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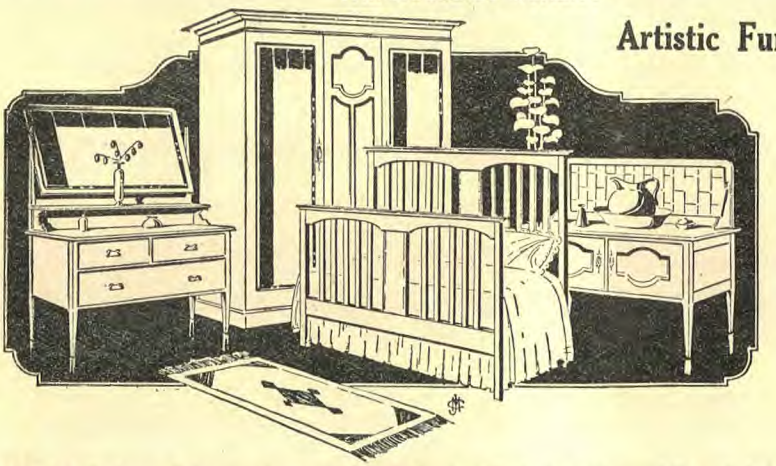

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W. Howard James, M.B., B.S., Melb.

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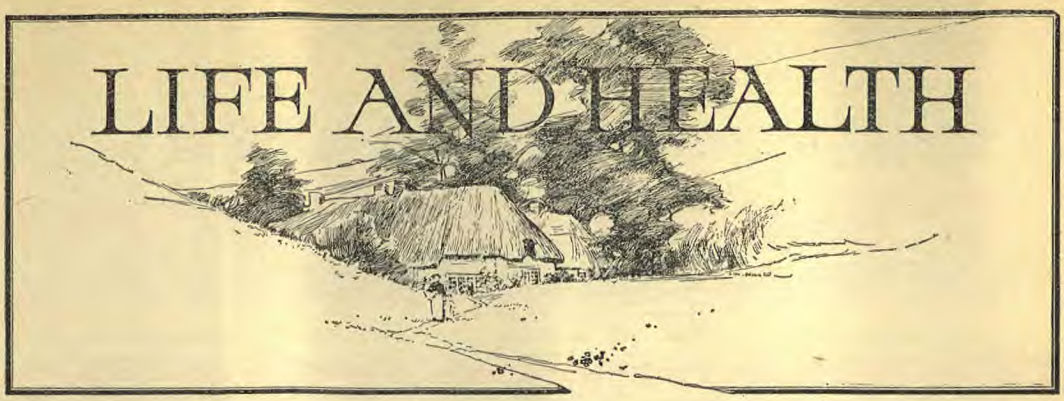

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Editor: CHARLES M. SNOW Associate Editors: W. HOWARD JAMES, M.B., B.S., EULALIA RICHARDS, L.R.C.P. & S., Edin.

Typhoid Fever

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

TYPHOID fever medically is spoken of as enteric fever on account of its pathological conditions being chiefly manifested in the bowels. In some cases, however, the local changes in the bowels are slight, but very prominent in lungs, spleen, kidneys, or nervous system. It is decidedly an infectious fever, and is due to the development of a definite micro-organism, known as the bacillus typhosus.

Until recent years it has been thought that infection resided only in the bowels, but it is now recognised that the germs penetrate the tissues, obtain an entrance into the blood current, and are carried to all parts of the body. The germs have been known to exist in the bile passages for ten to twenty or more years after an attack of typhoid. This is so in what are called "typhoid carriers"; in them the stools continually contain the typhoid bacillus, although the carriers themselves remain healthy. "Soper," according to Osler, "reports an instance in which a cook, apparently in perfect health, but in whose stools bacilli had been present in large numbers, had been responsible for the occurrence of typhoid in seven households in five years." "Dean reports a case of a carrier of twenty-nine years' standing, and instances of even longer duration are recorded." Fortunately these cases are rare, and a recovery from typhoid fever means generally that the germs also have entirely disappeared.

Typhoid fever is mostly found in temperate climates, but it *is* found in all parts of the world. It is what is called a "continued fever," and often its only symptom is feverishness, with a rise of temperature each night, especially in the first and the third and fourth weeks of the disease. Imperfect sewerage and contaminated water supply are two special conditions favouring the spread of the bacilli. The prevalence of typhoid fever has well been called "an index of the sanitary intelligence of a community." The adoption of a good sewerage system always results in a decided lessening of the number of cases of typhoid fever; this has been demonstrated in Melbourne and Sydney.

Infection is chiefly spread from the bowels and the urine, and if these excretions are properly attended to, the danger of communicating typhoid is reduced to a minimum. The germs, however, are

found in the red spots that occur on the skin of a typhoid patient, and also in the phlegm expectorated, for a cough is frequently developed in the disease. The phlegm should consequently be collected in cloths and burned. The frequent sponging of the skin, and the disinfection of the sheets and night clothes, will thus complete the procedures necessary to prevent infection. From an infected person the disease is carried chiefly by the fingers, food, and flies.

In the Spanish-American war the report of the Commission (Reed, Vaughan, and Shakespeare) showed that among about 100,000 men there were over 20,000 cases of typhoid with 1,580 deaths. The verdict of the Commission was, that the epidemic was due to flies and the contamination of the air from dried excreta. It is in standing armies, more than in troops which are constantly on the move, that typhoid is so prevalent. This was shown to be the case in the South African as well as the American war. In the war between Japan and Russia every precaution was taken against infection from this disease. Consequently the mortality rate was exceptionally low. This fact demonstrates the great importance of preventive treatment.

A large number of epidemics have been traced to contamination of the water supply. The excreta has been thrown on the ground, and by rain washed into wells and adjoining streams. The germs fortunately do not develop rapidly in water, but they are sufficient to develop the trouble in the one who drinks the contaminated water. Boiling of course would totally prevent infection in this way. The eating of raw vegetables without very thorough washing has frequently been followed by the fever; this has been the case where the excreta has been used as a fertiliser. Oysters have frequently been the cause of typhoid fever, especially where they have been kept in specially-prepared beds in rivers. Where sea-water is contaminated, however, the oysters have also been found to be infected. What is true of the oyster is also true of other shellfish.

Even ice has been known to carry infection when taken from contaminated water. Milk, generally contaminated by flies, is a most prolific source of the disease. The germs may persist in sour milk for three months, and may live in butter made from infected cream for days. The germs retain their vitality for many weeks; in garden earth and filter-sand even up to eighty days; on linen, sixty to seventy days; under some conditions their vitality will be retained for a year.

Preventive Treatment

It is wise for the nurse who is attending a patient to wear a special apron while in the patient's room; this can be removed on going to other parts of the house. The hands should be washed in some germicidal soap or other disinfectant after arranging the bedclothes or attending to the evacuations. The fingers and clothes of the attendant are very liable to carry infection. All flies should be kept out of the room. Free ventilation is necessary for the patient, but the windows should all be screened by fine wire-netting, and the evacuation received in a receptacle that can be kept closely covered. The urine, stools, phlegm, and all objects which may be accidentally contaminated by these excretions, should be disinfected. The nurse should be careful that no urine whatever is spilt over the clothes, and that every cloth soiled in the slightest degree should be disinfected at once.

Disinfectants

For the Urine.—Equal parts of a solution of carbolic acid (one ounce to a pint) should be used. Allow to stand in the covered vessel for two hours. Bichloride of mercury will serve the same purpose. A solution of one in one thousand can be conveniently kept in a bottle, and a tablespoonful or more added to each lot of urine voided.

For the Stools.—The same solution may be used, three times the quantity being required, and allowed to stand for

several hours. The burning of the stools is preferable where it can be readily managed.

The Sputum should be collected on small cloths and burned.

The Linens and Dishes.—All linens should be soaked in the carbolic acid solution and sent to the laundry to be boiled. All dishes and receptacles for excreta should be boiled.

When epidemics are prevalent, the drinking water and the milk used in families should be boiled. Protection by special vaccination is of undoubted value. Its value has been clearly demonstrated by its use in the British army. According to Lushman, the prevalence of typhoid among the unvaccinated is six times greater than among the vaccinated.

Treatment

All medical men now recognise that it is careful nursing and regulated diet, and not drugs, that are needed in the treatment of typhoid fever. The patient's room should be well ventilated, the windows all screened by wire netting; it should contain a fireplace. The bed should be single to facilitate the handling of the patient and the frequent removal of bed linen. A woven wire bed should be selected with soft hair mattress covered by two folds of blanket. Under the sheet there should be a rubber cloth.

The diet is of special importance. Until recently a totally liquid diet has been considered necessary, on account of the danger of perforation; but it should be remembered that what is liquid outside the body may be solid in the alimentary canal, and that foods taken in the solid condition are mostly quite liquid by the time they reach the inflamed intestines. Some physicians give a liberal diet, with solid food from the outset. This treatment was introduced by a Russian physician, Bushuyev, with good results. His dietary included: Tea with a roll; oatmeal, barley, or wheat liquid porridge with butter; eggs boiled hard or soft according to liking of patient; milk, cutlets, chicken, and broths of various kinds. Considering the fact that the digestive powers in typhoid are very much weakened, we think this diet altogether too liberal. It is reasonable, however, to remember that an undigested solid milk curd may do much more harm than the residue from solid foods that are completely digested.

Milk should form the chief article in the diet, but it should be recognised that the germs thrive in this medium, and that it is liable to form hard, firm, undigested clots. The stools should be closely watched, and if milk curds are present (and especially when there is abdominal distension or fermentative changes in the food) the milk must be modified by further dilution or predigestion. Milk should always be diluted, given at regular intervals only, the total amount not exceeding three pints per day, and the motions should be inspected daily for the presence of undigested curds. Milk should be diluted with plain hot water in the proportion of one to two or three. The warmth aids digestion, and the dilution prevents the curd being too hard. If the bowels have a tendency to looseness, lime water should be used as a diluent; if constipated, barley water or fluid magnesia.

Milk should not be used to quench thirst; water should be provided for this purpose, and the patient allowed to take as much as he likes. A tube may be fitted with a glass mouthpiece so that the patient may take the water freely at any time, and without much exertion.

Six to eight tablespoonfuls of milk are as much as should be given at one time. This quantity may be given every two hours in the day and every three hours at night.

If there is abdominal distension, or undigested milk curds appear in the stools, the milk may be partially or completely digested by one of Fairchild's preparations. Malted milk or whey is helpful in these cases.

We have found fruit juice of very great value in the treatment of typhoid fever, even when diarrhœa is present. Some-

times after the administration of grape juice for twenty-four hours the temperature falls, and the diarrhœa decidedly lessens. Good, ripe fruits, without skins or seeds, are also helpful; there can be no objection to the juice of an orange, and a ripe peach or apricot.

Mutton and chicken broth and beef teas so often given can do no good. They certainly stimulate, but they are not nourishing, and only load the blood with nitrogenous impurities.

Some farinaceous food is decidedly beneficial, and can replace some of the milk meals. Oatmeal may be soaked, strained, and boiled, and added to the milk. Custards, or eggs cooked lightly at a temperature below the boiling point, may be given once or twice during the day. A teaspoonful of milk sugar can with advantage be added to each feed of milk. Some medical men allow stale bread and butter with mashed potatoes.

Where hæmorrhage occurs all food must be forbidden for thirty-six hours, and then peptonised milk given in tablespoonful doses gradually increased as long as the bleeding does not return.

The Preservation of Food Against Contamination by Disease Germs

EULALIA S. RICHARDS, L.R.C.P. & S., Edin.

NO doubt we have all wished that we might ignore disease germs altogether, but we have too often fallen a prey to these tiny but powerful creatures, and have been obliged to acknowledge defeat. Since bacteria, or disease germs, exist in countless numbers all about us, and are only waiting opportunity to gain entrance to our bodies, it is needful for us to study their habits of life and their means of warfare, so that we may be able to fortify ourselves against their attacks.

In this article we shall consider only such disease germs as are likely to gain entrance to the body through food and drink. Bacteria, in order to live and multiply, must have warmth, moisture, and suitable food. Milk provides conditions which are ideal for the development of many disease germs. The bacteria which cause consumption, typhoid, cholera, dysentery, scarlatina, and diphtheria, all thrive in milk. This being the case, milk often serves as a vehicle by means of which these disease germs enter the body. Drinking water is also another frequent carrier of disease. While finding little or no nourishment in pure water, still many germs will live for a long time in water, awaiting more favourable conditions within the body for active growth and development. It will be seen, then, how necessary it is to guard well our food supplies (particularly milk) against contamination by disease germs.

Were it possible to obtain milk from perfectly healthy cows, under absolutely aseptic or cleanly conditions, we should have a food free from disease germs. But milk as it is ordinarily obtained, even under the most favourable condition, contains myriads of bacteria. This contamination of milk is easily explained. In the first instance, very few cows can be regarded as quite healthy. Astonishing reports frequently appear in the daily papers showing that tuberculosis (or consumption) is particularly prevalent among dairy cattle, and that the disease is often far advanced before there is much outward evidence of the affection.

The accompanying paragraph, taken from one of Sydney's leading dailies a few years ago, illustrates this point:—

> Alarming statements are being made in connection with the herd of dairy cows kept at the Government Benevolent Asylum at Rookwood. Milk from this herd is distributed to various Government institutions in the Parramatta district, including the hospitals.
>
> It is stated that during the week a veterinary inspection was made of the herd, which comprises 151

cows, and that no less than sixty-one were condemned as suffering from tubercular affections. All the cows condemned are in excellent condition, and show no outward sign of disease.

One of them was a prize-winner at the last Sydney show, and an offer of eighty guineas for her was refused.

Not only may milk be infective through its being obtained from diseased animals, but there are numerous opportunities of its becoming further contaminated during the after-handling and delivery. Unclean dairymen, careless milking, exposure to dust and flies, slovenly methods of cleansing milk cans, and the use of impure water, are all frequent sources of milk contamination. Numerous epidemics of typhoid fever, dysentery, and other diseases have been definitely traced to an infected milk supply.

We must conclude from the foregoing that milk is a dangerous food unless most rigorously guarded from contamination by disease germs. This is particularly true during the summer season, when climatic conditions favour the rapid growth of germs.

How Milk May Be Rendered a Safe Food

Use only the purest, cleanest, freshest milk obtainable. Take it for granted that this milk contains disease germs, and at once destroy these germs by scalding the milk as soon as it is obtained. It is not necessary to actually boil the milk—merely bring it to the boiling point. As soon as the milk is scalded, cover it with a clean cloth to exclude dust. Germs, being so tiny, float about in the air on particles of dust. For this reason, milk, drinking water, and food supplies generally, should never be exposed to dust. Small jug covers made of butter muslin and weighted with beads are excellent, for they admit the air while excluding dust and flies.

We emphasise the necessity of scalding all milk, but particularly that intended for infants and young children. Little children are peculiarly susceptible to tuberculosis or consumption. This disease exists in many forms, as tuberculosis of the lungs, bowels, joints, and glands. Since the germs causing this disease occur so often in cow's milk, the necessity of destroying these germs by scalding the milk becomes evident. Scalded milk is considered by some to be less palatable and digestible than fresh milk, but even if this were the case, we believe that "safety first" should be our watchword in this matter.

But now let us return to the consideration of flies. Flies are such effective carriers of disease that they deserve marked personal attention.

Flies breed in filth, such as manure and decaying animal and vegetable matter.

They feed on filth. Notice how quickly flies are attracted to any unclean thing, such as discharges and soiled dressings from wounds. Wherever there is filth there are flies. They simply revel in filth, and can scarcely live without it.

They carry filth. Examine a fly under a strong magnifying-glass, and see how admirably his hairy body and legs are adapted to carry filth and disease germs. Then, too, flies are so disgustingly indiscriminate. They fly most likely from the barnyard to the open rubbish tin, thence to the sick room, where there may be soiled dressings and discharges exposed; then straight to the dining-room, where they alight on the food and perhaps close the adventure by finding a liquid grave in the milk jug.

Food which has been exposed to flies is absolutely unfit for human consumption. In order to prevent the contamination of food by means of flies, it is necessary to adopt rigorous measures. Discourage the breeding of flies by maintaining strict cleanliness throughout the premises. Permit no refuse to accumulate, and see that all garbage tins are securely covered so that flies cannot gain access to them. If possible, exclude flies from the house by the use of fly screens on all doors and windows. If this is impracticable, use every effective means of destroying the flies which enter the house. See that all food is kept in fly-proof safes or cupboards between meals. During meals cover all food as far as possible, and remove from the table im-

mediately when the meal is finished. In case of illness, immediately remove all soiled linen, discharges, or any infective material from the sick room, suitably disposing of the same, so that flies may have no opportunity of transferring the infection to the food supplies.

As mentioned before, drinking water is also a frequent carrier of disease. If there is any doubt whatever as to the purity of the drinking water, sterilise by boiling all water used for drinking or in the preparation and serving of food. This is particularly necessary in tropical countries and in districts where typhoid and dysentery are prevalent. In our large cities, the municipal water supply is usually excellent, so that the boiling of drinking water is not then necessary.

Stale Foods

There is another matter of considerable importance in the summer season—the avoidance of all stale foods. Fruits and vegetables which are over-ripe or have begun to decay are unfit for food. But it is far more dangerous to partake of dairy produce or animal foods which are not in prime condition. There are bacteria which thrive particularly in animal foods. These germs multiply very rapidly in hot weather, giving off, as a product of their growth, certain substances which are exceedingly poisonous to the human body. Unfortunately this dangerous poison (known as ptomaine poison) may be present in stale milk, cream, shellfish, or other animal food, without in any way giving evidence of its presence. In other words, a certain dish may appear quite desirable, and may taste and smell quite as it should, and yet contain ptomaine poison which will affect most disastrously the consumer of the food. The housewife must take great care during the summer months to purchase only fresh food, and that only in such quantities as will be required and promptly used.

Another word of caution may be added in closing. All salads, as lettuce, radishes, cress, and parsley, should be very thoroughly cleansed before eating. In preparing lettuce, each leaf should be examined and washed carefully in several waters. Radishes should have all earth removed, and the small rootlets scraped away. Threadworms and other parasitic diseases often result from eating green vegetables which have not been properly cleansed and prepared for the table.

What to Eat and How to Cook in Hot Weather

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

THE manner in which Nature adapts herself to circumstances distinctly points to the fact that her laws were framed by a Being of infinite wisdom and power. The plant transplanted from the hothouse will soon show the effects of its less favourable environment, but it revives and develops into a plant of a more durable structure. Nature has strengthened its fibres and cells so that it can resist the force of the cruel wind and the exposure to chilling temperatures. Similarly the animal is protected by a thicker, coarser, and warmer coat of hair, and an increased deposition of fat under its skin, as the cold of winter sets in. The man who has to labour in the cold requires more heat, more energy. Nature not only improves his appetite, but enables him to digest food which, under less arduous conditions, would be really a burden to him.

In the cold of winter we require more fat and proteids in our food to keep up the warmth of the body. It is the experience of all that what the body needs

is that which is best digested. One often marvels that a particular food which at one time is really indigestible, at another is digested with the greatest of ease and comfort. The secret lies in the needs of the system at the time when the food is eaten.

In the Arctic regions the dwellers consume an enormous quantity of food, and the food selected is that which will produce the most heat. It is from the bodies of seals and whales and such-like sources that the food of the extreme Northerners is obtained. Sir Anthony Carlisle relates an anecdote from his experience amongst the Arctic inhabitants : " The most Northern races of mankind," he says, " were found to be unacquainted with the taste of sweets, and their infants made wry faces and sputtered out sugar with disgust; but the little urchins grinned with ecstasy at the sight of a bit of whale's blubber." Sir John Ross, in his " Narrative of a Second Voyage in Search of a North-West Passage," states that an Esquimaux " perhaps eats twenty pounds of flesh and oil daily."

In winter we rely on our food more than our clothing for maintaining the temperature of the body. Sir John Franklin states: " During the whole of our march we experienced that no quantity of clothing could keep us warm while we fasted; but on those occasions on which we were enabled to go to bed with full stomachs we passed the night in a warm and comfortable manner."— " *Narrative of a Journey to the Shores of the Polar Seas in the Years 1819 to 1822," page 424.*

In tropical climates, on the other hand, the food is of an entirely different nature. The inhabitants live chiefly on products from the vegetable kingdom; their appetite corresponds with the demand of their system; they have not to cope with the cold, and do not engage in arduous labours, consequently the fats and proteins in their diet are reduced to a minimum. In Wilkinson's " Ancient Egyptians," Vol. 2, pages 368-381 we read: " The advantages of a leguminous diet are still acknowledged by the inhabitants of modern Egypt. This, in a hot climate, is far more conducive to health than the constant introduction of meat, which is principally used to flavour the vegetables cooked with it." " Vegetables form the principal food of the lower orders, and lentils are the chief article of diet."

Every meal consists of a mixture of proteids (nitrogenous matter), carbohydrates (starches and sugars), and fats, but the proportions vary considerably. By far the most energy and heat are produced from the fats; the relative values of these different constituents are as follows:

1 gram (15½ grains) proteid gives out 4.1 calories of heat
1 gram (15½ grains) carbohydrates gives out 4.1 calories of heat
1 gram (15½ grains) fats gives out 9.3 calories of heat

Thus a given quantity of fat, if digested and burnt up in the system, will produce more than twice the heat and energy that would be produced from the same quantity of proteids or carbohydrates. But Nature shows us clearly that fat should be reduced in quantity in the summer months. No one relishes fatty foods in summer as he does in winter, neither are they digested so readily.

Neither are proteids needed so much in summer as in winter. Animal food, if taken at all, should be considerably reduced in quantity. We should remember it is very liable to putrefy, upset digestion, and produce ptomaine poisoning. It is certainly quickly burnt up in the system, and produces heat more quickly than either the carbohydrates or fats. The quick production of heat and energy cannot be considered an objection to its use, but it does not completely oxidise like the starches and sugars, and waste products, such as urea, uric acid, and the xanthins, accumulate in the blood. In winter these are more readily eliminated from the kidneys, but in hot weather the secretion from the skin increases enormously, but that from the kidneys is

considerably diminished. The skin does not throw off these dangerous remnants (physiological ashes) of animal food. Again, animal food contains uric acid already formed. The system will throw off only about twenty grains of this acid in the day, and if only two or three grains are added in the form of flesh food to the uric acid naturally formed in the system, it is liable to accumulate and produce gout, rheumatism, and allied troubles.

Fruits, vegetables, cereals, and milk constitute the most suitable articles of diet for warm climates and in hot weather.

Fruits

Fruits supply nourishment in an easily-digested form. The proteids and carbohydrates are fully digested, and sufficient residue remains to ensure a good action of the bowels. The fruits that contain the greatest amount of nourishment are the banana, date, fig, prune, and grape. Fruits are thirst quenchers, especially melons, oranges, lemons, limes, and grapes. They keep the blood in a healthy condition, and lessen the acidity of the urine. They furnish an abundant supply of potash salts as well as lime and magnesia. The best fruits for constipation are fresh apples, figs, oranges, grapes, prunes, and peaches. The most easily-digested fruits are grapes, oranges, lemons, cooked apples, figs, and peaches. Watermelons, prunes, pears, apricots, bananas, raspberries, currants, and pineapples are somewhat less digestible. The best fruits for invalids are juice of orange or lemon, baked apples, pulp stewed prunes, grapes, and pineapple juice. Pineapple juice, in fact, aids in the digestion of other foods.

Dates form a very nourishing food for summer. Richardson tells us in speaking of the food of the inhabitant of the Sahara: "Dates are not only the principal growth of the Fezzan oasis, but the main subsistence of their inhabitants. All live on dates—men, women, children, horses, asses, camels, sheep, fowls, and dogs." Bread and butter with washed dates make a very agreeable and nourishing meal during the hot weather.

Fruit can be taken with advantage with two of the daily meals. It is better omitted when vegetables form a part of the meal. It is a mistake to partake of fruits between meals, as the stomach and digestive organs need a complete rest in order to be ready for the next meal.

The Cereals

The most important summer food is certainly to be found in the cereals. Rice is undoubtedly one of the most suitable for summer use. It is poor in fats and in salts and also in nitrogenous substances, the amount of the latter varying considerably in different specimens from three to seven per cent. Its chief constituent is starch, which in rice exists in a very digestible form. In the prepared form it contains very little of the indigestible *cellulose;* this increases its value as a food.

Rice should not be boiled, but thoroughly steamed when cooked by itself, as boiling removes some of the nitrogenous elements and the salts, and thus lessens its value as a food. When cooked with milk it forms an ideal food, as the milk supplies the nitrogenous and mineral ingredients lacking in rice. It should be cooked at a low temperature and kept below boiling point. This is especially advisable when mixed with eggs in the form of custards. A high temperature makes both milk and eggs indigestible. Rice is better cooked in a double saucepan.

When not mixed with eggs four ounces of well-washed rice should be added to a quart of milk. With eggs three ounces of rice would be sufficient. The eggs should be added after the milk and rice have been cooked for an hour in the double saucepan. Allow the rice to cool slightly before mixing with eggs, and bake in a moderate oven. The same rules apply to sago and tapioca. They also form excellent foods for summer use. One advantage of these foods in summer is that they can be eaten cold, and, in fact, the flavour is more pronounced than when hot.

Oatmeal and Wheatmeal

Oatmeal is a highly nutritious food; it is the richest of all the cereal meals in both nitrogenous substances and fat. The fine muscular development of the Scottish Highlanders is due to some extent to their large consumption of oatmeal in childhood. Oatmeal is also laxative on account of containing a large proportion of indigestible cellulose. Oatmeal is often objected to as a summer food on account of its "heating" properties. This may be so when it is followed by fried bacon and eggs and meat foods, but when supplemented only by bread or toast and butter and fruit it is not too "heating."

Wheatmeal contains less fat, and agrees with some better than oatmeal. Porridge, however, often disagrees with the dyspeptic as it does not excite sufficiently the flow of saliva. It is certainly an excellent food for children when taken with milk.

Much sugar certainly interferes with the harmonious digestion of porridges and milk; they should be eaten with salt instead. Granola and gluten are preparations from oats and wheat, and make excellent foods for both summer and winter.

Eggs and Milk

Eggs and milk can be partaken of by most people, and take the place of animal food. These foods are found to be much more digestible when not brought above the boiling point. They should not be allowed to boil. With some, however, they cause biliousness and headaches.

Macaroni and Vermicelli

Are preparations from hard Italian wheat, and are rich in gluten. Of macaroni Sir H. Thompson observes: "It is certainly to be lamented that so little use is made in our country of Italian pastes. Macaroni in all its forms is, in fact, an aliment of very high nutritious power, being formed chiefly of gluten, the most valuable part of the wheat from which the starch has been removed. Weight for weight, it may be regarded as not less valuable for flesh-making purposes, in the animal economy, than beef or mutton. Most people can digest it more easily and rapidly than meat; it offers therefore an admirable substitute for meat, particularly for lunch or mid-day meals. . . . Macaroni might with advantage be prepared at restaurants as a staple dish in two or three forms, since it sustains the power without taxing too much the digestion.

Vegetables

The potato is a very valuable food, containing an abundance of starch and valuable mineral substances. Haig recommends it highly for the prevention of rheumatism. In the potato the granules of starch are contained in the cells of the cellular tissue of the tuber, and are surrounded by acid albuminous juices. In cooking the latter are coagulated, and give up their watery constituents to the starch granules, which swell up, break their cellulose covering, and assume a loose, "mealy," or "floury" appearance. If this change does not take place the potato is close, waxy, watery, and indigestible. Potatoes are best cooked in their skins, otherwise they lose many of the valuable mineral salts. Potatoes grown on sandy and loose soils are the best in quality and flavour.

The carrot, parsnip, and turnip are useful and wholesome foods where the digestion is good. The green vegetables are not valuable as nutrients. They contain but little nourishment; their mineral constituents are, however, of great service in maintaining a healthy condition of the blood, and the indigestible cellulose aids the action of the bowels. Cabbage contains a large proportion of sulphur, and gives rise to decomposition and flatulence. Cauliflower and broccoli are the most delicate and digestible of the cabbage tribe. Spinach is digested to a very slight extent, but acts as a good remedy for habitual constipation. Celery, either raw or cooked, is not only digestible, but is a good purifier of the blood. It makes an excellent adjunct to the evening meal during the hot weather. Lettuce, water-

cress, and mustard and cress are easy of digestion when the digestive organs are sound, and make also agreeable additions to the meal. Onions are wholesome and slightly laxative. The marrow contains but little nourishment, but is digestible. The tomato is refreshing and appetising, and has a pleasant acid flavour. It disagrees where there is acid dyspepsia. It is forbidden by many physicians in gout and gravel on account of the oxalic acid it contains. The cucumber is decidedly indigestible. Green peas and French beans when young are valuable adjuncts to the meal, and agree well with most people.

The chief objection to vegetables as a food is their bulkiness. Where the digestion is feeble, they should be taken in small quantities only. The most digestible are the marrow tribe, cauliflower, and the salads.

Summer Dietary for Children

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

CHILDREN need a good supply of milk all the year round. They need a much larger percentage of tissue-building material than the adult, and this cannot be better supplied than in the form of milk. Skim milk is an excellent food both from the standpoint of economy and nutrition. From these standpoints it may be considered the best of all foods; it contains all the tissue-building constituents of the milk, and lacks only the fat removed in the cream. Children digest all forms of milk better than the adult, for the simple reason that it is necessary for the rapid developments of their bodies; it is essentially a food for the young. The child, like the adult, during the summer months, can to a large extent forego the fats; it, however, needs the carbohydrate for the production of energy, and the albuminates for the building up of its tissues. Skim milk combines well with rice, sago, tapioca, bread, granola, gluten, granose biscuits, and similar foods. All children need a good supply of vegetables and fruit, but it is better they should not be combined at the same meal.

It is undoubtedly a great dietetic error to allow children to take any form of food between meals, even fruit or sweets of any kind; the stomach is thereby weakened, and the foundation is laid for future dyspeptic troubles. Milk and water make a good drink for children, and this can be taken with meals. Tea, coffee, and cocoa should be altogether avoided; the addition of these poisons to the drink can serve no useful purpose, and produces nothing but injury.

Children should not have flesh foods. All the nourishment they require is well supplied by the cereals and milk. Children can take with advantage oatmeal or wheatmeal porridge with milk all the year round. With abundance of this kind of food they do not require even eggs. One egg a day is sufficient for any child. Cereal foods and milk must form the main stay of the child's diet.

Fruit and vegetables are necessary to maintain a healthy condition of the blood. Fresh cream is better for children than butter, as the latter is mostly made from stale cream, which contains an abundant percentage of germinal matter. Children should drink pure water freely right through the day, and spend most of their time in the open air.

ONE who makes claim to knowing whereof he speaks declares that women's waists are growing larger, whether through change of fashion or through physical culture he is not certain. While as many corsets are sold as in the past, women are not buying the small sizes that were so popular.

CHATS WITH THE DOCTOR

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

488. Granose Biscuits and the Blood

A writer asks if granose biscuits dry up the blood.

Ans.—It does not follow that because a food is dry that it dries up the blood. Our answer to the question is an emphatic No. The biscuits contain the organic salts the blood requires, and are good blood formers.

489. Catarrh of the Nose; Red Nose; Indigestion

"Mac." suffers from catarrh of the nose, and states: "One side of my nose is stuffed up. I have not breathed out of it for sixteen years. I blow large lumps of green stuff out of the nose, and easily catch cold. When I take medicine it brings me out in pimples and blotches, which itch badly."

Ans.—Very probably in addition to the catarrh there is a blocking of the one side of the nose by the enlargement of one of the bones, or by the bony partition between the two cavities of the nose being bulged. An operation in this case would be necessary.

"E.B." (New Zealand) suffers from a red nose.

Ans.—Undoubtedly disorders of the digestion keep up a catarrh of the nose, and in some produce a redness of the nose. In all catarrhal conditions it is necessary to abstain from rich foods, especially foods of a fatty nature. The best form to take fat is in the form of good butter or as olive oil. In catarrhal conditions, pastry, cakes, and everything cooked with fat must be avoided. The bowels must be kept regular by drinking water on rising and retiring and between meals. Fully two hours should elapse after a meal before any cold water should be taken. We give "E.B." and "Mac" the following rules for indigestion:—

Rules for Indigestion.—Meals should be partaken of at regular times—an interval of at least five hours is necessary. All food should be thoroughly masticated. Food that cannot be masticated thoroughly should be avoided, such as new bread or scones. Sloppy foods, as porridge, often disagree, because they cannot be intimately mixed with the saliva—the digestive juice of the mouth. Bulky foods, such as vegetables, are difficult to digest. Pastry, cakes, and everything cooked with baking soda, baking powders, and fat must be omitted from the dietary. Avoid much exertion for an hour before and an hour after meals. Light work can do no harm in most cases. In debilitated subjects a complete rest is often necessary an hour before and an hour after meals in order not to draw the blood away from the alimentary canal. Tea, coffee, and cocoa should altogether be omitted from the dietary. No food whatever should be taken between meals. Except where acidity quickly comes on after meals, fruit (fresh or cooked) should be taken at close of the morning and evening meals.

The amount of vegetables at the mid-

day meal should be strictly limited. Cauliflower, French beans, green peas, spinach, and marrow are the only vegetables that should be taken except the mealy and floury potato. Select the food that is best for you, and do not worry as to whether it will digest or not. Avoid dishes which contain many ingredients. Milk, sugar, and eggs in one dish often cause trouble. Milk and egg foods should always be cooked at a temperature below the boiling point. This should be remembered in poaching and boiling eggs, and in the cooking of rice, sago, and tapioca with eggs and milk. Milk and sugar make a poor combination, especially when used with porridge. Salt is better for porridge and bread with milk than sugar. For most dyspeptics some dry food, such as rusk of bread or granose biscuit, should be well masticated with each meal. Have a regular time—after breakfast—for going to stool. The evening meal should be very light. Eggs, meat, and all heavy foods should be avoided at this time. Food does not digest well during sleeping hours, and food in the stomach prevents sound sleep. Avoid the taking of drugs. The daily sponging of the body with cold water is decidedly helpful; the bedroom should be well ventilated, and during the day the outdoor life is the best. Get as much of it as you can.

"T.S." also asks for advice *re* nasal catarrh. He finds it is affecting his hearing. He states that for three weeks he has lived on granose biscuits, some hot milk, a little stewed fruit, and milk puddings, but there is no improvement.

Ans.—We have always found milk in any form bad for catarrhal conditions of the nose and throat. "T.S." states he always manages to arrest the catarrh and keep it in bounds by diet, etc. "T.S." should strictly adhere to rules given for digestion. The nose should be kept clean by the use of a nasal douche. Use a teaspoonful of best salt to half a pint of warm water. A coarse post nasal spray should be used. The douche that reaches the back part of the nose is much more effectual than those used for the front part only. The solution should also be snuffed up the nose. Any surgical instrument maker should be able to supply the post nasal spray—the spray should not be too fine. Use morning and night. As much outdoor exercise as possible is necessary. A warm, dry climate is the best.

"H.C.P." "Gilead" gives symptoms which chiefly point to imperfect digestion. We advise him to follow closely the rules for digestion.

"G.P.," Perth, also writes *re* indigestion. We give him the same advice. He should omit altogether the tea and cheese from his dietary, they are both injurious. Alternate constipation and diarrhœa are frequently the result of imperfect digestion. Olive oil will take the place of butter, and should suit "G.P."

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490. Barber's Rash (Sycosis)

A correspondent asks for treatment of above. He has had it for quite a number of years.

Ans.—This disease attacks the hairy part of the face, often starting in the upper lip, then appearing on the chin, eyebrows, and eyelashes, in the armpit, and on pubes. Little papules containing pus (matter), through which each hair penetrates, are the first signs of the disease. They gradually increase in number, and may extend over a large surface. The hairs become loosened and are easily pulled out. The pus dries into thin brown or yellowish crusts. The disease does not extend beyond the hairy region. In long-standing cases there is a good deal of scarring from previous sores. The disease is contagious, and is often conveyed by the brushes of barbers who are not particular about the cleanliness of their implements. The disease is extremely obstinate, and recurrence after apparent cure is common. The crusts must be removed and each hair pulled out. The removal of the hair opens the little abscesses. The following ointment should then be applied:—

℞ Resorcin ʒiss (1½ drams)
Lanolini. ʒii (2 ounces)

Double the strength of resorcin may be found necessary. After apparent cure, every morning a solution of bichloride of mercury (1-1000) should be used. This same solution should also be used for shaving. At night apply pure lanoline to face to protect it from infection.

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491. Lichen

"Perplexed" (N.Z.) writes: "About ten months ago I noticed a few red marks on each shoulder; they were very irritating, and after a few days disappeared, leaving a roughened surface and a dark, wart-like bruise. These marks disappear sometimes for weeks at a time, then appear again, always very irritating. Sometimes a few red spots come, but they are never sores. I am quite healthy except that I was very much run down when the marks first came."

Ans.—The cause of this trouble is certainly obscure. Sometimes it follows a severe nervous shock or emotional disturbance. The parts should be thoroughly rubbed daily with the following ointment:—

℞ Corrosive Sublimate ʒi (1 dram)
Carbolic Acid ʒi (1 dram)
Lanoline ʒiiss (2½ ounces)

The treatment must extend over some weeks. It is not eczema or erysipelas as suggested by the writer.

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492. To Increase One's Height

"K.H." asks how he can increase his height. He is seventeen, and quite healthy.

Ans.—Unhealthful living no doubt has some effect on the height, as it has on every other development of the body. A diet of fruits, grains, and nuts, and abstinence from injurious beverages, as tea, coffee, and alcohol, will help development in every way; but as Scripture declares, "No man by taking thought can add one cubit to his stature." There is no sovereign procedure to this end. A moderate amount of gymnastic exercise would help to some extent.

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493. Blotchy Face

"Sunnybank" asks for a remedy for the above in her daughter aged thirteen years.

Ans.—Diet is very important in treating this trouble. Fruit should be taken with the morning and evening meals, and potatoes with green vegetables at midday meal. We recommend "Sunnybank" to read "Rules for Digestion" in this issue of "Chats." The skin must be kept active and the bowels regular. Exercise to produce sweating will do good, but it should be followed by a general sponging of the body. Steam the face twice a day, and afterwards wash with warm oatmeal water. Use a good unscented soap, such as Pears' soap.

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494. Itching of the Skin

"W.C." and "E.S." ask for a remedy for the above.

Ans.—Follow instruction given to "Sunnybank" in reference to diet. Irritating clothing is often a cause. Cellular clothing or silk next the skin will prove helpful. Frequent sponging with tepid water is necessary. Avoid excess of clothing either night or day. Hot or cold baths would probably keep up the trouble. Use a good coal tar soap.

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495. Potassium Salts for Cancer

"J. McM." sends us an advertisement advising the potassium salts for cancer.

Ans.—We do not believe there is any truth whatever in the statement made, and that it is merely an advertising fraud. The "free book" will be found to be an advertisement for some useless quack remedy.

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496. Itching about Seat

"W.C.B." has suffered with itching about the anus and a discharge of watery matter for twenty years.

Ans.—The trouble is known as "pruritis." There are quite a number of

causes such as: Diabetes, gout, Bright's disease, jaundice, dyspepsia, fissure or cracks, piles. This case probably needs a slight operation. When the bowel is fully dilated, the cause will probably be discovered and remedied. Warm alkaline baths at bedtime give relief. Use half a pound of bicarbonate of potash to ten gallons of warm water, and apply the following ointment: "Two drachms of menthol rubbed up with one-half ounce of olive oil and one drachm of chloroform and two and one-half ounces of lanoline."

497. Irritation of Bladder

"J.B. 132" complains of: Dry retching, dizziness in head, cutting feeling in neck of bladder in passing water, dreadful bearing-down feeling with last drops of urine, numbness in fingers, bad taste in mouth, dirty tongue, palpitation of heart, constipation, nervous and depressed, pain across back. Sometimes she passes blood and slime from the bowel. She is sixty-eight years of age.

Ans.—We would recommend "J.B." to follow instructions given under "Rules for Indigestion." Take in water after every meal a small teaspoonful of lemon juice or ten drops of dilute nitro-hydrochloric acid.

498. Indigestion and Catarrh

"E.F." complains of severe headache every morning. He spits up lots of thick mucus, and suffers from wind, etc.

Ans.—"E.F." should keep the bowels open with fruit, prunes, figs, drinking of water between meals, and follow directions given under Catarrh of Nose and Indigestion. The acid after meals as directed under Irritation of Bladder will probably help.

499. Bilious Attacks

"Kinnington" writes that he suffers from bilious attacks and gets dreadful headaches.

Ans.—The articles of diet mentioned by him are injurious, viz.; milk, suet puddings, pies, and tea. When eggs are poached, do not allow the water to boil. One egg at a meal would be sufficient. Take some slightly-acid juice after each meal, and follow rules given for Digestion. Avoid especially all fried foods and foods cooked with or in fat. The evening meal should consist of granose biscuit and fruit only.

500. Water Brash (Pyrosis)

"Worried" writes: "I suffer from 'water-brash.' I have had it for nine or ten years. About a quarter of a cup of fluid comes out of my mouth. I have pain in the stomach and a choking feeling. If I eat fried onions, pastry, or an apple I can depend on having it in a few hours."

Ans.—There is quite a difference of opinion as to the origin of the fluid in water-brash. Some state that it is saliva that has been swallowed into the stomach and then regurgitated, others that it is merely a profuse flow of the saliva from the glands of the mouth. It is common in dilated prolapsed stomachs, floating kidneys, and irritable dyspepsias. "Worried" should observe the rules given under "Rules for Digestion," and take a level teaspoonful of the following powder half an hour before meals in half a tumbler of warm water: Equal parts of carbonate of magnesia, bicarbonate of soda and light carbonate of magnesia. Mix thoroughly.

501. Diet for Obesity

"Gisborne" asks: "How one can prevent getting too stout. . . . Would you advise any of the anti-fat medicines on the market? I would prefer dieting."

Ans.—It is well to avoid too great variety in diet, as that always tends to increase appetite. All spices, condiments, etc., that increase the desire for food, should be used very sparingly. The use of sugar should be avoided altogether. Milk and its products should only be used in moderation, and puddings must be unconditionally forbidden. Potatoes are not so flesh-forming as bread. Green

vegetables and fruit may be taken freely. All foods, such as dried fruits, that contain much sugar must be avoided. Alcoholic drinks should be avoided as much as possible. "Anti-fat" medication is injurious. As much exercise as possible should be taken. Avoid all kinds of fat as far as possible.

502. Neuritis

"Gisborne" also asks: "Once having had neuritis, can it be cured? In this particular case the right hand is affected. Kindly state the cause."

Ans.—The cause of a local neuritis is generally a cold or some injury, such as a dislocation or fracture. Poorness of blood, rheumatism, and other constitutional conditions bring on neuritis. Massage and daily applications of the interrupted (Faradic) current are recommended. Most cases can be cured. Rest is important.

503. Painful Twitching in Legs

"Mrs. A.B." writes: "Would you kindly advise me what would be good for troublesome nerves in the legs. My husband cannot rest after his work is over, for his nervy legs as he calls them. When he is in bed just getting off to sleep one leg will jump or jerk and wake him."

Ans.—Probably the work is too laborious, and a prolonged rest is necessary. We would recommend daily use of galvanic current—ten to fifteen minutes—and hot fomentations to lower part of spine.

504. Relaxed Throat

"Mrs. A.B." also asks for treatment of relaxed throat after an operation on the nose.

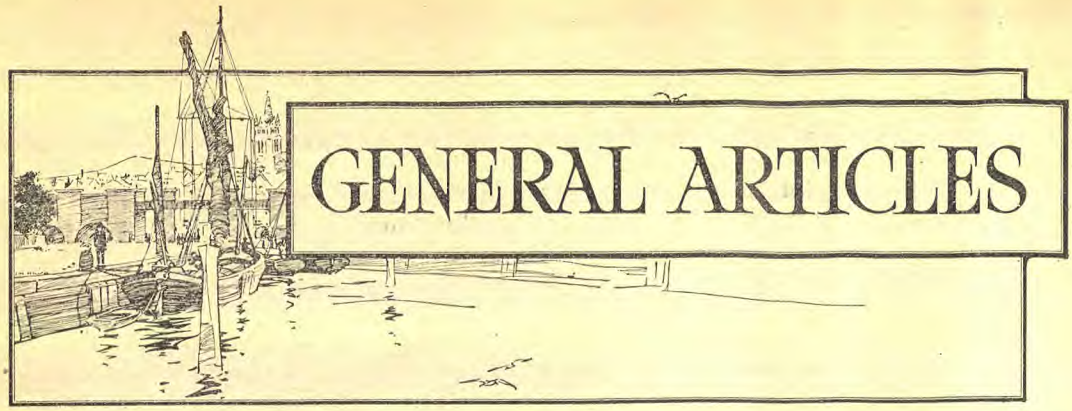
Ans.—Bathe the neck frequently in cold water. At night apply five or six cold compresses—three minutes each. Attend to the digestion and keep the bowels regular. Take as much outdoor gentle exercise as possible. Gargle the throat twice daily with salt and water—a teaspoonful to a pint.

505. Swollen Stomach

"Mrs. W.S." is advised to follow "Rules for Digestion," as given in this issue of "Chats."

UNANSWERED QUESTIONS

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



GENERAL ARTICLES

Remedies for Indigestion

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

VERY few people need to suffer from indigestion, for with the vast majority the disorder is self-inflicted, and can be traced directly to various indiscretions of diet and drink and neglect of exercise. This being true, the remedy is usually a very simple one and within easy reach of the victim. Indigestion may be either acute or chronic. While acute attacks are frequent enough, chronic indigestion of varying degree is perhaps the most common ailment of civilised man. We say civilised because the primitive man of forest and field who leads an active life out of-doors in the fresh air, and subsists on a far simpler and more wholesome diet, rarely suffers from lack of digestion.

Acute Indigestion

It is not necessary to recall the symptoms of nausea, sickness, colicky pain, headache, flatulence, abdominal distension, bad tongue, foul taste, etc., which distinguish an acute attack of indigestion, for they are only too well known to those who suffer. If there is nausea or sickness, it is well to empty the stomach as soon as possible by drinking lukewarm water or taking an emetic. Sometimes tickling the throat with a feather is all that is necessary to expel the offending matter. After emptying the stomach give the patient a glass of hot or cold water to sip slowly. If there is any sign of sluggish action of the bowels, give a generous dose of medicinal paraffin, a tablespoonful or two, and a cleansing soap enema. If after these measures have been taken the colic and pain still persist, apply hot fomentations to the abdomen. Large woollen cloths a yard square should be wrung out of very hot or boiling water, folded to three layers, and then wrapped in a single layer of a similar dry woollen cloth and applied to the seat of pain. The intervening layer of dry wool will prevent burning. It is necessary to wring the fomentation as dry as possible. The patient should be lying on a bed or couch and be well covered, and have a hot bottle to the feet. The application of a cold compress to the forehead in the form of a linen towel of suitable size, folded and wrung out of cold water, has a refreshing and soothing influence. At the end of five minutes have a further hot freshly-wrung fomentation cloth ready to take the place of the first one. Two, three, or four may be applied for five minutes each until relief is obtained, after which the part is bathed with tepid or cold water and gently dried. If the headache still persists give a hot foot bath, soaking the feet for ten to fifteen minutes in water at a temperature of 115° to 120° F. See accompanying illustration. The addition of a teaspoonful of mustard to the hot water adds to its efficiency. A cold compress should be applied to the forehead and changed every two minutes.

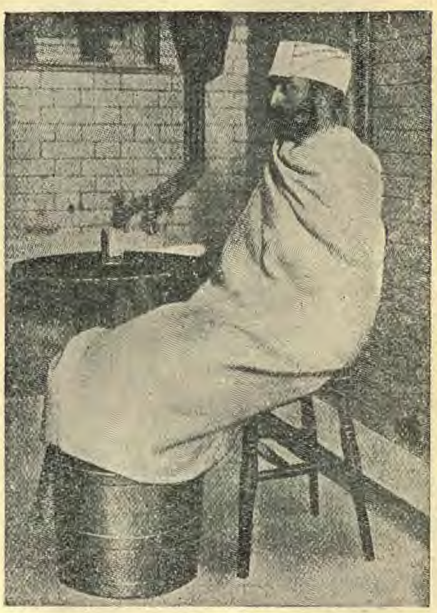
After the treatment the patient should be put to rest in a quiet, well-ventilated room. It is wise to skip a meal or two. If the patient is faint, give half a pint of barley water or Horlick's Malted Milk which should be served hot. The hot drink can be repeated in the course of two or three hours if necessary. When the attack has passed off, the patient should adopt a very plain, simple diet, avoiding all stimulating and irritating articles, pastries, cakes, and rich and highly-seasoned dishes.

Chronic Indigestion

In most cases of chronic indigestion the first step towards a cure is to get a natural appetite and postpone eating until there is a sensation of real hunger. Other things being equal, a hungry stomach is capable of digesting a reasonable amount of food without causing any disturbance. Of course, this will not be true if there is an ulcer in the stomach or intestine, or some other organic disturbance, but fortunately such conditions are comparatively rare.

The next step is to give some serious thought to the selection of the food in order to provide for the body a diet that will be nourishing, wholesome, satisfying, and digestible. Tea, coffee, and cocoa should be *tabooed* at once, while high game, pork, veal, salt meats and salt fish, shell fish, as well as pickles, fried foods, coarse woody vegetables like cabbage, and most of the rich and highly-seasoned made-up dishes, cakes, and pastries should never appear on the table of one who has a delicate digestion. Indeed, we would counsel our readers to adopt a wholesome and nourishing fruitarian diet and avoid entirely the use of animal flesh. In any case, flesh foods should not be taken more than once a day and then only sparingly. Sugar and sugary foods are very prone to cause fermentation and flatulence, so that they too should be avoided or at least taken in strict moderation.

Millions of people on our globe live well on two meals a day, a breakfast in the morning and a dinner in the late afternoon or early evening. It is true that the number of meals is to a large extent a matter of habit, but we do not hesitate to say that the maximum for a healthy man or woman would be three, and that the third and last meal should be comparatively light and taken early.



HOT FOOT BATH WITH COLD COMPRESS TO FOREHEAD

Eating to repletion is a mistake and simply invites digestive troubles. Children who have not learned to control their appetites may eat until the discomfort puts a stop to their meals, but one would expect more rational habits from adults. Nevertheless, it is undoubtedly true that many people go on eating and tempting their appetite until the tightening in the region of the waist is sufficiently uncomfortable to induce them to desist. Overeating not only brings on indigestion but is responsible for much of the languor and drowsiness that so many people notice after dinner. "Enough is as good as a feast," and a good trencherman must leave the table long before he has lost his appetite if he wishes to maintain good health.

Mastication

Another most important remedy for chronic indigestion is mastication. Horace Fletcher has demonstrated that efficient mastication alone will cure many cases of chronic indigestion and restore to a broken-down middle-aged man the vigour and good health of youth. The teeth are the hardest tissues of the body, and are obviously intended by nature for the purpose of grinding the food. Soft, pappy, and fluid foods should be avoided as far as possible by those in ordinary health, and their place should be taken by articles of diet that require chewing. There is nothing better than zwieback or bread that is toasted through so that it is crisp throughout. Bread prepared in this way has a sweeter and more delicate flavour, and taken with fruit, either fresh or stewed, makes of itself an excellent, wholesome, and satisfying meal. Drinking freely with the meals not only dilutes the digestive juices and renders them less efficient, but also interferes seriously with efficient mastication and should therefore be discouraged. The very act of chewing has itself a stimulating effect upon the flow of the saliva and other digestive fluids. But it is a good practice to drink a glass of water half an hour before each meal.

ABDOMINAL GIRDLE IN POSITION

The Heating Compress

A wet girdle worn at night makes one of the best remedies for chronic indigestion. Take a linen towel of suitable size and fold it two or three times and wring it tightly out of cold water, and then apply round the stomach so that it encircles or almost encircles the trunk at the waist line. The width of the wet compress should be from eight to ten inches. Apply immediately afterwards three layers of woollen flannel from twelve to fourteen inches in width so that it completely overlaps the moist cloth and

thus prevents chilling. See accompanying illustration. One could also apply a piece of mackintosh or oiled silk over the woollen flannel, which serves in many cases to intensify the good effects of the compress. In a few moments the compress is warm and feels comfortable. The wet girdle should be applied at night, and on removing it in the morning bathe the part with cold water and dry gently by pressing the towel against the skin. A wet girdle may be worn nightly for two or three weeks or longer until there is a complete cure.

Abdominal massage makes an excellent remedy for indigestion, and it is of particular value when the digestive organs are prolapsed and in a weakened atonic condition. But to be really effectual the massage should be given daily for twenty to thirty minutes by an experienced masseur. Mere rubbing, while it may do no harm, is of little value in bringing about a cure.

If the bowels are constipated do not fail to regulate them by the free use of fruit, coarse brown bread, spinach and similar tender greens, olive oil, salads, etc. Medicinal paraffin is also valuable, but it may be necessary to take a tepid soap water enema daily for a time until the bowels begin to act in the natural way. From two to three pints of water may be taken, and the temperature should be from 70° to 75° F. The enema should be given at the usual time for emptying the bowels, an hour or two after breakfast.

A Final Caution

Do not be tempted by any of the numerous worthless or poisonous quack remedies so freely advertised in the public press and on the hoardings. The claims made on their behalf are as a whole not only misleading and fraudulent but thoroughly mendacious. Place no trust in the pills, powders, potions, and draughts of the medical quack, whether he calls himself a botanist, a herbalist, or something else. None of these much advertised preparations on the market are capable of assisting digestion in the slightest degree, no matter what statements may be made about them. But many of them do contain drugs and preparations which have a benumbing effect upon the nerves, and thus falsify the true condition and serve to aggravate the dyspepsia. A glass or more of hot water sipped slowly is the best medicinal draught we know of for indigestion, acute or chronic.

The Role Insects Play in the Spread of Disease

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

WE do not wish our readers to be in perpetual misery from the deductions drawn from this article. The object of this article is not to strike terror into the hearts of people or make them feel afraid that the very ground upon which they tread will emit disease, and that every move they make means disease. Being aware of facts in connection with the spread of disease does not make one more susceptible to disease unless he worries about it. If one worries, he lowers his vital resistance and leaves his body open to invasion by any organism. An intelligent understanding of the spread of disease, however, enables one to fortify himself against the inroads of disease. One can quite justly ask the question, "If disease germs are resting on everything we touch, and they are carried from one person to another by almost every member of the insect kingdom, how is it that any one is left to tell the tale?" This is not bad reasoning, and such a condition could

be quite true were it not that here again nature is all forbearing and resourceful. It is very true that were it not for the fortifications that nature has been able to build up against disease the human race would have ceased to exist by this time, if not long ago.

There are insects which we have looked upon merely as household nuisances, but which are known to be more than pests, and dangerous to the preservation of health.

The Cockroach

The cockroach, for example, is now credited with being more than an obnoxious invader of the larder. There are several kinds of cockroaches. There is the Croton bug, so called from its becoming noticeable in New York when water from the Croton reservoir was introduced. It is foreign to America, but has followed mankind to all parts of the earth. It is of medium size, brown or yellowish, with wings in the adult extending beyond the abdomen. The Oriental or proper cockroach is a widely-distributed pest. Its British name, "black beetle," well describes its dark, shining, robust appearance. Its wings are shorter than the abdomen. The third variety is the American cockroach. It probably originated in tropical America, from whence it has spread to all seaports of the world. Another is the Australian cockroach, much like, but smaller than, the American. In addition to these there is the wood cockroach which frequents houses, bakeries, and warehouses, but is rarely seen.

Habits

Roaches prefer a warm, moist climate. With their thin, flat bodies they are able to tuck themselves away unseen in a very narrow crack only to come out at night as marauders. The female carries the eggs about until they are almost hatched. It is not only the food that they eat that is lost, but they destroy everything in the larder that they crawl over because of the offensive odour they leave behind them. Both the fæces and the vomitis of the insects are very abundant. They are also known to eat the finger-nails and eyelashes of sleeping children. The writer has heard testimonies in India to the effect that an otherwise peaceful night's sleep was made intolerable by the constant nibbling of the cockroach.

How It Carries Disease

The cockroach as a carrier of disease is concerned with tuberculosis and cholera. With these two diseases only have investigations been made regarding this insect. In the future further investigation will quite probably prove that it bears the same relation to enteric fever and dysentery. It attacks tubercular sputum with great voracity. The organisms ingested in this way remain alive in the body of the insect from two to four days. The same organisms when deposited on food stuffs in the fæces of the insect remain alive for one or two days. Thus it is easily seen what a factor the cockroach may be in the spread of not only tuberculosis and cholera, but also dysentery and enteric fever.

The Ant

Another insect that comes in the same category as the cockroach is the ant. Like the cockroach it enjoys coming out at night when everything is quiet, to see what new line of eatables has been added to the food supply since making the tour of the previous night. It does not come in the domain of this article to record the many interesting things in connection with the life cycle of the ant, but those who have studied the lives of these little creatures mention some wonderful discoveries regarding their methods of labour, care of the young and the dead, their domestic life and their intelligence, and their methods of communication. One scientist says, "When a captive colony was placed by an experimenter near the fire, the heat was so grateful to its members that they embraced each other and skipped and danced like playful kittens or lambs." But like most other insects there is a more serious aspect to be considered. The ant is not always found to

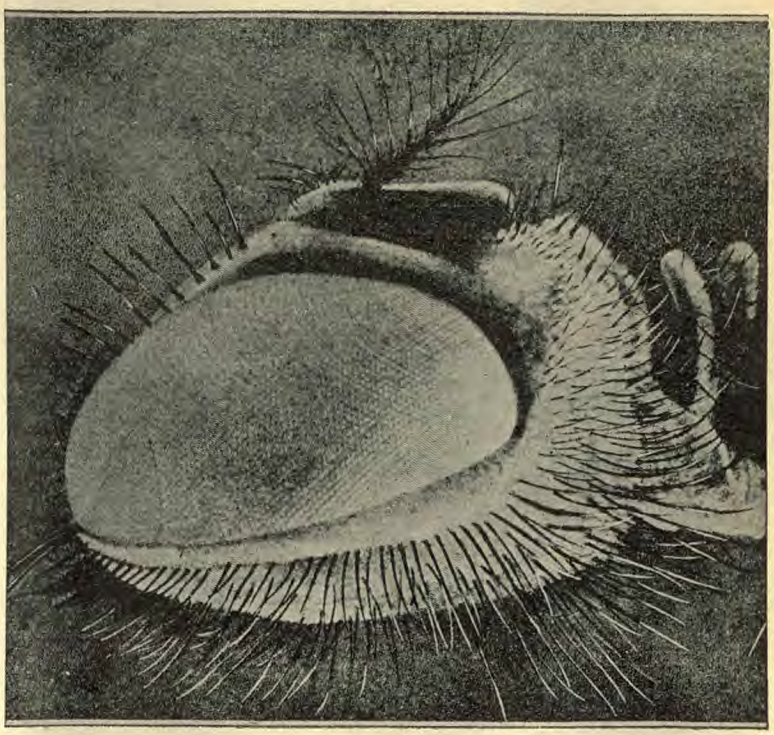
adhere to the most clean quarters. In other words, like the cockroach, just before he enters your meat safe he has walked through all manner of infected material, thus polluting the food supply.

Extermination

To wage a war of extermination against such pests as the ant and the cockroach requires an abundance of perseverance. The first thing to be done is to protect the food from the invaders. This can be done by keeping the legs of the meat safe in water. All dishes and food should be kept in a meat safe so arranged. Then to rid the place of the insects, powdered borax should be sprinkled in the haunts of the insects. Formaldehyde gas or sulphur dioxide under pressure will not only kill cockroaches and ants, but all life is destroyed that comes in contact with the gas for ten to twenty minutes. Formaldehyde gas can also be liberated for this purpose by adding four ounces of potassium permanganate to a pint of formalin; and sulphur dioxide can be liberated by burning sulphur in alcohol; but the gases liberated in this way are not as efficient as the gases under pressure. The destruction of any colonies goes a long way in keeping the house free from ants. Boiling hot water poured on a colony soon kills every one of the insects. It is not so much the particular kind of chemicals used, as long as they will do the business, but it is keeping at it. Any good regimen for the extermination of such pests will certainly fail if it is not kept up.

The Honey Bee

There is another insect to which we have always attached nothing but innocence except for the little stinger in his tail. The little busy bee, although spending most of his time among the flowers, yet is often seen hovering about dirty, polluted material, which he carries to the food stuffs in the bazaars and smears it over the honey which he is filling into the comb. And while it is quite probable that this source of disease has not been a serious menace to life, yet it must be thought of as a very possible factor in the spread of disease.



FOOT OF FLY (MAGNIFIED), A FAVOURITE RESORT OF DISEASE GERMS

One has only to try to put in an existence under a net for the night during the hot season in India, to become acquainted with dozens of little pests that delight to gnaw away at the epidermis and thus cause conditions that are hardly represented by the word miserable. Many of these little creatures are so small that they readily pass through a net of ordinary mesh. One among these is

The Sand Fly

He is a vicious little creature. His poisonous bites make themselves felt for days in intense itching and burning. Sometimes the body becomes so marked up that even physicians are led to make an incorrect diagnosis. Just what damage insects of this kind are doing in India in spreading some of the infectious contagious diseases has not been ascertained.

The great donation of millions of pounds made by Rockefeller may be the solution of this arduous task, as this money is to be spent in cleaning up the tropical world. A great start has already been made in the Philippines.

Remedies

There are many remedies that will enable one to put in a peaceful night in spite of these little nuisances. Pyrethrum sprinkled on the bed clothes, or the application of bichloride of mercury 1 to 500 solution to which is added enough hydrochloric acid to make a one per cent solution should be put to the parts generally attacked. Also sprinkling the flowers of sulphur over the skin or rubbing in a volatile oil, as pennyroyal, anise, or citronella, separately or equal parts of each, also kerosene, are all valuable applications to keep such insects away. As fine a net as is consistent with sufficient air will also help in this respect. The fan cannot be relied upon to keep away such insects as the sand fly or the mosquito.

Wearing stockings while sleeping will protect the ankles from the sand flies, but are too uncomfortable in warm weather. It is these little insect pests that bear a factor in tropical morbidity by causing loss of sleep, later nervous exhaustion, and finally heat stroke or heat exhaustion. Therefore anything that can be done to make away with them is worth while.

Controlling Cancer by Dietetic Reform

DAVID PAULSON, M.D.

THE cancer plague, from a medical standpoint, is the liveliest and yet the most *deathly* problem that confronts the human race. God has permitted the hand of man to banish yellow fever from our fair land. Medical science is slowly but surely compelling malaria to retreat. Diphtheria has been robbed of its terrors, and the death-rate from tuberculosis is decreasing year by year, while that from cancer is increasing at an amazing rate.

Cancer Stands Second

Dr. Charles A. L. Reed, of Cincinnati, Ohio, formerly president of the American Medical Association, says:—

"I am not an alarmist, but I cannot shut my eyes to the facts that are forced upon me in my daily experience. That experience teaches me that cancer is increasing in this country literally by leaps and bounds. Tuberculosis causes more deaths than any other one disease. Cancer is now *second* on the list. In less than ten years, if present tendencies are permitted to continue, their positions in the death-dealing category will be reversed. More than sixty thousand people died from this malady alone in this country last year. There were twice as many more people who were afflicted with the disease, most of whom will die this year."

In England, while the death-rate from tuberculosis has been cut in two in the past generation, that from cancer has increased threefold. There are cities in Great Britain where the death-rate from cancer is already *greater* than that from tuberculosis.

Too Much Civilisation

Dr. Robert Bell, physician in charge of cancer research at Battersea Hospital, England, says:—

"Cancer is to a large extent the *bitter fruit* of our so-called civilisation. We are of necessity compelled to come to the conclusion that cancer is one of the many evils for which civilisation is solely responsible."

Dr. Roger Williams, a cancer expert of world-wide reputation, has shown that wealth, with its tendency to luxury and idleness, greatly increases the *tendency* to cancer.

Dr. Ewing, another eminent authority, says that cancer chooses a notable portion of its victims among the well-nourished and indolent. Cancer is a growing penalty on a *one-sided* civilisation.

Dr. Bell furthermore declares that cancer is nature's protest against disobedience, and is the *penalty* she imposes upon those who have ignored her teachings.

The Ideal Cancer Diet

Dr. Albert S. Gray, the popular health writer in the Chicago *Daily News*, says that a group of the most advanced physicians for a hundred years have testified that there is a close connection between cancer and *dietetic errors*.

Dr. Evans, formerly health commissioner of Chicago, states that people who belong to families where cancer predominates should live abstemiously.

More than twenty years ago, Dr. Banks, of London, suggested that the principal cause of cancer was the great *increase* in the consumption of animal food.

Dr. L. Duncan Bulkley, the senior physician to the New York Skin and Cancer Hospital, has been a close student of this entire question for more than thirty years, and has naturally had a wide experience with cancer cases. He has recently written a notable book entitled, "Cancer, Its Cause and Symptoms." He asserts that the use of meat in England has *doubled* during the past generation, until now they consume 130 pounds for every man, woman, and child in the land; and during this same length of time, cancer has increased *fourfold;* while in Ireland, where the consumption of meat is only one-third that of England, the deaths from cancer are only one-half as great. He states that in Italy, which consumes the least meat of any European country, the cancer death-rate is practically the lowest in Europe. He calls attention to the striking fact that in the United States, the consumption of meat has increased until the Bureau of Agriculture in Washington has found that it has reached the excessive amount of 172 pounds for every man, woman, and child. At the same time cancer has increased so rapidly that in some of the large cities it is now responsible for seven or eight per cent of all the deaths.

The Relation of Meat-Eating to Cancer

In a recent paper read before the American Medical Association, Dr. Bulkley said:—

"In striking contrast to the enormous extent and increase of cancer in meat-eating communities may be mentioned the almost absence of the disease in regions where the diet is largely confined to the products of the ground. During a rather extensive trip through the far East, I was unable to see or even hear of any cancer, although I met a large number of medical men, and made enquiries in regard to the same in district hospitals, with a total of many thousands of patients. In Japan, Korea, China, the Philippines, India, Siam, and Egypt, I got the same response—that cancer is *rarely seen* among vegetarian people."

Ehrlich, a famous German investigator, found that when mice live upon a rice diet, they cannot be inoculated with cancer; while mice living on a meat diet can be made to take cancer readily, and the cancerous tumours develop quickly, and continue to grow until they destroy the animals. He even found that when cancerous mice were placed upon a rice diet, the tumours ceased to grow, and in many cases disappeared.

A Cancer-Free Community

Russell, who has made a monumental study of this question, makes this inter-

esting observation in his book, "Preventable Cancer":—

"The Russian Dukhobors have existed as a community about a century. They are plain-living, and do not eat flesh or stimulants. About seven thousand of them immigrated to Canada when expelled from Russia. They refrain from fish, flesh, and fowl as food, and live on fruit, vegetables, and nuts. Cows are kept for milk. No tea or coffee is drunk. Wholesome bread, jam, honey, and vegetable butter from sunflower seeds are eaten regularly. The houses are roomy, airy, and clean. The people are scrupulously clean, regular, and orderly. I have just heard from the manager that he has never known of any cancer among them."

Professor Madden, of Cairo, writes that it is the consensus of opinion among the medical men of Egypt that cancer is never found among the black races of that country who live almost entirely upon a vegetable diet, but is somewhat common among those who live and eat much more like the Europeans.

Other Dietetic Errors

Russell writes: "I have brought forward much evidence to show the disastrous effect of the excess in diet, of stimulants, and of alcohol, especially in the form of beer, and of hot drug drinks, such as tea and coffee, a *drug* belonging to the class of potent vegetable poisons which is the ordinary daily drink of millions of people. Moreover, these drugs are usually drunk hot."

Dr. Bulkley notes the fact that the people in the United States consume *one-third* of all the coffee produced, or more than Germany, Austria-Hungary, France, and Great Britain combined.

Dr. Mayo, of Rochester, Minn., who has no doubt performed more surgical operations than any other man living, says that nearly one-third of all the cancers of man are those of the stomach. He raises the question whether it is not possible that there is something in the habits of civilised man, in his cooking or the preparation of his food, that favours this condition; whether the taking of such hot foods does not have something to do with the development of cancer. He says that foods and drinks are often swallowed *hotter* than they can be held in the mouth, though the stomach is not so well protected as the mouth against the effect of heat; but as it does not have sensitive nerves, the injury is not immediately manifested by pain.

Tea, Coffee, and Cancer

Russell asserts that cancer has steadily and rapidly increased wherever there has been a steady and rapid increase in the consumption of rich foods and hot or toxic drinks, tea and coffee. He says that when natives among whom cancer does not occur, adopt this fare, they quickly become *subject* to the disease.

Auto-Intoxication Favours Cancer

Dr. Bulkley is convinced, after a vast experience with cancer cases, that there is a very close relationship between auto-intoxication, stagnation of the bowels, and cancer.

Dr. Arbuthnot Lane, an English surgeon of world-wide reputation, says that cancer is invariably the *last* chapter in the story of chronic intestinal stagnation. Dr. Bell insists upon the following three points as a *preventive* of cancer: thorough mastication of food, a daily complete evacuation of the bowels, and living in a pure atmosphere.

For the prevention of stagnation of the bowels, he recommends apples and carrots as especially excellent articles of diet, and genuine Graham bread, made of flour ground in an old-fashioned burr mill. He says the white bread so generally consumed is a poor substitute, and should be avoided.

Is Cancer Ever Cured?

Dr. Bulkley, in his recent book, records a number of cases of undoubted cancer in the early stages, where the disease *disappeared* when the patients were placed upon a strict vegetarian diet, with tea and coffee excluded, and proper attention was

given to the bowels, and other hygienic measures were adopted.

Dr. Bell reports a case in which the open-air treatment was given, the bowels were thoroughly flushed every day, and the diet was restricted to non-cooked green garden stuff, vegetable juices, fruits, milk, and eggs beaten in milk; and within three months, all traces of the disease had disappeared.

Surgery, X-Ray, and Radium

When the blood and the tissues have so nearly lost their *vitality* as to permit cancer to flourish, it is too much to expect, except occasionally, that even a thorough reformation will result in a cure. This article is written to *induce* tens of thousands who would otherwise have cancer within the next few years, to leave behind forever their juicy beefsteaks and their toxic tea and coffee, and eat instead, plenty of fruits, green vegetables, and other wholesome foods containing the necessary "vitamines" and minerals that the blood needs, and that at the same time furnish sufficient bulk to stimulate the sluggish bowels.

Stagnation of the human sewerage system is a *more* serious matter than a similar condition in the city sewerage system. Some cases that cannot be promptly benefited by diet alone can be helped by liquid paraffin. This is not a laxative, but acts merely as a lubricant.

At our present stage of knowledge, unquestionably competent surgery, performed in the early stages, holds out the best hope for the cancer victim. Only let it not be forgotten that the same hygienic programme which would have prevented cancer in the first place should now be instituted to prevent its *recurrence*. The same principle applies equally well when cancer is benefited by X-ray or radium. None of these things can *cure* the cancerous condition in the system. Unless the *cause* is removed, they can at best only shrivel up the growth, and thus postpone the evil day.

The "Sure Cure" Delusion

Thus far, the so-called "sure cures" for cancer have all proved to be a "delusion and a snare"; and in view of the principles brought out in this article, they are likely to continue to be such, just as the "sure cures" for consumption were doomed to be failures. When we discovered that the consumptive needed *fresh air* to vitalise his blood, and *nourishing food* to build up his vitality, then we reached the real cause.

Unquestionably the same principle holds good for cancer; and the quicker the public becomes thoroughly converted on this point, the sooner we shall see a *mighty reformation*, and people will begin to eat for health instead of eating for destruction and disease, as they do at present. A momentary gratification of a perverted appetite is a *small* recompense for the terrible penalty that nature too often imposes sooner or later in the way of torturing death by cancer, or a wrecked brain from a stroke of apoplexy, or crippled circulation from partial heart failure, or a wretched death resulting from Bright's disease.

Every intelligent physician knows that these chronic diseases are rapidly *increasing* in every part of the civilised world; and directly or indirectly, the *root* of them can be traced to dietetic errors and other wrong habits. It can be truthfully said of this generation, "My people are *destroyed* for lack of knowledge." Hosea 4 : 6.

Let those who have treated *genuine* dietetic reform as a joke, tremble as they consider how *thin* and *ghastly* is the jest, when all around them are the sad and suffering victims of violated law. We have the divine assurance that as we reform, and obey God's natural law, He will add His special blessing, not only physically, but also spiritually. So "come, and let us return unto the Lord and He will *heal* us." Hosea 6 : 1.

"Anxious thoughts disturb digestion."

The HOUSEKEEPER

The Canning of Vegetables

GEORGE E. CORNFORTH

MOST housewives find the successful canning of vegetables more difficult than the canning of fruit. My experience in canning vegetables leads me to believe that it must be more difficult to prevent putrefaction, or the decomposition of proteid, than to prevent fermentation, or the decomposition of carbohydrates. As a class, vegetables contain more proteid than fruits, and require much more thorough cooking and much greater care in sealing. Subjecting vegetables to a boiling temperature may kill the bacteria and not kill the spores, or germs, of bacteria; but the spores must be killed to ensure the keeping of the food.

Greater certainty of success in canning vegetables is assured if some apparatus is used in which the vegetables can be subjected to a higher temperature than that of boiling water. Canners of this kind for home use, which give very satisfactory results, are on the market. However, with sufficient care, vegetables may be successfully put up at home without one of these canners. "Economy" jars are very convenient to use in canning vegetables.

One thing that I have found to be *absolutely necessary* to success in canning vegetables is what is called "blanching." This is scalding or boiling them for a shorter or longer time in a weak brine (one tablespoonful of salt to one and one-half quarts of water) before putting them into the jars. It occurs to me to say right here that if you do not follow these directions to the minutest detail, you must not blame the writer if the foods fail to keep.

The only sure way of canning vegetables, with the exception of tomatoes, is to cook them in the jars. In order to do this, a wash-boiler will be required, the jars being set on a wooden rack in the bottom of the boiler. The jars must be wrapped in cloth to prevent their coming in contact with one another. The rubbers and covers should be put on the jars, but not screwed down tight, in the case of Mason jars, nor clamped in the case of "Lightning" jars; one clamp should be used in the case of "Economy" jars. Fill the boiler to the neck of the jars with water about the temperature of the food inside the jars. Put the cover on the boiler. Bring the water gradually to the

UTENSILS FOR CANNING

boiling-point, then keep it boiling steadily for the length of time required in each recipe, adding boiling water when necessary to keep the original amount of water. Keep the cover on the boiler, except, of course, when adding water. After cooking see that no food or seeds have lodged between the covers and the rubbers of the jars. If it is necessary to remove the cover to wipe the neck of the jar, put the cover again on the boiler and boil five minutes after adjusting the can cover. Screw the covers down tightly, or clamp "Lightning" jars, or put a second clamp on "Economy" jars. Remove from the boiler; do not set on a cold, wet surface, nor in a draught.

Vegetables for canning must, of course, be fresh and perfectly sound.

Canned Tomatoes

Tomatoes may be canned as fruit is canned. Have the jars perfectly clean. Put the covers into boiling water. Scald, peel, and slice the tomatoes. Put them into a saucepan and heat them very gradually at first, being careful not to scorch them (they may be put into a double boiler at first till the juice is well drawn out); then cook them gently but thoroughly for about one hour; simply scalding them will not do. Set the jars into a pan of hot water on the stove beside the saucepan of boiling tomatoes. Dip the rubbers into boiling water, and place them on the jars. Keep the tomatoes boiling while the jars are being filled. Fill the jars till they begin to run over. See that there are no seeds on the rubbers. Remove one of the covers from the boiling water and put it on the jar. Tighten it securely. Set the jar away, bottom up, to cool. If you are using Mason jars, tighten the covers frequently as the fruit cools.

Canned Corn

Husk the corn. Blanch the ears from ten to fifteen minutes, according to the age of the corn. Remove, and dip in cold water. Cut the corn from the cob about half the depth of the kernels, then scrape out the rest of the pulp. Pack the pulp into the jars to within one and one-half inches of the top for one-quart jars, and two and one-half inches from the top for two quart jars, covering the pulp to the depth of one inch for one-quart jars, and one and three-fourths inches for two quart jars, with hot water or slightly-salted hot water. The corn will swell, hence the jars should not be quite filled. Put the covers on loosely, and cook in boiler for four hours.

Canned Corn on Cob

Strip the husks from the corn. Select ears of the right length to fit into the jars. Blanch in boiling salted water for fifteen minutes. Pack the ears into jars; then fill the jars with hot, weak brine. Put the covers on loosely, and cook in the boiler five hours after the water begins to boil.

Canned Spinach

Pick over the spinach, wash it well, put into boiling water, and cook for about ten minutes. Drain off the water, and put the spinach into cold water. Heat it again to boiling in a little water. Put it into jars and cook in the boiler for one hour. It is true that much of the goodness of the spinach is lost by the blanching, but it is the only method of canning by which it is sure to keep.

Canned String Beans

If string beans are young and tender, they may be canned whole, the "strings" being removed from both edges of the pod. If more mature, it is better to cut them into pieces from three-fourths to one and one half inches long. Put them into a bag and dip

SWEET CORN

them into boiling water for two minutes. Remove them from the water, and put into jars. Fill the jars with a hot, weak brine: then follow the directions for canning other vegetables, boiling them three hours.

Canned Beets

Select young, tender beets, wash them well, then boil till tender. Put them into cold water, and after removing the skins, pack them into jars. Fill the jars with hot water, and follow the directions for cooking in boiler, cooking them one hour.

Canned Pumpkin

Wash the pumpkin, and cut it into cubes, removing the seeds. (I do not peel pumpkin.) Put it into boiling water, and cook until tender. Pour off the water. Mash the pumpkin, and pack it, while hot, tightly into jars, filling them to within three-fourths of an inch from the top for one-quart jars and one and one-fourth inches for two-quart jars. Follow directions for canning other vegetables, boiling for one hour.

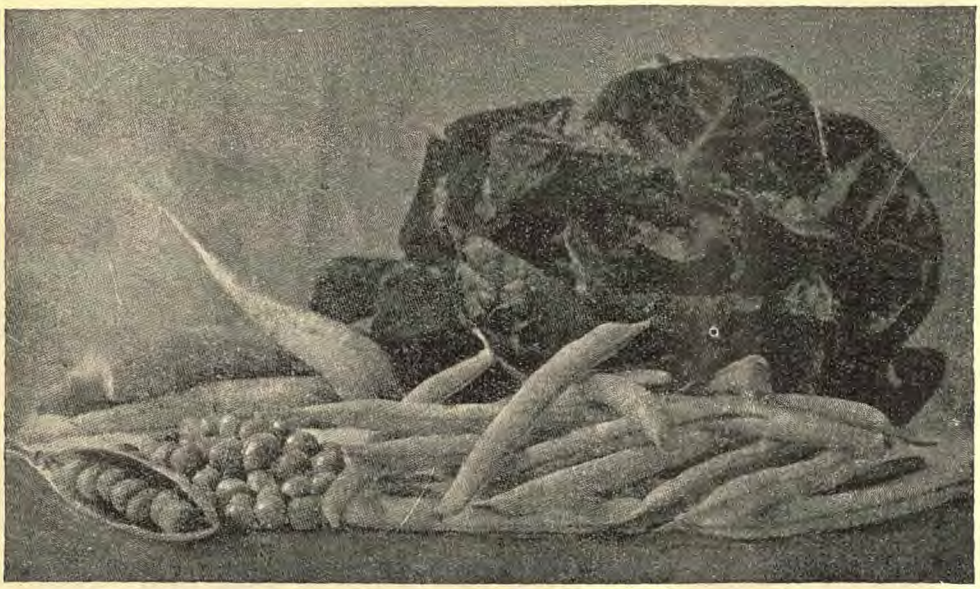
Canned Asparagus

Wash the asparagus well. Blanch it in boiling water five minutes. Arrange in the jars with the tips upward. Fill the jars with hot, weak brine.

Put on the covers loosely, and boil for three hours, according to general directions for canning in jars.

Canned Peas

Shell the peas. Put them into a bag, and dip them into boiling brine (one tablespoonful of salt to one and one half quarts of water) for from five to ten minutes, according to the size and age of the peas. The older the peas the longer the blanching should continue. Remove the peas from the brine, and dip them into cold water, to set them, so they will remain firm. Fill the jars, which have the rubbers on, to within one-half inch of the top in case of one-quart jars, or one inch in case of two-quart jars; then pour in as much hot water or hot brine as the can will hold. Put the covers on loosely. Then follow the directions for cooking in the cans in a wash-boiler, boiling them four hours from the time the water begins to boil. A little sugar may be added if desired.



VEGETABLES FOR CANNING MUST BE FRESH AND PERFECTLY SOUND

The Proper Cleansing of Fruits

A. B. Olsen, M.D.

FRESH, ripe fruits are ideal foods, and in many a vegetarian's home furnish by far the largest bulk of the food eaten, especially at this season of the year. In preparing fruit for the table, great care should be taken to cleanse it properly. Apples, peaches, and grapes need to be thoroughly washed with water, and all dust and other extraneous material removed. Special pains should be taken with grapes, since this fruit is taken into the mouth with the outer covering, and infection from germs is possible. Grapes should be ripe, free from decay, attached firmly to the stem, and as fresh as possible. If kept any length of time in a basement reeking with foul odours, they may give rise to intestinal disturbances or gastralgia.

Apples should always be washed before they are set on the table. This brings out the beautiful colours more perfectly, as well as rendering them aseptic. The same is true of pears. It is difficult to remove entirely the dust and filth accumulated on peaches, yet it can be done very satisfactorily with a little pains. After washing the fruit, dry with a clean cloth, and it is ready to be served. Oranges rarely require cleansing, as they are more carefully handled than apples and peaches, the rind is not eaten, and dirt does not readily attach itself to the peel. What is more beautiful than a dish of apples, oranges, grapes, and peaches artistically arranged?

Bananas are always picked green, and

shipped in this condition to the cities where they are used. Then they are allowed to ripen in basements or cellars, and are sold as they ripen. If properly matured, bananas are very wholesome, but it is quite difficult to get them in the proper condition. They are often underripe, in which condition they contain a considerable quantity of raw starch, and so are indigestible. Sometimes they are too ripe. The dark spots on a banana indicate decay. Bananas ought always to be washed and carefully dried before they are placed on the table. This removes dirt and germs.

There are many different ways in which fruit may be infected with disease germs and filth before it reaches the table, but this is often overlooked. The apples have been lying exposed to dirt and dust all the summer, following which they may have been kept in a filthy basement or cellar for weeks. Perhaps they have been handled by dirty or diseased hands, or some of the poison with which the trees were sprayed may cling to them. If these things are taken into consideration, surely pains will be taken to clean fruit before using it.

To be properly preserved, fruit should be kept in a clean, cool, dry, well-ventilated place. It should be handled carefully, and all decayed members removed as soon as discovered. This precaution will prevent the sound fruit from decaying as soon as it otherwise would.

FRESH, RIPE FRUITS ARE IDEAL FOODS FOR SUMMER, AND SHOULD BE CLEANSED BEFORE USING

Dried fruit is rather undesirable from the standpoint of cleanliness. Far too little care is exercised in selecting fruit and preparing it for the market. This is especially true of figs, dates, prunes, raisins, and English currants, all of which fruits should be washed in several waters before being used. Many of the dates on the market are saturated with a very poor grade of New Orleans molasses, which is practically a refuse product, and renders the dates unfit for food. Only the better varieties of this fruit are wholesome as dried for the market.

QUIET TALKS WITH MOTHERS

Purity and the Boy's Preservation

Rev. H. T. MUSSELMAN, Editor of "Youth's World"

By the preservation of the boy we mean, first of all, the protection of his body from disease, weakness, and death—the conservation of his physical life and health. Physical life and health are divine rights of every boy. The guaranteeing of these rights to the boy is no easy task; for in the struggle for existence the forces which make for disease and death are ever at work. But it is a task which can be accomplished; for the forces which make for life and health are also at work, and these are more than the former. Nature and God are on the side of the boy's preservation.

It is not the purpose of this article to enumerate and discuss in general either the forces which make for disease and death or the forces which make for life and health. Our task is to stir up your pure minds with reference to one of the greatest forces which make for the preservation of that boy of yours; namely, that of purity. We are persuaded that nothing is more important in building up and maintaining the bodily health of a boy than clean living. Sexual sin and sickness are the fiends of hell in the work of undermining and destroying the life and health of youth. Every physician and student of eugenics, or race culture, knows this all too well. It is not necessary to give nauseating details of this matter; for any statement along this line is recognised as a mere truism to-day. Those who wish to read up on the matter can find plenty of literature.

Meaning

By the preservation of the boy we mean, in the second place, the building up and conservation of his moral ideals—his moral life and health. Through the home, school, and religion, the average boy of sixteen has formed certain genuine and fundamental ideas which lie at the basis of manhood and civilisation, such as loyalty to friends; patriotism, or love of country; respect for property rights, or honesty; justice, or the sense of a square deal; altruism, or the spirit of lending a hand; and, in many cases, the sense of responsibility to God for his conduct in life. But it is right here that we come upon one of the strangest facts in all modern educational history; namely, that neither through the home, the school, nor religion has the boy been led to form the moral ideal of purity in life. Indeed, our double standard of morality has tended to lead him to form the opposite ideal. Say what we may, there is in our land a let-it-alone spirit on the part of our people regarding this whole matter. There is a feeling that every boy is to sow his wild oats, and then he will come around all right. The climax of this spirit is seen in the fact that respectable parents ask no questions, as a rule, with reference to the moral health and purity of the young men who are to marry their daughters.

Reared in this kind of an atmosphere, is it any wonder that the average boy of fifteen or sixteen has little or no thought

of living a clean life? Indeed, many of the boys of fifteen have already entered upon a life of impurity, either secret or social, and there are few boys between fifteen and twenty who have not experienced the sexual fall.

These are terrible truths when we come to see that clean living is fundamental in the preservation of all those other moral ideals furnished by the boy's education. Just as sexual sin undermines and destroys the physical life and health, so also it undermines and destroys the moral life and health. Let a boy of sixteen who has formed all the moral ideals enumerated above enter upon a life of impurity, and gradually these ideals will weaken, and if the life of impurity be kept up, his whole moral life and health will be completely wrecked. Every man who is working for the physical and moral redemption of humanity knows this to be true. If we would preserve the boys from physical and moral decay, we must keep them pure. The problem of purity is, therefore, the fundamental problem in the conservation of the life and health of the nation.

How to Keep Them Pure

Doubtless many of my readers are now eager to ask the question, "But how can we keep our boys pure?" The question of the how is always a hard question to answer, but there is a feeling on the part of the faithful worker in this field that the day will soon come when this question can be answered. This faith in the possibility of purity is a great gain. Faith in a cause is always a great gain; for all things are possible to him who believes. Inspired by this faith, the prophets of purity are studying and working as never before. Their labours have shown that the building up of a pure boyhood and manhood is a broad educational task. It can never be done by the methods of cures alone, even if those be patented under the fatherly love of a paternal government. Of course, like all moral and redemptive movements, the first efforts in the purity movement were chiefly along the line of cure.

It seems difficult for man to learn the truth of the proverb, "An ounce of prevention is worth a pound of cure." Most churches let the children and youth grow up and go to the devil, and then get up a brass-band evangelistic campaign to get them back into the kingdom. And with all their spectacular getting, they only get about five men out of a hundred by this method. But just as the Church is slowly learning that the kingdom of God comes child end foremost, so the workers for purity are coming to see that the problem of purity will have to be solved along broad educational lines. All honour to those honest priests of the bodily temple who are seeking to uproot the evil already in existence by the methods of cure. Many of them have done noble work. But the chief work for a pure manhood must be along the lines of prevention rather than those of cure.

From the point of view of prevention, there are five forces which can be used directly for the maintaining and building up of a boyhood of purity. These forces are heredity, or racial inheritance; instruction in the physiology and sacredness of sex; physical exercise and cleanliness; the sentiment of chivalry; and the home instinct, with its conjugal love.

Foundation of Purity in Parents

Purity finds its foundation in parenthood. The right of every boy to clean, healthy, and pure parentage is an inalienable right. Alas, not every boy has received this right! Many are doomed either to a life of impurity or to a terrible struggle for the preservation of moral life and health. One of the curses of our civilisation is its loose conception of marriage regulations. Ever and anon there is a great protest against the looseness of our divorce laws, and the demand is made for the enactment of rigid laws to rid us from this social evil. It is the same old cry for methods of cure rather than for methods of prevention.

Pure heredity, or racial inheritance, is not enough to maintain and upbuild the purity of our boys.

If we are going to keep our boys pure, the great truths of procreation must be taught to our children and youth. The boy who in childhood is taught the truth of his coming into this world by a wise mother or father, will have the advantage of having learned these truths, first of all, from pure lips and in a pure atmosphere; and this will be no small matter. In the early teens, when sex is especially keen, every boy should be carefully instructed in the fundamental facts of sexual life and the relation of purity to the making of genuine, heroic manhood and the preservation of that manhood in the world. Moreover, he should be told of the ever-present dangers to his physical health and happiness if he chooses the ways of sin. And the horrible effects cannot be made too plain to him.

There is not space here to discuss the method of this sex instruction, but we feel constrained to say that it should, as a rule, be personal and private. A lecture now and then for the boys' club by a wise physician is all right. Moreover, the instruction should be pointed and brief. There is no need for minute details. These are usually too suggestive. One further word of caution: Be careful, yes, be very careful, of the kind of literature you put into your boy's hands on this subject. Three-fourths of what is written is worthless, if not at times harmful. However well-meaning these writers are, they miss the point by going too much into details. Of course, there are a number of good books and booklets which can be wisely used. For a boy of sixteen the best picture of the dangers of sin here is that drawn by the wise man in the seventh chapter of the book of Proverbs.

The Best Antidotes

Physical exercise and bodily cleanliness as forces for purity are now everywhere recognised. Youth is full of fiery energy, and if this energy be not used in wise ways, it will be used in unwise ways. Swimming and other outdoor exercises and games are especially conducive to the preservation of purity in the life of a boy. In the light of the god of day and under the blue of the sky we are apt to think pure thoughts; and as a boy thinketh in his heart, so is he. In this out-of-door life and exercise, Mother Earth seems to have a better chance to take care of her children. Furthermore, the muscular hardihood which comes through physical exercise and training enables the boy to withstand temptations when they come. It is the hothouse boy, with pale skin, flabby muscles, and a jelly-fish backbone who goes down at the first seductions of sin. The closest allies to the demon of impurity are luxury and ease.

When physical exercise and training cannot be provided in God's great out-of-doors, the gymnasium is a valuable aid. Through its wise and benevolent ministry, thousands of boys have been built up to muscular strength and manhood, and through these have been able to withstand the temptations of impurity. The gymnasium is a mighty educator, especially when provision is made for bathing and swimming.

Still another force which makes for purity in a boy is the sentiment of chivalry. Chivalry has been called "the very religion of school boys." The period of adolescence is one of strong though repressed sentiment and emotion. The best way to use this sentiment of chivalry seems to be through the ideals and spirit of knighthood. Now, the ideals of knighthood seem to come natural to a boy. The knight vowed to follow "all that makes a man." The aspiration of every normal boy is to become a genuine man, and he is ready to fight anything in his life which will keep him from realising this aspiration. Another vow of the knight was reverence for womanhood, and the protection of women from all harm. This is the knightly sentiment of chivalry, and is easily made a master passion with boys in the early adolescent stage. Now, when the question of preserving the purity of our girls is shown to be one of the knightly aims of chivalry, the boy gets a new vision of the sacredness and importance of purity. The writer has

found in his work with boys' clubs many a boy who was rough and coarse in the presence of girls, change his whole bearing when the sentiment of chivalry was awakened in his soul. Furthermore, the ideal of the knight was to be a gentleman —tender, generous, and helpful, as well as brave. By making use of this ideal, the boy can be led to feel that it is his duty to protect and defend all those who are weaker in the battle of life than himself. With this thought in mind, to desecrate the person of one weaker than himself is next to impossible.

It is the belief of the writer that the wise use of the four forces which make for purity, described above, will enable us to get most of our boys through the age of early youth or adolescence pure and clean.

The conclusion of the writer is that, if we can keep our boys pure and clean until they have reached the age of later adolescence and have come under the influence of the homing instinct, with its romantic sentiment, the battle for pure manhood and a pure parentage for the generations to come will be almost won.

Tact with Children

THE mother was sewing busily, and Josie, sitting on the carpet beside her, and provided with dull, round-pointed scissors and some magazines, was just as busily cutting out pictures.

"It will litter the carpet." So said Aunt Martha, who had come for a cosy chat.

Mamma knew this; but she knew that a few minutes' work would make it all right again, and Josie was happy.

All went well until the little boy found that he had cut off the leg of a horse he considered a marvel of beauty. It was a real disappointment and grief to the little one.

"Mamma, see!" and, half crying, he held it up.

"Play he's holding up one foot," the mother said quickly.

"Do real horses, mamma?"

"Oh, yes, sometimes."

"I will"; and sunshine chased away the cloud that in another minute would have rained down.

It was a little thing, the mother's answer; but the quick sympathy, the ready tact, made all right. The boy's heart was comforted, and he went right on with no jars on nerves or temper, and auntie's call lost none of its pleasantness.

"I am tired of cutting pictures, mamma," said Josie, after awhile.

"Well, get your horse and waggon and play those bits of paper are wood, and you are going to bring me a load. Draw it over to that corner by the stove, and put them into the kindling box; play that's the woodhouse."

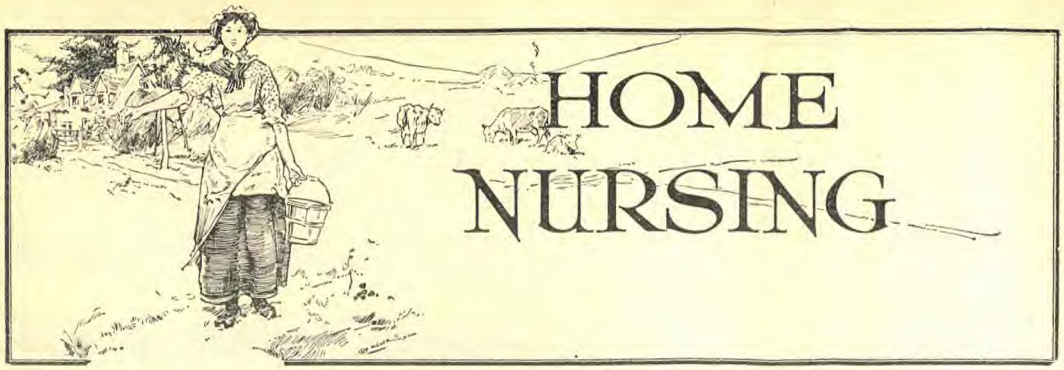
Pleased and proud, the little teamster drew load after load till the papers were all picked up, without his ever thinking that he was doing anything but play.

"Well, I declare," said Aunt Martha. "Old as I am, I've learned one thing to-day, and I wish Emily would come in and take lessons as I do!"

Mrs. Waldo looked up in surprise.

"Well, what do you mean, my dear aunt?"

"Well, I spent yesterday afternoon over there,"—the old lady had a weakness for visiting, and was "auntie" to all people generally,—"and things were in a snarl and high-de-low all the time, starting with less than Josie's given you a dozen times since I sat there. I've had a good talk with you, and you've given me pleasant thoughts for a week to come; over there we couldn't hear ourselves speak. It was, 'Don't do that,' and 'You naughty child,' spill and scratch and break and tumble, scold and slap half the time. Emily means well; she loves her children, and never spares herself sewing for them, or nursing them when they are sick. She has a world of patience with them in some ways, but she doesn't seem to have any faculty at all for managing them."—*Herald and Presbyter.*



Infantile and Summer Diarrhoea

EULALIA S. RICHARDS, L.R.C.P. & S., Edin.

OF the baby's foes perhaps none is more dangerous than diarrhœa. But few parents realise the seriousness of this disease. The Registrar-General recently reported that out of 22,000 deaths from diarrhœa in Great Britain, 17,000 occurred in children under the age of one year. It will be seen from these figures that diarrhœa is a common as well as a most fatal disease of infancy.

One may naturally enquire, Why is diarrhœa so common in infants? and why does it so often terminate fatally? It may be answered that the digestive fluids of the infant are too feeble to destroy the germs which cause the disease. These germs, which are usually destroyed by the gastric juice of an adult, pass through the stomach of an infant unharmed and set up inflammation in the bowel. Again, the baby's diet consists chiefly of milk, a fluid which is seldom free from bacteria, and in which disease germs multiply with great rapidity. The great fatality of disease is accounted for by the fact that young infants possess but little vitality. Diarrhœa greatly lessens this vitality and lowers the child's power of resistance by draining fluid from the blood. The wise mother will safeguard her baby from the disease by carefully avoiding its various causes. Among these we may mention the following:—

1. Unhygienic surroundings are favourable to the development of diarrhœa. The germs which cause the disease thrive on all kinds of decaying plant and animal matter. Thus excellent breeding-places for diarrhœa are furnished by dung-heaps, garbage piles, open cesspools, foul drains, and soil contaminated by kitchen and bedroom slops. Overcrowded, unclean, and badly-ventilated rooms are contributing indoor conditions.

2. Impure milk and unclean nursing-bottles are the immediate cause of diarrhœa in many cases. Milk is often obtained from diseased cows, the milking process being conducted under the most filthy conditions by careless and unclean milkers. The milk may be further contaminated by improper methods of transportation, and by the use of unclean nursing-bottles.

3. Flies distribute diarrhœa. Flies act as the middle man between filth and the baby's food. They breed in manure, and feed on filth, and carry liberal quantities of both on their hairy bodies and legs. A single fly may carry millions of diarrhœa germs from bowel discharges left uncovered in earth closets, to the baby's milk. Breast-fed babies are, as a rule, free from diarrhœa because their food cannot be contaminated by dust and germs. Bottle-fed infants would doubtless share this immunity if the milk supplied them was always fresh and free from contamination.

4. Too frequent and irregular feeding must be avoided if diarrhœa is to be prevented. Many mothers seem to think

that a baby never cries except for food, and so feed their infants at all hours of the day and night. As a matter of fact, the irregularly-fed baby often cries because of indigestion, and if this unwise method of feeding is continued, diarrhœa is almost certain to result.

5. *Chilling* due to insufficient clothing must be mentioned as one of the most potent causes of diarrhœa. Just as chilling of the arms, neck, and chest causes catarrhal inflammation of the nose and throat, so chilling of the feet, legs, and body causes catarrh of the bowels, which is shown by frequent slimy motions.

We may then summarise the prevention of diarrhœa briefly as follows:—

1. Keep the house and premises clean. Attend to all drain and outdoor closets. Throw no garbage or household slops upon the surface of the soil. Have all garbage tins covered and frequently emptied.

2. Secure the cleanest milk possible. Sterilise all milk by scalding it in a double saucepan for half an hour. Keep milk in a cool place, and always cover it with several thicknesses of butter muslin to keep out flies and dust. Always rinse baby's nursing-bottle with cold water immediately after use, then wash in soapy water, rinse, and leave immersed in borax or boracic acid solution until required again. Boil the bottle at least once each day, putting it over the fire in cold water, thus permitting it to heat gradually. A folded cloth must always be placed in the saucepan under the bottle. These precautions will prevent the bottles being broken. Rubber nipples should be turned inside out and carefully cleansed after each nursing. They should be left in the borax or boracic solution with the bottle.

3. As far as possible keep flies out of the house by screening all doors, windows, and fireplaces. Destroy any flies that may gain entrance to the house by sticky fly-paper or other fly destroyers. Protect all milk and other foods from flies.

4. Feed the baby only at proper and regular intervals, allowing nothing between feedings except water, or fresh, sweet fruit juice. This should be strained, and should not be given sooner than two or two and one-half hours after a milk-feeding, nor should a second milk-feeding be given sooner than half or one hour after a fruit-juice feeding.

5. Clothe the infant warmly in cool weather. Particular care should be taken to keep the legs and abdomen warm, even during the summer season.

UNHYGIENIC SURROUNDINGS ARE FAVOURABLE TO GERM DISEASES

Symptoms of Infantile Diarrhoea

Infantile diarrhœa varies in degree from the ordinary simple form of looseness of the bowels, from which any young child may suffer, to the deadly cholera infantum. A point of great importance to mothers is that the milder forms of disease if neglected or unwisely treated tend to become more severe.

Summer Diarrhoea

This dangerous disease is apt to begin with symptoms so mild that it is liable to be mistaken for simple diarrhœa. There may at first be nothing beyond looseness of the bowels and slight indigestion, these being usually attributed to teething or a chill. The disease, however, may progress rapidly. The diarrhœa becomes more marked; in a few days vomiting sets in, and the child wastes rapidly. There is usually some fever. In the more severe cases the attack begins quite suddenly with fever, vomiting, great thirst, and restlessness. Even convulsions may occur at the onset. The little patient soon becomes collapsed, with feeble pulse and pale face. The eyes are sunken and encircled with dark rings, and the "soft spot" on the head appears depressed. Diarrhœa now becomes a marked symptom, the motions being extremely offensive and irritating. Their colour may be yellowish, green, or somewhat brown, and later on they may contain mucus. The number of motions per day varies from six to twenty. In favourable cases the symptoms begin to abate after a few days' careful treatment, but in the more severe forms of the disease the infant rapidly grows worse, and the greatest care is necessary in order to save the little life.

Boils and Carbuncles

CHARLES HENRY HAYTON, B.A., M.D.

BOILS and carbuncles are too familiar with most of the LIFE AND HEALTH readers to need much of a description here. Many have seen them and not a few have experienced them, for the painful reddening enlargement forming on the back of the neck or in some other tender part of the body shows no respect of persons.

A carbuncle only differs from a boil in that it is larger, flatter, and penetrates into deeper tissues, involving not one but many hair follicles. The symptoms are much the same, only in a carbuncle they are more severe. Boils are generally found in young adults, while carbuncles occur more often in elderly people, and more commonly in men than in women.

The patient is almost always in a poor state of health. His vitality has been lowered either from improper food, overwork, bad hygienic surroundings, or as the result of some debilitating disease as diabetes, Bright's disease, or gout. The most favoured situation for carbuncles is the back of the neck, on the shoulders, or on the buttocks, while boils are found on almost any part of the body.

If it could only be impressed upon the people generally that boils and carbuncles are caused by local infection, and that this is a *sine qua non*, it would save much pain and many sleepless nights. But a great many still look upon boils as a matter for congratulation, an evidence of robust health, "the letting out of the poison in the system," they say.

The local infection is caused by a germ which finds its way into the hair follicle, and there, because of the lessened resistance of the surrounding tissues, begins to multiply. A colony of germs is soon formed, which becomes the core of the boil. An inflammatory reaction is set up —nature's method of repelling the invasion. The colony is soon surrounded by a dense wall of closely-packed cells and tissue. By this means the germs are circumscribed and limited in their destructive work. The boil eventually bursts and the bacteria are killed and thrown out of the system.

Boils and carbuncles on the back of

the neck are due in many instances to the contamination of a collar that has been in service for some time, or a soiled celluloid collar. The contamination often comes from the soiled coat collar of a house-jacket. One patient of mine could trace his carbuncle to wearing the coat of a friend who was just recovering from a carbuncle.

The same local causes apply to boils and carbuncles in other parts of the body. They are nearly always due to soiled and contaminated underclothing.

Treatment

One ounce of prevention in the case of boils and carbuncles is worth a pound of cure, and the one great preventive measure is to keep the body scrupulously clean and healthy, clean without by constant daily bathing, clean within by supplying abundance of plain, wholesome, nourishing food.

The treatment consists, firstly, in bathing the parts twice daily with some antiseptic solution, and then applying an antiseptic dressing: and secondly, in stimulating the fighting powers of the tissues both locally and generally.

A good antiseptic solution much in use is peroxide of hydrogen. It is purchased in twenty volumes strength, but by taking a sufficient quantity and adding to it an equal quantity of water it is ready for use. Use a fresh solution each time, and be careful to destroy the solution after washing.

Another good antiseptic solution is one per cent Lysol. This can be purchased at the chemist's. It is a brown, soapy liquid, with a creasote smell, and is excellent for washing the boil and the surrounding skin.

For dressings, boric acid lint, or carbolic lint, also purchased at the chemist's, is preferable. Remember, the dressings must be antiseptic; no ordinary piece of linen will do, no matter how clean it appears. Wash the hands thoroughly each time before touching the dressing. Cut a piece to cover a good portion of the surface. Apply it upon the boil after the washing. Then place a small piece of cotton-wool upon it. Bind the whole with a good bandage, not too tightly, and leave it so till the next dressing.

To stimulate the tissue locally and to ease the pain nothing is better than hot fomentations. Apply these without removing the bandage every two or three hours, especially upon retiring for the night. Fomentations have a wonderful sedative effect—they also stimulate the tissue cells into renewed activity by bringing to the part an increased flow of blood. If the boil is situated on the leg or on the arm, these parts can be given a hot bath, as is seen in the accompanying illustration. This answers the same purpose as the fomentation, and is most effective in stimulating the tissue cells. Then wash with the antiseptic solution and apply the dressing.

HOT ARM BATH

Great care must be exercised when the boil or carbuncle ruptures to keep the dressings clean and to thoroughly wash the surrounding skin. It is at this time that the greatest care needs to be exer-

cised to keep the infection from spreading.

One great mistake often made by most people in the treatment of boils and carbuncles is to poultice them. Poultices of any kind should be avoided. They are not antiseptic, and only tend to spread the infection among the surrounding hair follicles, and to produce a good crop of young boils.

The general treatment consists in adjusting the diet to a more healthful standard, to avoid stimulants of any kind, to have plenty of fresh air and rest, but not necessarily to be confined to bed. If the above simple measures are not sufficient to check the boil, then the assistance of a surgeon is required, and radical measures must be taken to eradicate the evil, for, in elderly people especially, carbuncles often prove fatal.

For a Bruise

IF Johnnie or Janie or Thomas or Mary Ann has fallen down, or gotten bruised in some other way, what will you do to "take out the soreness," and to prevent any serious inflammation occurring? One says, "Rub on arnica," another would recommend camphor, another, "St. Jacob's oil" or some other popular nostrum, or somebody's "pain-killer."

We say, have none of these things. Away with all of them. Nature has given us in heat and moisture combined a "pain-killer" superior to any of these ill-smelling and dirty mixtures. Take a flannel, fold it four double, wring out of hot water, and apply to the injured part as hot as can be borne without blistering the skin. If the bruise is a bad one, keep up the fomentations for several hours. If the part becomes red and swollen after a few hours, which will rarely be the case under this treatment, cloths wet in cold water should be applied, changing every ten minutes. Hot fomentations should be applied for fifteen or twenty minutes two or three times a day, or more frequently if there is much pain.—*Good Health.*

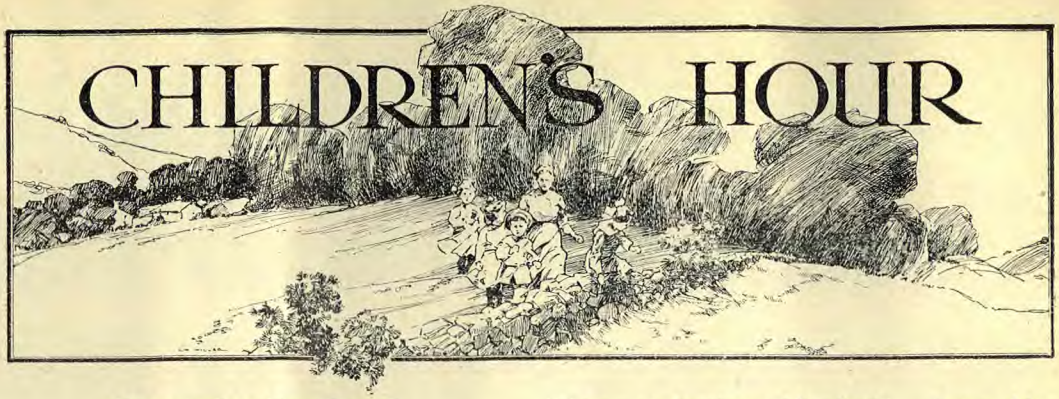
Earache

ONE of the most distressing ailments of childhood is earache. Contrary to popular opinion, also, this common affection is by no means of little moment, except as it is a source of pain and inconvenience. It has happened in more than one instance that a neglected earache has resulted in the death of the little sufferer after weeks of most acute anguish. In some cases, death results from inflammation of the brain at a period many years removed from the first attack of the malady, an acute attack being the occasion of the extension of the inflammation to the delicate membranes of the brain which lie in close contact with certain portions of the ear.

It is important that every case of earache, no matter how slight, should receive immediate and efficient attention, as the pain is often a precursor of deafness, if not of anything more serious. Space will not allow of a complete treatment of this subject, but it may be useful to the reader to know that the hot water douche is one of the most effective means of relieving pain in the ear arising from acute inflammation. The douche can be best administered with a fountain syringe or its equivalent. In the absence of this useful device, the hot water may be poured into the ear, the patient placing himself in a lying position with the ear in such a position that the water can easily run away. Still another method is to fill the ear with warm water, then place in the opening a small mass of absorbent cotton, also saturated with water, and over this apply fomentations.

These methods of treatment are vastly superior to the old-fashioned onion poultices and similar savoury applications, and if thoroughly applied, will not only give great relief from pain, but will also prevent a great share of the possible mischief which usually results from inflammations of this sort.—*Good Health.*

LIFE is for use, not for squandering.



Down by the Pond

Antoinette Smith

ELLIE and her cousin Lillian had come to spend the day with Aunt Kate. The broad lawn in front of the old house sloped on one side to the bank of a shining pond, where the water-lilies grew and graceful swans sailed up and down.

"Now, children," said Aunt Kate, "if you will be very, very careful, you may play down by the pond and feed the swans until luncheon is ready."

The children danced with delight; of all the pleasant things to do, this was what they liked the best. Under a large willow tree, whose long branches hung far out over the water, a wide wall had been placed close to the water's edge; below this the sand was white as silver. This was the children's favourite playground. Aunt Kate watched them a while; then, after telling them again just how far out into the water they might play, she went back to the house.

Soon the little girls grew tired of the swans, and taking off their shoes and stockings, they began to wade about in the shallow water. Now Ellie had often waded there; but to Lillian, whose home was far away, this was a new pleasure. After a time, Lillian grew bolder, and ventured nearer a great log that marked the end of the shallow water; beyond, the water was very deep.

"Oh, don't go there!" cried Ellie, who had been taught to obey. "It's deep—and Aunt Kate said that we mustn't wade out beyond that old log!"

"Oh," said Lillian, laughing airily, "I'm not the least bit afraid. I am older than you are!"

She could see the golden-green bottom of the pond, where the small fish were swimming about among the long, green, ribbon-like grasses; in the soft, dim light everything looked so near that she felt sure that it was no deeper there than where she was standing. She did not tell Ellie what she was going to do; she just put one foot out beyond the great log, and stepped down into the water—and then—something strange happened!

It was all so sudden, so unexpected! Down, down—down—she went! She tried to cry out as the green water wrapped its arms about her, but she could only make a little smothered sound as she was pulled down. Then all was silent and dark as night.

Ellie, who stood knee-deep in the water, heard the splash and the cry. She turned just in time to see Lillian's hair disappearing in the water behind the log. Now Ellie did not know much about drowning, for she was only a little girl, but she knew that something dreadful happened if you fell into the water and could not get out. So she screamed just as loud as she could. But something told Ellie that she must do more, and she quickly waded out close to the log as far as she could without getting into deep water.

"I'm coming, Lillian!" she called; and to keep herself from slipping, she caught one of the long willow branches that hung over the river. Lillian had gone out of sight once—twice; then, as

she rose for the last time, she was close to Ellie. The brave little girl, holding fast to the strong willow branch, leaned far out over the dark water, and firmly grasped her cousin's long hair. Her burden was heavy, but Ellie would not give up; she felt herself dragged down deeper into the water as the slippery, treacherous sand drew Lillian down, but still Ellie would not let go. She was almost exhausted when, just in time, a strong arm reached down, and Uncle Rob lifted Lillian up.

Aunt Kate and Uncle Rob praised Ellie, and called her brave; but poor Lillian was unconscious for a while. When she recovered, and the children had put on dry clothing, they were ready for luncheon.

"Good-bye!" cried the children, when the crimson sun slipped down behind the shining golden-green water, and they were on their way home. "Good-bye, beautiful pond; you have lost your playmates! We shall never dare to play with you again!"

Amusement for Children

MUCH amusement is afforded small children by running a stick through an orange and putting the end of the stick into the neck of a bottle. Then a face is cut out from the peel of the orange, more or less amusing in appearance according to the skill of the maker. From a piece of brown paper a cloak and hood are improvised, and behold! a yellow-faced, little brown-bodied woman. This creation will interest the little one for many an hour.

FLOSSIE is six years old. "Mamma," she said one day, "if I get married, will I have to have a husband like pa?" "Yes," replied the mother with an amused smile. "And if I don't get married, will I have to be an old maid like Aunt Kate?"

"Yes."

"Mamma"—after a pause—"it's a tough world for us women, ain't it?"

The Silkfish

Virginia Farley

"UNCLE CHARLES, I saw a real silkworm to-day," said Claudia, proudly. "Our teacher brought one to the kindergarten, and let all of us look at it under a glass."

"I once saw a silkfish," said Uncle.

"Now, Uncle Charles, is there such a thing as a silkfish?" Claudia asked.

"If a worm that spins silk is a silkworm, then surely a fish that spins silk is a silkfish," answered Uncle Charles.

"There is, Claudia," he went on, "a fish that is an excellent silk-spinner."

"I want to hear about it," declared Claudia.

"I am interested, too," said Helen, putting aside her school-books to listen closely.

"It is a shellfish," began Uncle Charles. "It lives in the Mediterranean Sea, and pinna is its real name. The strong, pretty silken threads for which the pinna is prized are secreted by a gland at the base of the little creature's foot.

"It is the nature of the pinna to tie itself to rocks or other objects, and for a fastening it uses long, splendid silk threads, and spins the threads itself.

"When, after a while, it gets tired, and wants to move to some other place, it pulls loose, and leaves the wonderful silk threads behind.

"It does not take them along, because when it gets ready to fasten itself to another rock it can easily spin more good silk threads. These delicate, cast-off silk threads are called 'byssus.'

"They are carefully gathered by fishermen, and are woven into beautiful cloth, shawls, stockings, and other things. Soft, fine, shiny fabrics can be woven from byssus.

"The silk-spinning pinna, though, has become so rare that articles made of byssus are very costly."

"I can hardly wait for morning to come," said Claudia. "It will be such fun to tell everybody at the kindergarten about the silkfish. I hope that I can remember all about it."

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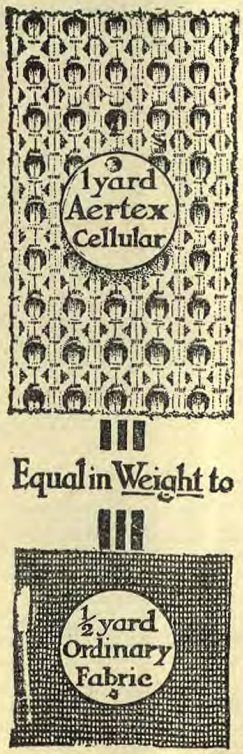

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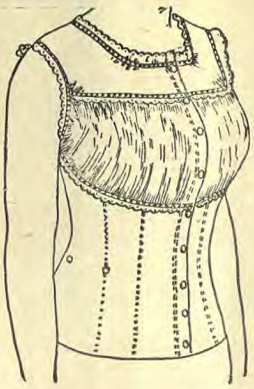

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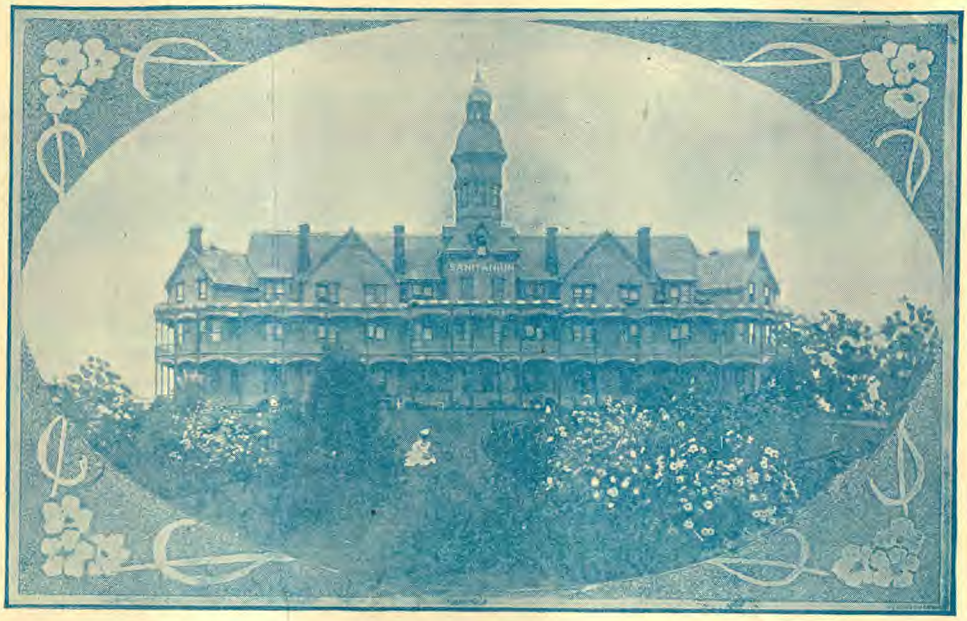

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