked off by a passing trunk, or has been injured in some other way. Here is a good way to fix it provided you have an extra piece of the wall-paper. Take a small paint brush (one of the children's), and wet the paper just enough to get the brush full of colour; then paint the scratched places. They will become invisible, as the colour will be the exact shade of the original. An old dealer in wall-paper told me of this method.”



THE BOY WHO MEANT TO

HE meant to get up early when the air was crisp and cool,
And mow the lawn and clip the hedge before he went to school.

But he was tired and sleepy when he woke at break of day,
So said another time would do, and slipped in dreams away.

At school he meant to lead his class before the term was done,
But lessons are such stupid things, and boys must have some fun.

In manhood feats he likewise meant to earn some laurels, too;
But fame is such a fickle dame, and picks her favourite few.

He meant to reach a wise old age, esteemed by great and low,
But wisdom's path was hard and steep and pleasures lured below.

But since he never really tried the things he meant to do,
That nothing ever came of them, I'm not surprised, are you?
—Selected.

A Boy Who Recommended Himself

JOHN BRENT was trimming his hedge, and the "snip," "snip" of his shears was a pleasing sound to his ears. Back of him stretched a wide, smoothly-kept lawn, in the centre of which stood his residence, a handsome, massive, modern structure, which had cost him about £18,000.

Just beyond his hedge was the public sidewalk, and two boys stopped opposite the place where he was at work, he on one side of the hedge and they on the other.

"Hello, Fred! That's a very handsome tennis racket," one of them said; "you paid about thirty shillings for it, didn't you?"

"Only twenty-five, Charlie," was the reply.

"Your old one is in prime order yet. What will you take for it?"

"I sold it to Willie Robbins for six shillings," replied Fred.

"Well, now, that was silly," declared Charlie. "I'd have given you twelve shillings for it."

"You are too late, Charlie," replied Fred; "I have promised it to Willie."

"Oh, you only *promised* it to him, eh? and he's simply *promised* to pay you for it, I suppose. I'll give you twelve shillings cash for it."

"I can't do it, Charlie."

"You can if you want to. Six shillings more isn't to be sneered at."

"Of course not," admitted Fred; "and I'd like to have it, only I promised the racket to Willie."

"But you are not bound to keep your promise. You are at liberty to take more for it. Tell him that I offered you twice as much, and that will settle it."

"No, Charlie," gravely replied the other, "that will *not* settle it, neither with Willie nor with me. I cannot disappoint him. A bargain is a bargain. The racket is his, even if it hasn't been delivered."

"Oh, let him have it," retorted Charlie angrily. "Fred Fenton, I will not say that you are a chump, but I'll predict that you'll never make a successful business man. You are too particular."

John Brent could not help overhearing the conversation, and he stepped to a gap in the hedge, in order to get a look at the boy who had such a high regard for his word.

"The lad has a good face, and is made of the right sort of stuff," was the millionaire's mental comment. "He places a proper value upon his integrity, and he will succeed in business because he is particular."

The next day while he was again working on his hedge, John Brent overheard another conversation. Fred Fenton was again a participant in it.

"Fred, let's go over to the circus lot," the other boy said. "The men are putting up the tents for the afternoon performance."

"No, Joe, I'd rather not," replied Fred.

"But why?"

"On account of the profanity. One never hears anything good on such occasions, and I would advise you not to go. My mother would not want me to go."

"Did she say you shouldn't?"

"No, Joe."

"Then, let's go. You will not be disobeying her orders."

"But I will be disobeying her wishes," insisted Fred. "No, I'll not go."

"That is another good point in that boy," thought John Brent. "A boy who respects his mother's wishes rarely goes wrong."

Two months later John Brent advertised for a clerk for his factory, and there were at least a dozen applicants.

"I can simply take your names and residences this morning," he said. "I'll make inquiries about you, and notify the one whom I decide to select."

Three of the boys gave their names and residences.

"What is your name?" he asked, as he glanced at the fourth boy.

"Fred Fenton, sir," was the reply.

John Brent remembered the name and the boy. He looked at him keenly, a pleased smile crossing his face.

"You may stay," he said. "I've been suited sooner than I expected to be," he

added, looking at the other boys, and dismissing them with a wave of his hand.

"Why did you take me?" asked Fred in surprise. "Why were inquiries not necessary in my case? You do not know me."

"I know you better than you think I do," John Brent said with a significant smile.

"But I offered you no recommendations," suggested Fred.

"My boy, it wasn't necessary," replied John Brent. "I overheard you recommend yourself." But as he felt disposed to enlighten Fred, he told him about the two conversations he had overheard.

Now, children, this is a true story, and there is a moral in it. You are more frequently observed and overheard than you are aware of. Your elders have a habit of making an estimate of your mental and moral worth. You cannot keep late hours, lounge on the corners, visit low places of amusement, smoke cigarettes, make sport of children who are trying to do what they believe to be right, be disobedient to your parents and careless of their wishes, without older people making a note of your bad habits. How much more forcibly and creditably pure speech, kindness, good breeding, honest purpose, and parental respect would speak in your behalf.—*Golden Days*.

Birds and Lighthouses

It is a pathetic fact that the beacon of a lighthouse, which guides the storm-tossed sailor safely to the haven where he would be, should be the cause of the merciless death each year of thousands of helpless birds, bound upon long mysterious journeys under darkened skies. For years it has been thought that the birds, hypnotised by the light, dashed themselves against it to their death. Mr. Thijsse, however (a Dutch naturalist), has learned from three years' experimenting that the birds are seeking a resting place as they fly round and round the baffling light, and those that fall to die within the lighthouse

gallery, or in the sea below, have fallen from sheer exhaustion.

Working under the supervision of Mr. Thijsse, and by permission of the author-

showed that the loss of bird life there had thus been reduced from thousands in a night to something like a hundred during the entire migration season.

"Thousands of birds," say the reports of the English lighthouse keepers, "instead of fluttering on weary wing around the baffling light, discovered the long line upon line of perches and crowded upon them. . . . Thousands of little birds huddled together thickly, birds of many species and varying sizes, but all alike in their strange passion to reach their native place." "It was," said one witness, "the most wonderful sight I have ever seen in my life."—*Our Dumb Animals*.

How Baby Tells the Time

NOBODY finks I can tell the time of day, but I can.

The first hour is five o'clock in the morning.

That's the time the birdies begin to peep. I lie still and hear them sing:—

Tweet, tweet, tweet,
Chee, chee, chee!



"TWELVE O'CLOCK! THAT'S A BU'FUL HOUR"

ities of Trinity House, the Royal Society for the protection of birds in England, less than two years ago, erected perches for birds on the lighthouses of St. Catherine's in the Isle of Wight and the Casquets off Alderney. Mr. Thijsse's experiments at the Great Terschelling light

But mamma is fast asleep. Nobody awake in all the world but just me and the birds.

Bimeby the sun gets up, and it's six o'clock in the morning.

Then mamma opens one eye, and I can hear her say:—

"Where's my baby?"

N'en I keep still—just as still as a mouse, and she keeps saying,—

"Where's my baby?"

N'en, all at once, I go "Boo!" and she laughs and hugs me, and says I'm a precious.

Mamma's nice, and I love her, 'cept when she washes my face too hard and pulls my hair with the comb.

Seven o'clock!

That's when the bell goes jingle, jingle, and we have breakfast. All the eight and nine and ten and eleven hours I play. I run after butterflies and 'possums, swing, and read my picture book, and sometimes I cry, just a little bit.

Twelve o'clock!

That's a bu'ful hour. The clock strikes a lot of times, and the big whistle blows, and the bell rings, and papa comes home, and dinner's ready!

The one and two hours are lost. Mamma always carries me off to bed to take a nap. I don't like naps; they waste time.

When we wake up, the clock strikes three. N'en I have on my pink dress, and we go walking or riding.

An' so the three and four and five hours are gone.

At six o'clock Bossie comes home, and I have my drink of warm milk. N'en I put on my white gown, and kiss everybody "Good night," and say, "Now I lay me," and get into bed.

Mamma says, "Now the sun and the birdies and my little baby are all gone to bed, and to sleep, sleep, sleep."

So I shut my eyes tight, and next you know it's mornin'.

An' nat's all the time there is.—*The Pansy*.

What About You?

"I CAN do something that you can't," said a boy to his companion. "I can smoke tobacco."

"And I can do something you can't," was the quick reply. "I can let tobacco alone."—*Evangelical*.

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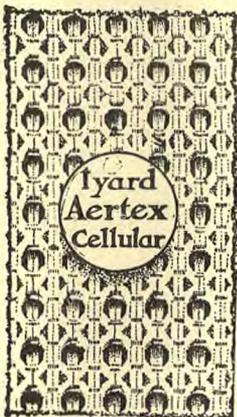
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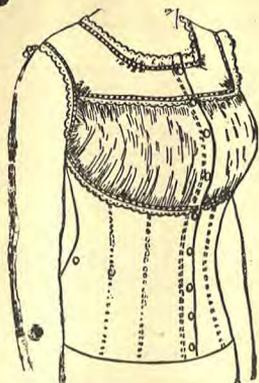
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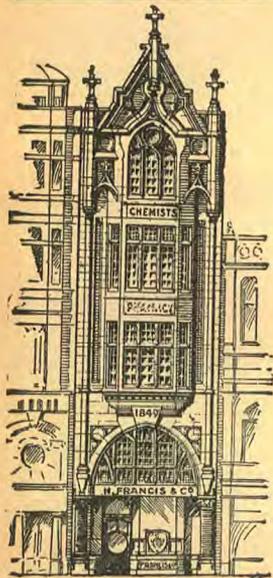
We pay Carriage on all purchases except on bulky articles, as Floor Coverings, Furniture, Bedding, Bedsteads, Glassware, Toys, and the like, to any address in the Commonwealth.

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**The Manager, Sydney Sanitarium,
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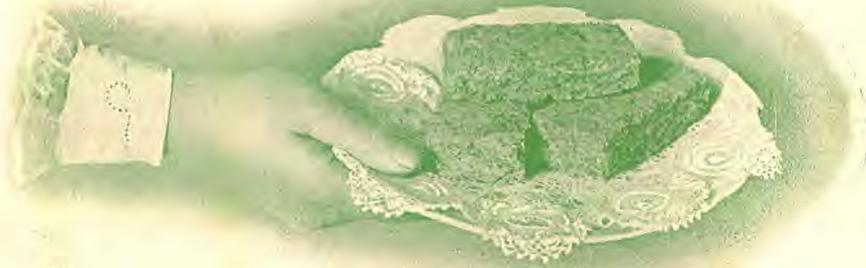
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