

Life & Health



MARCH-APRIL 1920

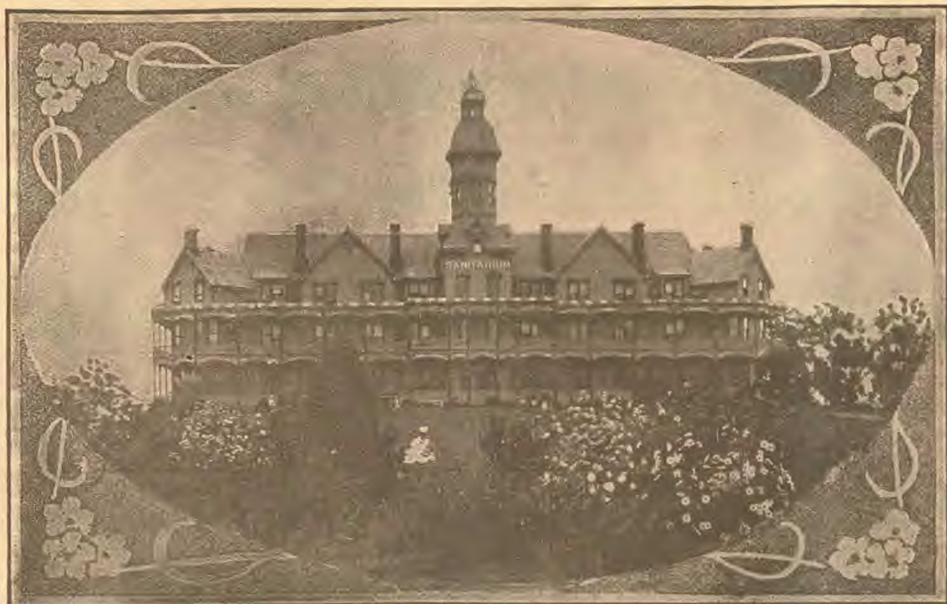
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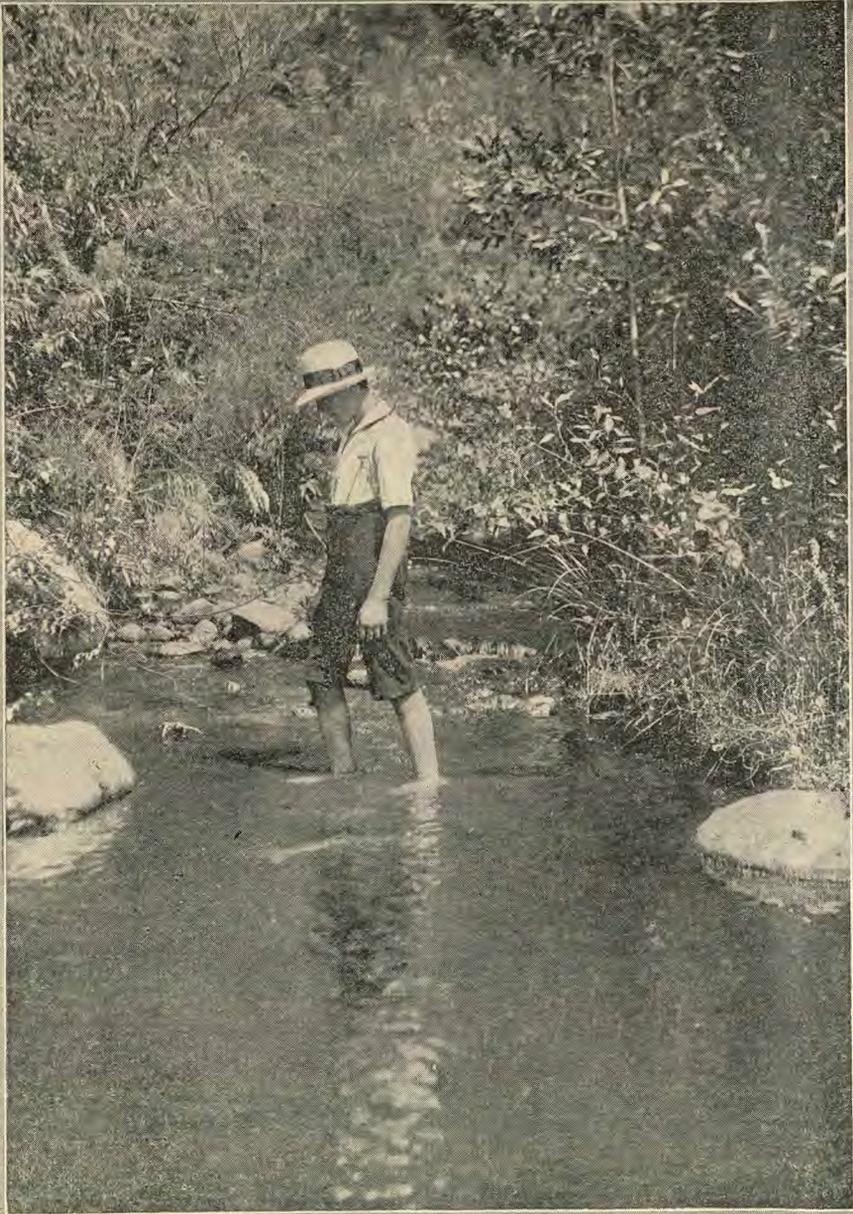
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IN HAPPY YOUTH

LIFE AND HEALTH

Vol. 10

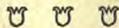
March-April, 1920

No. 2

Editor: CHARLES M. SNOW

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

"MAN does not die; he kills himself," wrote Seneca, the Roman philosopher, two thousand years ago. Is that not true even to-day? Then study your habits of health, change them if necessary, and you can save yourself from committing suicide.



THERE are physical as well as social Bolsheviks, for he who willingly disregards all the pleadings of Nature and disobeys all the laws of health is as much a Bolshevik by nature and at heart as Lenin, Trotsky, and their army of social anarchists. Are you one?



THE Chinese women have their feet bound in their childhood, but many of the ladies of these "civilised" lands bind their own feet every time they put on their boots and shoes. A shoe, to be comfortable and harmless, should duplicate, as near as possible, the shape and character of the foot itself. It should not bind the foot. Do not buy a "smart" shoe and then suffer hours of torture and discomfort breaking it in. When you bind your feet in "fashionable" shoes, you curtail your brain energy just as much as you restrict your movement, thus lessening both the vitality and the vivacity of your

body. Respect for your feet will repay you a thousandfold; it will prolong youth, increase health, and abolish corns. Be sensible in your footwear and you will be the gainer, in addition to acknowledging the Intelligence that designed that marvellous piece of mechanism, the human foot.

A Quiet Talk on Important Matters

THERE is a wonderful relationship between dress and character. Have you ever noticed this? We are all writing our characters publicly all over ourselves in the clothes we wear every day—a fact that we should appreciate when we read what is written in the garments of others. Yet how strange it is that many of us fail even to realise it! A tawdry manner of dressing indicates a tawdry way of living; a careless and disorderly way of "throwing" on one's clothes is sure proof that the wearer has a character summed up in those same two words, careless and disorderly. A simple and neat dress always indicates the wearer to be of a neat and orderly disposition, choosing the simple rather than the gay life. There are some who wear expensive clothes with a button off or a hook unfastened or a seam awry, and there are others who, while wearing

poor and inexpensive clothing, always have it trim, brushed, and neatly mended. We meet such cases every day, and a moment's thought will prove that their dress is a sure testimony to their character. Such being so, it is surely essential for each of us, on the other hand, to possess a character worth expressing.

SPEAKING about character, do you use a "character-gymnasium?" If not, the sooner you acquire one, the better it will be for yourself and your friends. A good character does not come to us naturally; we seldom, if ever, inherit such a treasure. A good character is the result of character exercise, just as a good physique is the reward of physical exercise. But a character-gymnasium, as well as being even more necessary than a physical culture room, is far easier to exercise in, because we can have it always with us. We can make the whole world our character-gymnasium and never be at a loss for some new exercise to practise.

Will power is one of the greatest assets to a man's character, and hence we should all cultivate a strong will. If we see a scrap of paper on the floor and have an impulse to pick it up, knowing that it should be picked up, and yet pass by without putting the impulse into actuality, then we have dealt a severe blow to our character. Again, dozing five minutes after rising-time, eating after we know we have had as much as is good for us, riding when we ought to walk, indulging in recreation when we should be working, wasting precious moments doing "nothing in particular,"—all these are sure character-destroyers.

The Creator places us every day in the character-gymnasium, and every moment offers its opportunity for service. Not a single movement of the day is insignificant in His sight, for He expects us to "improve each shining minute." He means us to be stronger in character to-night than we were this morning.

Shall we defeat His training?

SOME people think they must not only

eat to live, but *work* to live also. These are wise people. Idle people do not realise the penalty they pay for the violation of one of the fundamental laws of their being. They ignore the fact that action is the very law of growth, that idleness weakens the brain-power; that they can retain only what they constantly use. The wise person pities rather than envies the members of the idle classes, those who declare that it is not necessary for them to work to live. Labour is imperative for one's mental health and integrity. The idle body loses its energy and its vigour even as the idle mind loses its grip and its alertness. The brain which seldom works becomes less resourceful in direct proportion to its idleness. When a man ceases to do things, he soon loses his confidence that he can do them.

There is no place for the idler in the universe, and the best evidence of this is found in the fact that nature begins to take away from him what he has because he does not use it. The idler fits in nowhere because he is out of place.

We are living in busy days, and if we would keep abreast of the times and keep step with the progress of humanity we must work. To succeed to-day, a man must have power, but he can get no more power from an idle life than an athlete can get physical strength by sitting in a gymnasium, casting lazy eyes at the apparatus, but refusing to take advantage of the benefits they confer.

Says the Good Book, "If a man work not, neither shall he eat," and the time is quickly coming when this will become an axiom, an essential, rather than a command. Procrastination might be the thief of time, but idleness is the thief of all that is good, for, as the old saw goes, "Satan finds some mischief still for idle hands to do."

Awake! banish idleness; guard every spare moment; live the Christian life, and you will receive, one day, the reward of heaven as well as making a success in this life, and being of use to your neighbours and friends.

F.

Diseases of the Blood

THE well-known statement of Scripture that "the blood is the life" will not be disputed by any physiologist; for it contains the energy of the fruit, grains, nuts, and other principles of our food, and this energy, when in contact with the cells of the body, is transformed into life, mental and physical, according to the nature of the cells by which the blood is bathed. Wood, coal, and other organic matter containing the stored-up energy of the sun's rays must come into chemical union with the oxygen of the air before its energies can be transformed into heat and life; similarly the energy of our digested food must in the tissues be liberated by the oxygen contained in those tissues before it can be utilised to maintain the temperature of the body and keep up every function of the being. The digested food through the circulatory organs is carried to the lungs in the form of blood and there unites with the inbreathed oxygen of the air and is finally stored in all the tissues of the body for use when required. In perfect health every cell of every tissue contains this stored-up energy ready to be liberated at the command of the nervous system every moment it is required. The blood, however, does more than carry energy to the cells; it removes impurities and physiological ashes, the result of chemical activity within the cell. Just as in the burning of wood and coal ashes and various gases are formed, so it is in the cells of the body, and these physiological ashes and gases must be carried to the lungs and other excretory organs of the body for removal from the system.

Thus we have two systems of what we may call natural pipes or tubes, one going from the heart and lungs filled with purified red blood and containing the potential energy for every cell of the body, and one returning to the heart, lungs, skin, kidneys, etc., containing the dark impure blood, which is liberated of its impurities by these excretory organs and returned to

the heart for its continued work. The blood vessels going from the heart are called arteries and those returning from the tissues to the heart, veins.

The blood contained in the body is approximately half a pint for every stone weight; thus a man of eleven stone would hold in his blood-vessels about five and a half pints of blood. Some authorities place the amount at a much higher figure (1 to 12 or 1 to 13 of body weight), but there is good reason to believe this estimate is too high. A loss of under one per cent of total blood is stated to be made up in from two to five days, but if the loss be three to four per cent two to five weeks are required. The bulk of fluid, however, is made up very quickly by absorption of fluid from the tissues. After sudden loss of blood water injected into the bowels or under the skin finds its way into the blood-vessels in a remarkably short time; a striking instance of the power of the body to maintain life. It is a remarkable fact that in anæmia (simple or pernicious) the volume of blood is markedly increased, but its quality is much poorer.

The power of the blood chiefly resides in its microscopic corpuscles, the red and white corpuscles. The white corpuscles destroy poisons and germs which enter the circulation, and the red, through a special colouring matter (the hæmoglobin), convey oxygen to the tissues. Poorness of blood (anæmia) consists in deficiency of hæmoglobin, an important constituent of which is iron. Although iron is so very important for the work of the red corpuscles, it is estimated that the total quantity in the body is only about forty-five grains. In health the blood contains about 5,000,000 red blood corpuscles per cubic centimetre, or 330,000 in every drop of blood. In anæmia the number may be reduced to 2,000,000 or even less per cubic centimetre. The oxygenated blood is bright scarlet and the venous blood a dark purplish-red. Blood is somewhat

denser than water, having a specific gravity of 1,058 (that of water being 1,000).

Blood is always of an alkaline reaction; a really acid blood would be incompatible with life. The dreaded complication of diabetes—diabetic coma—is brought about by the development of fatty acids in the blood. One writer has said that the difference that exists in the reaction

food and by the excretion of acids in the perspiration, keeps the blood in a healthy alkaline reaction.

Anaemia (Poorness of Blood)

Anæmia is really a symptom of many diseases, and may be brought about by many causes, such as hæmorrhage, continued diarrhœa, poor digestion, typhoid



PLENTY OF FRESH AIR MAKES PLENTY OF GOOD BLOOD

between distilled water and ordinary tap water would in the blood cause death. Fruit and vegetables will tend to increase the alkalinity of the blood; flesh foods, sweets, and everything that is indigestible tends to lessen the alkalinity. It is the alkalinity of the blood that keeps it in a freely circulating condition and enables it to pass readily through the microscopical capillaries. In rheumatism and gout a lack of alkalinity causes the capillary circulation in the fibrous tissues around the joints and muscles to be sluggish, which is followed by the deposition in these structures of nitrogenous waste products (physiological ashes) which irritate and produce pain. Exercise, by bringing about a fuller oxidation of nitrogenous

fever, consumption, malaria, syphilis, Bright's disease, cancer, want of fresh air and sunlight, or lack of good food. These cases of anæmia are called secondary or symptomatic, but there are cases where the blood-forming organs lack power to form blood and these are called primary. The two diseases which are generally regarded as examples of primary anæmia are chlorosis and progressive pernicious anæmia.

Chlorosis

Chlorosis is a name given to a special form of anæmia found mostly in young women from the time of puberty to young womanhood. It owes its name to the slight greenish tint of the complexion in

those who suffer from it. It rarely occurs in children or latter life. The real cause of the disease is certainly not known, but generally there are definite predisposing causes such as lack of pure air, improper diet, physical fatigue, nervous shock or exhaustion, or deficient sunlight. Cases of chlorosis in the male are exceedingly rare. There is generally a fair amount of bodily nutrition and in some cases even a tendency to obesity. Generally it comes on insidiously and gradually develops, but some severe cases come on suddenly after some nervous shock or strong emotion. Shortness of breath, especially after exertion such as climbing a hill or stairs or carrying weights, is often the first symptom observed. Pallor of the skin does not necessarily denote anæmia, for this is habitual with some persons and is consistent with good health, depending on conditions of the skin and its circulation. In anæmia the lips, gums, tongue, and ears are much paler than usual. There may be a central rosy blush on the cheeks, especially after exertion, but this frequently is in sharp contrast to the paleness of the adjoining skin. The general weakness is more noticeable in the morning; by the evening the patient may be quite lively and apparently robust, but extra exertion at night, as in dancing, etc., is followed next day by unusual depression and weakness. Generally chlorotic subjects sleep well but wake up unrefreshed and tired. There is frequently palpitation and swelling of the ankles, the result of impaired circulation. Headaches and neuralgia are frequent symptoms and depend on the pooriness of blood. Very frequently there is loss of appetite and impaired digestion. Constipation is marked in many cases. The evening temperature in some cases runs up to 99° or 100°F., but a frequent rise of temperature to 100°F. or more should suggest consumption. When the blood is drawn, as by the prick of a needle on the finger, it is pale and more fluid than usual. Mostly the menses are scanty and pale, they may be absent for months or cease altogether.

Treatment

Chlorotic patients are generally very amenable to treatment, and after a few weeks of rest, proper dieting, fresh air, and medication show great improvement; but some cases resist the best of treatment.

In severe cases absolute rest in bed in a well ventilated and sunny room is essential; it should be remembered that the condition of the blood is not sufficiently robust to provide energy for exercise or digestion or for even much mental activity. In all cases close, stuffy, dark rooms must be avoided. The patient should live in the open air and in the sunlight as much as possible. Very careful attention to the diet is required in every case. All indigestible food, such as pastry, sweets, fried foods, new bread and scones, pickles, sauces, etc., should be avoided. The patient is better without either tea or coffee, as these beverages interfere with digestion and the absorption of the iron in the food. The food should be plain and nourishing and should include a good supply of milk and fresh eggs; it is often necessary to force the patient to take much more than the appetite demands. As a rule, regular exercise in the open air is advisable, but fatigue should be avoided. The blood count shows that the number of red blood corpuscles is not seriously diminished, but they are paler than usual. The blood count rarely goes below three or four millions per cubic millimetre (15 drops), the normal being five millions. It is the hæmoglobin, the iron element, that is lacking, and consequently iron should be regularly given; it is not a drug in these cases, but a food. The scaly preparations of iron are good, such as citrate of iron and ammonia. Give as much as will go on a sixpenny piece after each meal. It should be remembered that iron preparations, when they come in contact with the teeth, darken them; consequently iron in a fluid form should be avoided, or the teeth must be thoroughly cleansed after each dose. The sugar coated tablets of Bland's pills are excellent and are easily taken. Three five-grain tablets should be

taken with or after each meal and continued for three months or more. Relapses are frequent in anæmia; consequently treatment must be continued for

combine the arsenic with the iron, but we have found it unnecessary. If there is constipation the diet should be ordered accordingly, and, if necessary, small doses of cascara sagrada may be taken. Tonic hydro-pathic treatments are very helpful in most cases, such as the cold mitten friction, cold sponges, etc., but care must be taken to get a good reaction.

Pernicious Anaemia

When anæmic conditions resist all treatment or are only slightly beneficial, we may suspect that the case is one of pernicious anæmia. The state of pallor is combined with a lemon tint, and may have the appearance of a very mild jaundice. The patient has all the symptoms of general anæmia and mostly in aggravated forms. There is a decided disinclination to exertion, both physical and mental; the patient is unnaturally listless and easily fatigued. Dyspeptic symptoms, such as vomiting and diarrhœa, often exist. There may not be much loss of flesh, but the limbs are flabby, and the patient suffers much from palpitation with shortness of breath. Frequently there is some



— AT EVENTIDE —



HE day had closed in gloom had not
my eyes
Beheld the last wild roses of the skies,
Scattering their crimson petals
one by one
Warm with the parting kisses of
the sun,

Into the sweet, calm bosom of the night,
While, slowly deepening, the soft evening mist
Through many colours changed to amethyst,
Until it seemed, last of that wondrous list,
The twelfth gem of the Holy City wall
Seen in John's mystic vision, had let fall
Some faint ray of its glory, on my sight.

It passed, and all my fretted soul's demand
Passed too. Then, as a brooding mother might,
God, with the gentle hollow of His hand,
Smoothed the close folded coverlid of night
Above the still form of His dreaming land.

—Grace Adele Pierce.

some time after apparent recovery; in fact, thorough hygienic living is necessary right through life. Where iron cannot be tolerated (a very rare condition) arsenic is generally given—3 to 4 minims of Fowler's solution (liquor arsenicalis) after each meal. Many physicians com-

swelling about the ankles. The pulse is rapid and of small volume, and the heart's action is weak. There is generally a poor memory, and power of concentration to subjects requiring much thought is lost. The patient may also suffer from giddiness, headache, and

drowsiness. The blood count shows that there is a considerable reduction in the number of red blood corpuscles, and in this respect pernicious anæmia differs from chlorosis, or the anæmia of young women. The red cells may be as low as 1,000,000 per cubic millimetre. The disease is rarely cured and on an average lasts from six months to two years. Remissions of the disease may occur and the patient be fairly well for some months or even several years. Dr. Byron Bramwell had a case in which the patient remained fairly well for twelve years, when he relapsed and ultimately died.

Treatment

As a rule iron preparations have not the beneficial effect as in ordinary cases of anæmia. The poorness in blood does

not reside in deficiency of hæmoglobin, as the corpuscles are of normal colour, but in the reduced number of red blood corpuscles. The indications for rest, hygiene, and good wholesome diet are the same as in ordinary anæmia (or chlorosis). It is agreed by all medical authorities that arsenic is the best drug to combat the disease and this may be given in the form of Fowler's solution (liquor arsenicalis) in doses of m iii to m v three times a day, and should be continued for a long time. It may also be given as arsenate of iron (1/16 gr.) in pill form. If gastric irritability supervenes, the arsenic should be withheld for some time. Sometimes the drug produces discolouration of the skin and even neuritis. These also are indications that the drug should be discontinued.

W. H. J.

Epilepsy

A Review of Its Nature, Causes, and Treatment

EPILEPSY is a chronic disease of the nervous system characterised by repeated attacks of unconsciousness usually followed by convulsions. Those cases where the unconscious state is followed by convulsions are called major fits (*grand mal*); those cases of momentary unconsciousness and not followed by convulsions are spoken of as minor fits (*petit mal*). Frequently the two kinds of fits occur in the one individual.

The cause of epilepsy is not known, but it is generally agreed that it is a disease of the cortex (external layer) of the brain. Alcoholism in parents is a most important factor in the production of the disease; the disease arises more in families of neurotic tendencies, those which have a history of migraine, insanity, etc. Epilepsy often follows some feverish disease, such as scarlet fever.

Major Fits.—In about half the cases of major fits the patient has what is known as an *aura*, some special sensation which is always a precursor of the fit, the

character of the aura varying in each individual. Almost immediately he loses consciousness and falls as if shot, uttering a loud cry. The whole body becomes rigid, the head and eyes being turned to one side, respiration ceases, and the features consequently become livid. Just as he appears to be dying from asphyxia, the rigidity of the muscles passes off, a jerking of all the voluntary muscles of the body comes on, air enters the lungs, and frothy saliva, perhaps tinged with blood, oozes from the mouth; the breathing becomes decidedly noisy, the tongue is often bitten by the teeth, and occasionally the patient will void urine and perhaps the bowels. During the convulsive movements the face loses its livid appearance. The convulsive movements become slower and finally cease, leaving the patient in an unconscious condition, with noisy breathing and eyes open and congested. In ten minutes or longer he recovers consciousness without any knowledge of what has taken place. Some-



times he passes off into a normal sleep. In severe cases several fits may supervene one after another, after which the patient is decidedly dull and stupid.

There is no danger of death from the fit itself, but the patient may be killed by the fall, or he may vomit while on his back and draw the food into the air passages and suffocate; or, if the attack comes on at night, he

may turn over on his face and be suffocated by the pillow. There is generally a good deal of prostration after a fit.

Minor Fits.—In the minor fits there are no convulsions and the condition of unconsciousness is so brief that the patient does not fall; the "turn" may be preceded by some warning sensation similar to the aura of the major fits. A momentary pallor of the face with fixed expression of the eyes, a sudden lapse in action and conversation, sudden falling or fainting, and a dropping of something that is held in the hand are common forms of the minor fits. The patient

often describes the attacks as "sudden turns" and has no suspicion of their nature.

A considerable number of cases of epilepsy were subject to infantile convulsions of a severe type. As a rule the mental faculties suffer deterioration, but by no means always. Often there is defective memory, and the patient is incapable of taking



charge of any work requiring original thought; he may be disinclined to work and be really lazy. Severe cases of epilepsy often end in insanity. Immediately after a fit the sufferer may apparently commit some criminal offence quite voluntarily but for which he is not really responsible.

The Outlook of epilepsy cannot be said to be at all favourable. Where the mind is not affected and the attacks come on at long intervals the prospects are more favourable. There is more hope when the attacks come on after twenty years of age than before, and in the female than in the male. Pregnancy frequently lessens the attacks but they come on again after confinement. Where the two kinds of fits occur in the one patient, the outlook is not so favourable. Where the fits are at night only, the prospects are better than when they occur both day and night. Hereditary cases are said to be more favourable than those without any family history of the disease. The chief danger to life is from accident, as falling into a fire, falling on to machinery, suffocation from swallowing vomited food, or from burying the face in the pillow during night attacks. Death is almost unknown from the actual fits.

Treatment

During the attacks.—A piece of cork or rubber placed between the teeth will prevent the patient from biting his tongue. The convulsive movements should not be restrained, but watch that the patient does not do himself injury by rolling into any dangerous position. If vomiting occurs, turn the patient on one side so that the vomit is not drawn into the air passages. Loosen the clothes about the neck to help respiration. Vomiting, it should be remembered, occurs toward the end of the fit.

Arrest of an attack.—When there is a distinct *aura* very exceptionally an attack may be arrested. A powerful mental and muscular effort, or the inhalation of nitrate of amyl from a capsule or of strong smelling salts may possibly be effective.

Where the aura is felt in the arm, grasping the wrist tightly or the tightening of a strap around the wrist will in a few cases arrest or postpone the attack; the postponed attack may, however, be of unusual severity.

General Treatment.—Dietetic treatment is essential; tea, coffee, and alcohol—which irritate the nervous system—should certainly be prohibited. Avoidance of excessive proteid food, especially flesh foods, lessens the amount of nitrogenous wastes in the blood and will not only lessen the frequency of the fits but also their severity. Constipation, if it exists, should receive attention. The diet should be nutritious and digestible. Wholemeal bread, granose biscuits, milk, vegetables, and fruit should be the main articles of diet. All excitement should be avoided, the patient should live as quiet a life as possible; freedom from care, mental strain, and business worries is essential. The last meal of the day should be light and should be of such a nature that it will be completely digested before bedtime. Outdoor exercise is to be encouraged, but strenuous muscular work must be avoided or occupations which would endanger the life should a fit supervene, such as work amongst machinery or on a scaffold. Swimming and boating should only be indulged in when in company with others who are fully aware of the patient's liability to fits.

The education of children who are subject to epileptic fits is a matter of considerable anxiety to parents. If the seizures are frequent the child cannot attend a general school, and in fact teachers will not accept them as pupils. Where good home tutors are employed the difficulty is overcome, but few, however, can have this advantage. Special preparation for examinations should be avoided.

In selecting an occupation, outdoor work is to be recommended, avoiding of course, occupations which are not free from danger that would arise from the sudden fits. Marriage will produce but little alteration in the frequency or severity

of the attacks. There should be no marriage, especially when the disease is hereditary. In speaking of epilepsy with evidence of inheritance, Dr. Gower remarks that "consideration of the facts suggest that, if there are six children, the chances are against the escape of all from epilepsy, insanity, or imbecility."

Drug Treatment.—Drugs, although they do not effect a cure, certainly lessen the severity and the frequency of the attacks. The most popular remedies are certainly the bromides of potassium, sodium, and ammonium. Some combine the three, while others confine the treatment to one only. When the attacks are at night only, twenty or thirty grains may be given at bedtime; the general plan is to give ten to fifteen grains three times a day and a double dose at bedtime. The addition of tincture of belladonna in doses of five to ten minims three times a day is certainly of advantage where the minor attacks occur only or when they accompany the severe fits. Borax, five grains a day gradually increased, has been found helpful in some cases and the same may be said of the oxide of zinc, in pills from two and a half grains three times a day. There are certainly many drawbacks in the use of drugs. With drug treatment the supervision of a medical man is essential. W.H.J.





Poor Care of a Valuable Possession

A DOZEN successful business men had just completed their work at a Liberty Loan committee meeting, and were chatting for a few minutes.

"What does the afternoon paper say?" said one man.

"Read it," said another.

"I have not read any paper except a few headlines for weeks," said a third. "All the newspaper reading I get, is what is read to me by my family. If my eyes will stand it to do the regular work in the bank, I think that I am fortunate."

The eyes are more important to a person than his hands and feet, and yet most people are very careless regarding their use. Tobacco, for instance, is very bad for the eyes. Artificial lighting strains the eyes, unless properly regulated by shades and position.

Human eyes long ago complained of the effect of an eight-candle power light; what may we expect from the high-power illuminants of to-day, when 3,000 candle power is not at all uncommon.

Sleep for the Eyes

The greatest of all treatments for the eyes, the measure best calculated to keep them strong and efficient, as well as restore them when overdone, is sleep. Nothing can take the place of this. Even the sufferer from insomnia may refresh his eyes by closing them and lying quietly in a darkened room. Such rest is the next

thing to sleep; in fact, ten hours of it are said to equal six hours of real slumber.

A physician who writes in "Critic and Guide" says: "I rank sleep above glasses, because I have known of several cases where the latter were laid aside when reformation in sleeping habits had been effected. But when the eyes themselves are defective, lenses are indicated, in most cases. Those who for any reason refuse to wear glasses when they need them, are certain ultimately to pay dearly for their indiscretion. Under certain conditions, everyone needs them. He who day after day subjects unprotected eyes to the sun's glare on snow or water, is taking serious risks. Tinted glasses should be worn; or if the wind is annoying, automobile goggles should be used.

Don't Play With Your Eyes

It cannot be too often repeated that only expert specialists should be allowed to "tamper" with the eyes. Over-faith in home remedies has allowed more than one case of iritis (mistaken for "pink-eye" or "conjunctivitis") to reach the hopeless stage; and the foolhardy custom of buying eyeglasses at the cheap quack shops has seriously injured countless eyes. But it is very true that much can be done by the layman for his own eyes. Simple inflammation—if inflammation can ever be so termed,—tired eyes, etc., yield very readily to home treatment.

Chief among these simple measures is the eye-bath. After a day of eye-straining work there is nothing more refreshing to the tired organs than this: Dissolve a teaspoonful of boric acid in a small glass of hot water. In the recumbent position one may squeeze it into the eye with a sponge or small cloth; but an eye-cup is far preferable, and costs but a trifle. Do not be afraid of hot water; have it as hot as can be comfortably borne, throw the head well back, and roll the eye about thoroughly, opening and closing it many times. This may be repeated several times during the day; it clears vision wonderfully. Keep the glass carefully covered when not in use, and rinse out the cup with boiling water each time before using it. The wash should be made afresh each day; and it is not at all expensive.

Another eye-bath which has produced good results is composed of ten grains of boric acid, five grains of tannic acid, and one drachm of camphor-water, with enough ordinary water to total one ounce.

Just Water

Even alone, water is highly beneficial to the eyes. Many times in remote situ-

ations it has proved its value. Explorers tell us that one reason why glasses are so little needed in some countries where the people live outdoors is the custom of diving and swimming with eyes open. Clear cold water is excellent as a morning tonic for the eyes. Used with the eye-cup, it "braces" the eyes splendidly for the day's work. Some oculists depend greatly on cold water in the treatment of amaurosis (partial loss of vision without apparent organic defect). The face is so immersed that the eyeball may be thoroughly laved, and this is repeated several times a day. It takes weeks or months, but in many cases the optic nerve finally gives some response to the stimulation. Alternate application of hot and cold water improves the circulation in dim, lusterless eyes and benefits the eye muscles.

Generally, special exercise for the eye should be under competent supervision. Though a simple matter in itself, one should ascertain that he has no eye defects which may be aggravated by certain muscular movements. I heard of a case where a cross eyed girl greatly increased her trouble by misdirected effort, though eye exercises when well adapted to requirements are wholly practicable and beneficial.—*Healthy Home.*

Popular Errors in Regard to Eyesight

PERHAPS the majority of otherwise well-informed people believe that they see the same with both eyes—or, to put it more in accordance with the facts of the phenomena of vision, that the image formed on the retina of each eye is identically the same—presupposing that both eyes are in normal, healthy condition. That this is not the case, one can easily convince himself by the following simple experiment. Cover one of the eyes with the hand or a bandage, and let the experimenter attempt to place his finger on the end of any small upright object a few feet away. He will almost invariably miss the object, either over-reaching or

under-reaching, or putting the finger too far to the left or the right. With both eyes normal and open, the accommodation for distance and direction is instantaneous.

Dipping the pen into an inkstand on the table before one is an easy matter, when one has the use of both eyes, and especially if he has sat at the same table for many years, writing for several hours each day. Let this person be suddenly deprived of one eye, and he will find that until he grows accustomed to it, he will not touch the mouth of the inkstand at first trial once in a dozen times.

Another fallacy under which the majority of persons labour is that the loss

of one eye strengthens the vision of the other—an idea originating in the fact so often noted that the complete loss of one of the senses is frequently, if not always, compensated by increase in the delicacy

With the organs of sight, or of hearing, where the duplication of the member serves certain definite purposes or ends, the loss of one weakens, and to a certain extent, incapacitates the remaining member. Thus, with the two eyes in normal working order we can estimate the exact position and approximate distance of any object looked at, but when only one eye is in use, as we have seen in the experiments, we cannot do so.

Reasons for Wearing Glasses

First: that you may see better and more easily.

Second: to relieve distress and pain about the head and eyes, or reflex troubles in other parts of the body.

A number of reasons why people need glasses are the following:—

Presbyopia or Old Sight

Those who have the best eyes throughout life are those who protect them at the proper time—when Nature demands help. Pride and neglect have ruined more eyes than disease. Like the sword of Damocles, the day of glasses hangs—always and ever—over the heads and minds of some people, who do not realise that the danger is not in the glasses themselves, but in the neglect of them. In case of presbyopia, the little muscle which for forty years has adjusted the lens in the eye, so that close work was unattended with a strain, is beginning to give out, and cries out for assistance; the little $\frac{3}{8}$ -inch crystalline lens in the eye is commencing to lose some of its elasticity and will no longer respond to weakened muscles at the will of its owner.

Hyperopia, or Long Sight

This is not a disease but it makes vision difficult for near at hand objects. Proper glasses will afford relief.

Myopia, or Short Sight

This is a very common defect. Many children are unable to read the writing on the blackboard at school and so discover for the first time that they are different



BLINDNESS IS ONE OF LIFE'S SADDEST
HANDICAPS

or acuteness of another—thus, when sense of vision is lost, the sense of touch, or that of hearing, or of both, frequently becomes more acute, sometimes to a marvellous degree, if we may believe many well-attested instances on record, and some of which, no doubt, every reader will recall.

from other children,— short-sighted or near-sighted. They need proper glasses.

Astigmatism, or Unequal Sight

The eyes are not alike. Symptoms which spring from uncorrected astigmatism are manifold, such as eye and headaches, cross eyes, indigestion, dyspepsia, nervous debility, neuralgia, dizziness, and many other ailments having their origin in lack of nerve force, wasted through defective eyes.

Heterophoria, or Muscle Weakness

These muscular troubles are very annoying and should be taken care of by a competent optometrist who is equipped with suitable knowledge and instruments. These external muscles are invariably weakened by any of the refractive errors previously described, and the longer the defects are allowed to go on uncorrected, the more weakened become these external muscles.—*Healthy Home.*

Fomentations

THE value of this treatment as a therapeutic agent can hardly be overestimated. It is invaluable in balancing the circulation and thereby relieving congestion. It is also useful in the treatment of neuralgia, rheumatism, chronic sore throat, acute dyspepsia, biliousness, constipation, and mental depression. I have observed many cases of despondency relieved as if by magic under this treatment. The true hygienic physician will prescribe it carefully in many acute forms of disease, directing its local application and duration according to the case.

In practice we find in cases of general constipation (a clogged condition of the eliminative organs) and dryness of the skin that there is no other form of water treatment gives more satisfactory results. It is also useful in the treatment of colds and catarrhal fever.

Every family should be provided with suitable cloths to use for this purpose. On visiting a patient, if I find fomentations over the liver indicated, I order at once five yards of light-weight gray flannel, or some light colour that will not fade. A loose weave or a little cotton in the mixture is desirable to prevent shrinkage. Divide the piece into two equal parts. Fold each piece lengthwise. The strips will be sixteen or eighteen inches wide and $2\frac{1}{2}$ yards long. Run the edges together and two or three times lengthwise at regular intervals. Now fold crosswise so that the pad will be about ten

inches wide. It will be eighteen thicknesses and sixteen or eighteen inches long. Tack with darning cotton at the corners, and also a few times through the centre. After a few nights' use the ties can be taken out and the piece thoroughly washed.

When the patient cannot afford any expense for this appliance, I utilise any bits of old worn-out flannel garments, pieces of old blankets or shawls. Baste them together, and they answer very well.

It is not necessary to have the pads very wet when applied to the body. When they are to be used at night they should be thoroughly sprinkled in the morning and rolled up in a cotton cloth, or they may be wrung out of warm water as dry as possible and hung on the line for a few hours to partially dry before using. They can be heated most conveniently in a steamer over a pan of hot water. A very low gas blaze will keep them hot. This will prevent the much dreaded hot wringing. If the patient is upstairs many steps can be saved by using a small coal, oil, or gasoline stove.

To apply the fomentation over the liver the patient should lie on the left side. Place hot-water bottles or steaming brick to the feet and apply a cool wet cloth to the head. Remove the night clothing to the hips. A short cotton flannel gown is convenient to be worn during the treatment, as it can be thrown back while applying the pads and thus protect the shoulders and arms from the cold. Two

yards of canton flannel folded larger than the pads and placed over them protects the bedding from moisture. The appliance should extend from the spine over the right side and well across the stomach and bowels. Smaller pads than I have described answer the purpose in most cases very well.

It is better to give this treatment at night on retiring. If the patient perspires it is all the better. The first application should not be uncomfortably hot, in order to prevent a rush of blood to the head. The pads should be changed every ten minutes and re-applied as hot as can well be borne. Care should be taken, however, not to burn the skin. The sensation of some patients is not to be relied upon. In many cases these appliances can be continued beneficially for from one to one and a half hours. If the patient is restless or nervous, it should be discontinued at thirty or forty minutes. On removing the last pad the part should be wiped off with a cool wet towel and then a dry one.

Usually a good night's rest will follow. The next morning the patient should take a quick sponge bath, with a brisk rubbing and spitting, and an abundance of deep breathing. If convenient he should then lie down, close the eyes, relax the nervous system, and rest half an hour. A light breakfast, mainly of fruit and a little stale brown bread, may be taken. A cup of hot water before the sponge bath is advantageous.

This treatment faithfully carried out five or six nights in succession will be found very beneficial in the above-named diseases. In chronic troubles it should be repeated at intervals of about four weeks for a few months.

In like manner these general directions should be followed in applying hot fomentations to any part of the body. Adapt the size of the pad to the local part to be fomented. Pain in any part of the body is usually quickly relieved and rheumatic joints made much more comfortable by this ever available treatment.—E.S., in *Victorian Massage Monthly*.

Breathe and Be Warm

THE importance of proper breathing for those who suffer from cold is illustrated in a letter by Dr. Chas. J. Hill Aitken, which appeared in the '*Lancet*.' He says: "Last winter I saw a man who told me he dreaded the cold weather. He always kept several pairs of boots going and wore very thick socks, and in them he placed felt soles. Damp boots and socks were a horror to him. He said he was an invalid and had a bad circulation. By chance my attention was drawn to his nose, and I found his septum (dividing partition) was deflected to the left side. He refused an operation. I noticed his nostrils did not move, so I suggested he should practise nasal respiration. In a week the action had become automatic, and he told me with rapture he had passed from invalidism to strength. He found that he could wear the same pair of boots every day. He told me he noticed that on a cold day the air passing into his now opened-up nostrils would send his blood shooting to the tips of his toes and fingers and acted like champagne on his mind. He said the cold weather he used to dread now acted as a tonic, and he revelled in it. The only alteration in his manner of life that brought this change about was nasal respiration, which kept his nasal passage on the left side open."

THERE is no better medicine, no greater purifier, no better friend to good health, cleanliness, and long life than sunshine. There is an old Spanish proverb which says: "Where the sun does not enter, the doctor must." And the truth condensed in that statement is a whole lecture on the health of the home. Sunshine costs nothing, is refreshing, invigorating, life-giving to both sick and well. People have somehow gotten the idea that nothing is valuable which does not cost something, and are too likely to value all blessings by the money value they represent.—*Western Insurance Review*.

The Battle for Life

Germs, and the Unprotected Routes Along Which They Travel

HORACE G. FRANKS

SOMEONE has given Louis Pasteur the title, "Father of microbes." Whether he would take the title as a compliment or otherwise, we know not; yet it is true that he was the father of "germology," or the study of microbes. Germs, or microbes, were discovered more than two hundred years ago, but until the patience and wisdom of Pasteur were applied to a study of their ways, the science of bacteriology was unknown. And although even now the science is yet in its infancy, we know that bacteria play a very great part in our life. Indeed, bacteriologists now tell us that "life without microbes is not conceivable," while it is also true that death without them is almost as inconceivable. We have had pointed out to us that in between the animal kingdom and the vegetable kingdom there lies another kingdom—a realm of germs, a world out of sight. Or, as the biologist Lavoisier has put it:—

"Plants draw from the circumambient air, from water, and in general from the mineral kingdom, the substances necessary for their own organisation. Animals feed either on plants or on other animals which have themselves fed on plants, so that eventually the matter building them up is always derived either from the air or from the mineral kingdom. Finally, fermentation, putrefaction, and combustion are continually restoring to the atmosphere and to the mineral kingdom the elements which plants and animals have borrowed. By what processes does nature effect this wonderful circulation between the two kingdoms? How does nature succeed in producing substances which are combustible, putrescible, and capable of fermentation from combinations which have none of these properties? Here are impenetrable mysteries!"

A Physiological Armageddon

It is to the solving of these scientific

riddles that the bacteriologists are devoting their time and wisdom. The results of their researches, meagre though they are in comparison with older branches of science, have been of wonderful value to the physician and the surgeon, and might easily be of equal value to the layman. We now know that bacteria, alias germs, alias microbes, have converted our bodies into one large battle ground on which is being fought a physiological Armageddon, lasting a lifetime. And the result of the battle, or perhaps we should say the postponement of the result, depends entirely upon the assistance we ourselves give to the huge yet microscopic armies engaged in the conflict. When the death-dealing germs are overcoming the life-giving bacteria and the fight is liable to end all too suddenly, there are only two things to do. Either the defences must be strengthened and a "Hindenburg line" established, which may be done by careful diet, healthy exercise, and an abundance of invigorating fresh air, or else help must be secured from an ally who, in the form of a doctor, will introduce into the fight an expeditionary force which can be depended upon to fight to the last germ. Such expeditionary armies of bacteria are called antitoxins.

Preparation, however, is infinitely better than having to fight with our "backs to the wall"; hence it is advisable for all who wish for health—which in the long run means wealth—to study the best methods of preparation and preservation for "Der Tag" (The Day) of the bacterial world. Before noticing, however, a few unprotected and unsuspected avenues of disease germs, we will briefly investigate the three ways germs have of conducting their warfare. These are they:—

1. Mechanical injury to the organs.
2. Use of the body tissue as food.

3. Irritation and destruction of tissues by poison.

Nature has provided us, however, with just as many, nay, more, means of protection. Here are the defences:—

“happy-go-lucky” way we allow ourselves to become germ-carriers and germ-dispersers, thus undoing voluntarily the greater part of the good work which nature does so ungrudgingly.



EVERYDAY HABITS WHICH HELP TO SPREAD DISEASE

1. Tough sheaths unsuitable for germ penetration.

2. Chemical substances which kill the micro-organisms.

3. Host-cells which take up the germs by engulfing them.

4. Cells which produce antagonistic substances which, in their turn, are carried away by—

5. Special fluids.

Yet, in spite of all these precautionary measures, we ourselves are, only too often, enemy agents. In our careless

A Few Unsuspected Avenues

Do you ever do one or more of the undermentioned things:—

1. Speak to a friend at very close range?

2. Sneeze and cough at random?

3. Shake the handkerchief violently on taking from the pocket?

4. Handle strange articles and then put the hand to the lips?

5. Wet the finger to turn over leaves?

6. Forget to wash the hands after handling money?

7. Drink out of a common drinking cup at a fountain or public drinking tap?

Think well before you answer these questions, and then answer them honestly. All of the above habits are as common as they are dangerous, and it would be difficult to single out any one for special comment. Let us therefore take a passing glance at each, and with each glance make a resolution.

1. Infectious material is projected directly from the lips when one speaks, and to shoot those germs, which may not be dangerous to you, into the mouth of a friend, to whom they may be dangerous, is certainly not an act of friendship. Neither earnestness nor secrecy makes it essential for speakers to stand mouth to mouth and eye to eye. If you must whisper in a companion's ear, whisper from the back over the shoulder. In ordinary speaking stand back a yard, or talk from a side position.

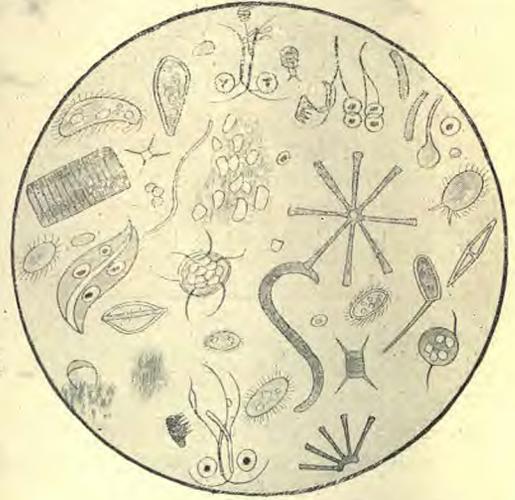
2. Don't sneeze or cough into your hand or into the air; use your handkerchief. If you are in close proximity to others, when nature gives her warning, as she nearly always does, move or turn away before you sneeze or cough. But do not cough or sneeze when in company unless absolutely necessary; don't let it become a habit, and always refuse to do either just because your neighbour feels compelled thus to relieve the head or throat congestion.

3. After you have sneezed or coughed into your handkerchief, remember that the square of linen has now become a veritable world of microbes and that you are in reality performing a criminal act if you scatter those germs broadcast by ostentatiously shaking your handkerchief. Use it often; use it properly; but use it carefully.

4, 5, and 6. The hand is the most important route used by germs. In fact, one doctor has said that "if it were intended to devise an instrument whereby infectious matter could be collected, transferred, and implanted where it would do most harm, it would be impossible to surpass the hand." Therefore watch and

wash your hands. How often do we cough or sneeze into the hands, handle strange or dirty articles, and then, to show our pleasure at meeting a friend, pass over to him or her a bountiful crop of germs when we enthusiastically shake hands!

Of course it is absolutely impossible in the busy lives that we lead to avoid slight infection, which, however, nature can generally well dispose of. But we all need, for our own sakes and for the sakes



A FEW VARIETIES OF GERMS
HIGHLY MAGNIFIED

of others, to refuse to take unnecessary risks. In these days of increased susceptibility and of increase in the number and virulence of diseases and their germs, it is both Christian and patriotic to do all that we can to minimise the risks of disease. It is very easy to catch cold, and it is just as easy for that cold to turn to influenza, then to pneumonia, and then place us or our friends at rest in the cemetery; therefore let us beware lest by our carelessness and thoughtlessness we should turn ourselves into enemy agents. If we do not value our own lives, let us place a premium on the lives of others; and ever remember that while adults can look after themselves, the children are dependent for life on our carefulness, or may come to their death through our carelessness.

Japan's Rules of Health

THE Japanese Government has issued the following rules of health, commending their observance by all subjects of Japan:—

1. Spend as much time out-of-doors as possible. Bask much in the sun and take plenty of exercise. Take care that your respiration is deep and regular.

2. As regards meals, eat meat only once a day [better, not at all], and let the diet be eggs, cereals, and vegetables, fruits, and fresh cow's milk. Take the last named as much as possible. Masticate your food carefully.

3. Take a hot bath every day and a steam bath once or twice a week if the heart is strong enough to bear it.

4. Early to bed and early to rise.

5. Sleep in a dark and quiet room with the windows open. Let the minimum of sleeping hours be six or six and a half hours. In case of women eight and a half hours are advisable.

6. Take one day of absolute rest each week, in which you must refrain from even reading or writing.

7. Try to avoid any outbursts of passion and stirring mental stimulation. Do not tax your brain at the occurrence of inevitable incidents or of coming events. Do not say unpleasant things nor listen, if possible to avoid it, to disagreeable things.

8. Be moderate in the consumption of even tea and coffee, not to say tobacco and alcoholic beverages. [Instead of "be moderate" we would suggest "eliminate."]

9. Avoid places that are too warm, especially steam-heated and badly ventilated rooms.

Generally speaking, these instructions of the Japanese Government could be universally adopted by Boards of Health to the physical and mental benefit of the people. However, it is quite generally conceded now by physical culture authorities that it is weakening to take a hot bath every day.

How to Treat a Sprain

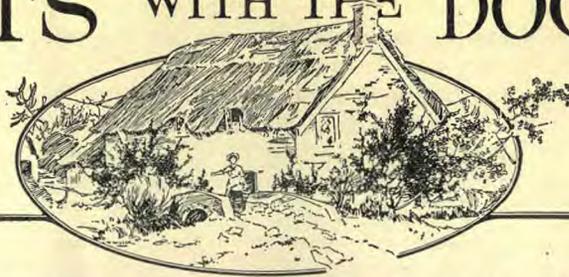
A LAD sprained his ankle at a mountain camp when a doctor was not within ten miles. A hospital nurse was the next best person. Somebody brought her from an adjacent camp in half an hour. She ordered plenty of hot water, and a kettle-full was kept constantly boiling till further orders. The patient was stretched on a lounge, and his mother held the injured foot in her hand. The nurse mounted a stool near by, and from a height of three or four feet poured hot water, a steady, slow, streaming trickle constantly falling on the injured ankle. Before one jug was empty another was ready to be put in her hand. In one hour the swelling had subsided, the pain was gone, and the hurt ankle was in a bandage. Three days later the lad was on his feet.—*Good Housekeeping*.

Tight Collars Cause Headache

HIGH collars are frequently the cause of headache, according to a Vienna doctor, whose attention was one day drawn to the high neckband of a woman patient who was subject to violent pains in the head and dizziness; he persuaded her to lay aside this form of neckwear, with the result that the compression of the neck ceased and she was relieved. Following up this result, the doctor has paid much attention to the collars of those of his patients suffering from headache, and in almost every case the change to lower and looser neckbands has been beneficial.—*Healthy Home*.

MEN'S shirts are like everything else nowadays—expensive to replace when worn. Try this method of lengthening their lives. Before ironing the front part, cut a small piece from the tail, dip it in cold starch and place under the worn spot where the edges of the collar rub the shirt. Iron at once. The adhesion will remain until the shirt is washed, when the same process can be repeated with the same small piece of material.

CHATS WITH THE DOCTOR



NOTICE TO SUBSCRIBERS: All questions for this department must be addressed to the EDITOR, "LIFE & HEALTH," WARBURTON, VICTORIA. 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.

331. Albumen in Water after Pregnancy

"A.E.F." contracted the above during pregnancy, and although eight weeks have elapsed since confinement the albumen in the water, while diminished, has not cleared up. She practically lost her eyesight and now has to wear glasses. She is also troubled with backache. The baby is very frail, having a leaking valve of the heart, and "A.E.F." is anxious to know if it is possible for the child to grow out of it.

Ans.—The fact that the amount of albumen has diminished is a favourable sign. These cases clear up completely as a rule, but one naturally gets anxious when the symptoms continue over two months. "A.E.F." has given up flesh foods, and this is wise. Milk makes a good substitute for flesh food, and half a pint or more may be taken with each meal. A lightly cooked egg may be taken once daily. Avoid all indigestible foods, as disordered digestion gives more work for the kidneys. The bowels should be kept active with such foods as wholemeal bread, granose biscuits, prunes, fruit, vegetables, and avoidance of tea, coffee, and cooked milk. Milk must not be boiled where there is constipation. Plenty of water should be taken between meals. Hydropathic treatment is of special value in these cases. Some sweating procedure should be adopted twice weekly, preferably before retiring at night. Fomentations to the spine, hot leg baths, and hot vapour baths

are excellent. Hot salt water baths will often produce a good sweat. Use about seven pounds of salt to thirty gallons of water. A cold or tepid sponge over the whole body should be taken once or twice daily. See that the bedroom is well ventilated, and live in the open air as much as possible. The general health must be maintained by good nourishing food. We are afraid the heart trouble in the child will remain. We have known these cases grow to adult ages and enjoy fair health.

332. Chronic Dyspepsia

"G.A.M." writes: "I am 33 years of age. I have been a heavy eater of sweets. My teeth decayed early and have now all been extracted except six on the bottom in front. My stomach is always feeling hot, and I want to drink a lot of water in summer time. My stomach always feels weak as though it wanted food. I can always eat well or eat anything, but in an hour am hungry again; the food seems to do me no good. I cannot get my work done on account of feeling tired, and have no "go" in me on waking in the morning. We eat practically no meat but use split peas in place of meat with honey. We have abundance of honey. Will drinking water be any good to me? I have been a heavy eater of pastry, white bread, vegetables, and tea. We are giving up tea. I do not drink or smoke. I am always better in winter."

Ans.—The stomach is in a catarrhal condition as the result of excessive work and stimulation. Excessive tea drinking and the eating of pastry and sweets coupled with heavy or too frequent meals will bring this result about. The stomach being accustomed to over stimulation is not now satisfied without it. There may be a feeling that the food does not do any good, but such is not the case. What food is not digested in the stomach is digested in the small intestines; in fact, this is where the greatest and most important part of digestion takes place. The stomach craves for stimulating food, but if recovery is to take place this feeling must not be yielded to. Only three meals should be taken in the day, and not a morsel eaten between meals. Food must be very thoroughly masticated. Pastry, sweets, pepper, mustard, spices, tea, and coffee must be altogether avoided. Cold water between the meals would be better than hot water. Large hot drinks will keep up the diseased condition. We would advise the use of milk to replace flesh foods. Split peas in this case are not suitable. If a quart of milk be taken during the day there will be no fear of a lack of proteids; the milk, however, must be taken with the meals. Wholemeal bread will be better than the white; it should be well cooked and not doughy. A pint of hot milk with wholemeal bread makes an excellent breakfast. We would advise the following foods in addition to the above: Lightly cooked eggs—not more than two at a meal for a working man—granose biscuits, granola. Avoid bulky vegetables such as cabbage, parsnips, and carrots. A small quantity of potatoes, green peas, french beans, or cauliflower may be taken. Do not take any other drink with the meals than the milk. Sago, rice, and tapioca may be taken occasionally with the meal, but only in small quantities, as they tend to make the meal too bulky. Food that requires thorough mastication is the best in such cases as that of our correspondent. See that the skin is kept active; a hot bath twice a week and daily cold sponge over the

whole body are essential. Live as much as possible in the open air, see that the bedroom is well ventilated, and do not use heavy bed clothes. Excessive clothing debilitates. We believe if our correspondent persists in the above treatment he will eventually regain his health.

333. Obesity

“H.L.” writes: “Please prescribe treatment for obesity in a lady, weight 13 st. 7 lbs., height 5 ft. 7 ins., age 40. Also state what ailments or disease are likely to happen if condition is unaltered.”

Ans.—The treatment of obesity, especially that which comes on in middle life, is the cutting down of the amount of food taken and an increase of exercise. Obesity that comes on in early years does not lend itself readily to treatment. The carbohydrates (sugars and starches) contribute most to the formation of fat, especially the former; consequently all starchy foods and sweets should be eliminated from the food as much as possible. The following should be forbidden: sugar in any form, also milk which is a very fattening food. All visible fat should be removed from flesh foods if they are taken. No puddings whatever should be eaten. Use wholemeal bread in place of white, for it is more satisfying and less is taken. Green vegetables are bulky and contain but little nourishment and may be taken freely. Potatoes are fattening but not so much as bread. Fresh fruits may be taken but not the stewed or dried, as they contain excessive amount of sugar. Alcohol prevents the oxidation, the burning up of fat in the tissues, and must be avoided in every form. Plain water, when taken in large quantities, does not increase corpulency. When flesh foods are taken water is necessary to get rid of impurities. The following menus are given by well recognised authorities:—

Banting

Breakfast.—4 or 5 ozs. of meat or fish; 1 oz. toast; tea without sugar or milk.

Dinner.—5 or 6 ozs. of lean meat or fish; any vegetables except potatoes; 1 oz.

dry toast; some stewed fruits; 2 or 3 glasses of claret.

Tea.—2 or 3 ozs. of fruit; a rusk or two, and a cup of tea.

Supper.—3 or 4 ozs. of meat or fish.

Ebstein

Breakfast.—2 ozs. of bread with plenty of butter; a large cup of tea without sugar.

Dinner.—Soup; 4 to 5 ozs. of meat; green vegetables; fresh fruit, and 2 or 3 glasses of light wine.

Afternoon.—Same as breakfast.

Supper.—1 egg; meat, ham or smoked fish; 1 oz. bread with plenty of butter; a little cheese; fresh fruit.

Von Noarden

8 a. m.—3 ozs. of cold lean meat; 1 oz. bread; a cup of tea or coffee, with a spoonful of milk but no sugar.

10 a. m.—1 egg.

Noon.—A cup of strong soup without fat.

1 p. m.—A small plateful of clear soup; 5 ozs. of lean meat or fish; $3\frac{1}{2}$ ozs. of potatoes; green vegetables; $3\frac{1}{2}$ ozs. fresh fruits.

3 p. m.—A cupful of black coffee.

4 p. m.—7 ozs. fresh fruit.

6 p. m.—A glass of skimmed milk.

8 p. m.— $4\frac{1}{2}$ ozs. cold lean meat; 1 oz. of wholemeal bread; 2 or 3 spoonfuls of fruit, cooked without sugar.

We have quoted the above from Dr. Robert Hutchison who comments on these standard dietaries as follows: "In adopting one or other of these plans, the patient's tastes must be consulted, but Banting's system has the great advantage of being simple and easy to carry out. One should make sure, however, that the kidneys are in a healthy state before recommending it, owing to the large excretion of waste nitrogenous matters which its adoption entails. It must be remembered, too, that they are all more or less 'starvation diets' and should therefore not be persisted in for more than a few weeks at a time, during which the patient must be kept under strict observation, and the weight not allowed to run down too rapidly;

three pounds a week is a sufficient rate of loss."

We would certainly cut out the flesh foods, tea, and alcohol from the above diets. We would advocate the use of skim milk, which is lacking in fat but supplies all the nitrogen needed—a half pint could be taken with each meal. One or two granose biscuits with butter would be less risky than so much nitrogenous food.

The patient should take as much active exercise as he can manage, but frequently the weakened heart and circulation prevent active exercise to a large extent. Gentle hill-climbing is of great value if the patient's heart will permit it. The chief danger to the obese is degeneration of the heart and weak circulation. Turkish baths may be taken if the heart and circulation are healthy. Thyroid is the only drug that has been found of any service in the treatment of obesity, but this reduces both muscle and fat. Five grains of the dried gland twice daily is the usual amount given.

334. Tomato Sauce

A correspondent asks how to make good tomato sauce.

Ans.—We do not recommend the use of sauces, as the hot ingredients are harmful to the lining membrane of the stomach. Tomatoes can be boiled to a pulp and bottled in the ordinary way; so prepared, tomatoes are healthful and appetising.

335. Pyorrhoea Alveolaris

"Busher" asks for particulars of the above (pyorrhoea) and its treatment.

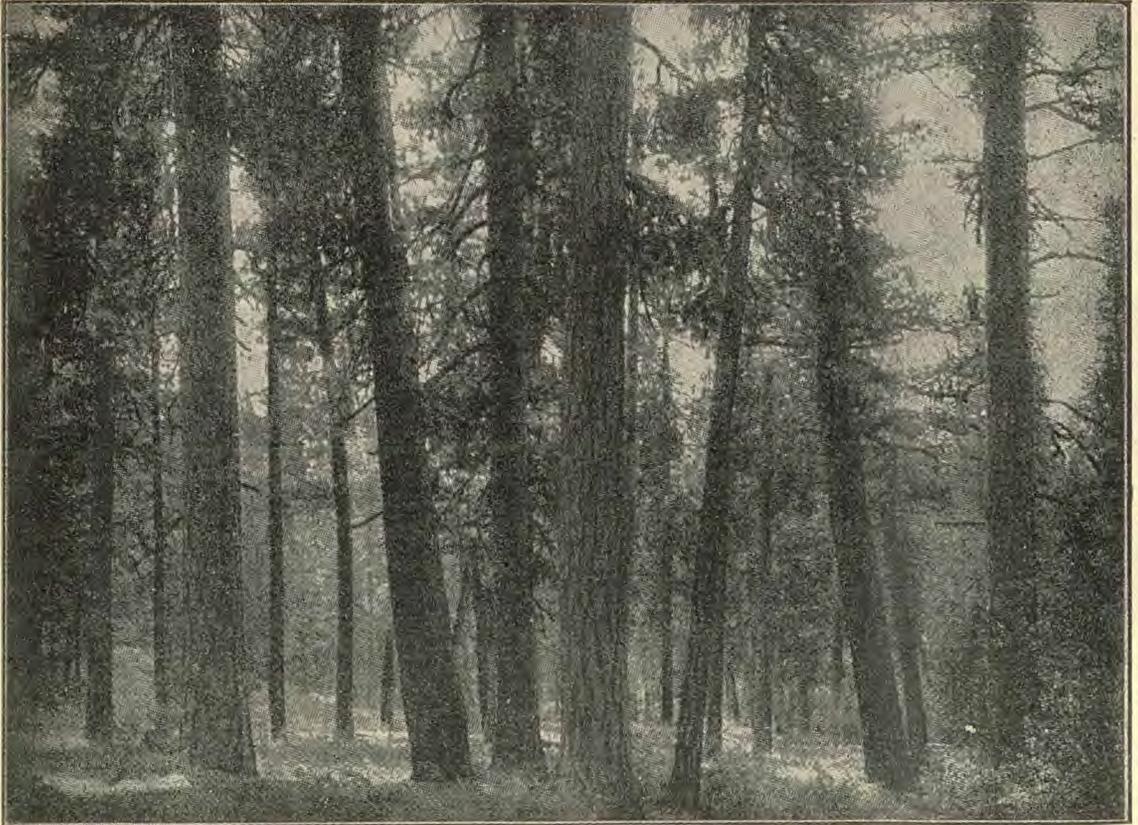
Ans.—The disease first shows itself by red inflamed condition in the gums around the teeth. Gradually the gum recedes from the teeth, which become tender on pressure and loosened. The gums are spongy and pockets of matter can be squeezed between the ulcerated gums and the teeth. Mostly tartar collects around the teeth, and eventually there may be decay of the bone itself. Such a condition

interferes with the digestion and the general health, and is sometimes the cause of rheumatic arthritis. Undoubtedly indigestion and constipation favour the development of the disease. Particular attention should be paid to the digestion and the bowels. Very often, especially when treatment is not adopted early,

removed and decayed teeth, rough fillings, and faulty crowns should be attended to by the dentist. The general health should receive careful attention.

336. Insanity

"Anxious" asks some particulars concerning a case of insanity that occurred



"PROUDLY THE FOREST KINGS THEIR BANNERS LIFT O'ER VALE AND MOUNT"

extraction is the only permanent cure. The main treatment is to keep the teeth thoroughly cleansed especially in the region of the gums. Some of the prepared dentifrices, such as Colgate's, should be used three times a day, after each meal. Once a day tincture of iodine should be thoroughly rubbed into the ulcerated gums all around the teeth. A little cotton wool can be wound around a safety match, dipped in the iodine and rubbed thoroughly around each tooth. All tartar should be

fifteen years ago. From particulars given we should judge there has been a perfect cure; evidently the bodily impediment was the cause and as that has been removed the individual may be treated as an ordinary man. After a cure of fifteen years we think marriage is permissible.

337. Picric Acid for Burns

"Bush Nurse" asks for the quantity of picric acid to be used in water for the treatment of burns.

Ans.—The solution of picric acid should be a saturated one. Dissolve as much as can be dissolved in hot water, about one part to a thousand of water is necessary to prevent the development of germs.

Soak the lint in the solution, cover with wadding, and bandage. Do not place the woolly side of the lint next the skin.

338. Bright's Disease

"Kidneys" asks how he may test his urine in Bright's disease "and also the treatment for nervous thrills running through the limbs and up the spine, ending in a shudder."

Ans.—The diet advised is given under "Albumen in water after Pregnancy" in this issue of LIFE AND HEALTH. The nervous thrills can only be treated by attention to the general health. The daily cold sponge will be found very useful.

339. Constipation in a Baby

"Nyah West's" baby is four months old. She is well, except for being badly constipated. She will go two days without the bowels being opened, and an enemæ has to be used. The mother is also constipated.

Ans.—Sometimes there is a deficiency in the mother's milk in these cases; there may be a deficiency of the sugar cream, or be too rich in the proteid element. The mother's diet should be carefully regulated and her constipation also treated. The child should be put to the breast at regular intervals, only every three hours with a child at four months. Water should be given to the infant between feedings and also a little fruit juice, such as a teaspoonful of sweet orange juice. See that the legs of the child are kept warm; short coating in infancy is often a cause of constipation due to the catarrh set up by exposure of limbs.

Gentle and regular massage with the ball of the thumb round and round the abdomen in the course of the colon

is good. Begin at the lower left hand corner, then up the left side as far as the ribs, across the abdomen to the ribs on the other side and then down to the lower corner on the right side. Water injections often over-dilate the bowel. Suppositories of soap or glycerine are useful. A little piece of soap the size of the tip of the little finger inserted in the bowel will often be efficacious. An occasional $\frac{1}{4}$ grain dose of calomel we have found useful in these cases. Tablets of this size can be obtained from the chemist; they should be given powdered in a little milk.

340. Sores in Early Summer

"S. R." writes: "Would you kindly tell me of a blood cleanser for a boy who every year about December breaks out in sores over his legs; otherwise he is healthy. The sores start with little blisters which grow larger every day; then they start to run with matter for a few weeks, when they again dry up. Sulphur is generally put on the sores to dry them."

Ans.—Probably the boy's diet in summer is practically the same as in winter. As summer approaches, the diet should be lessened, especially in rich, fatty foods and flesh foods. More vegetables and fruit, especially the latter, should be taken with the meals. See that the legs are thoroughly bathed with hot water and followed by a cold sponge three times a week. An ointment of sulphur, boracic acid, and oxide of zinc would help to heal the sores. Use 80 grains of each ingredient to one ounce of vaseline. Sulphide of calcium pills—one grain three times a day—would probably hasten the disappearance of the eruption.

341. Pigeon-toes

"Cassarilla" notifies us of the case of a boy who is pigeon-toed, and bandy. The child is two years old, is in good health, sleeps well, is sturdy, and of an active disposition. He lives up country.

Ans.—The only remedy for this case is

constant and thorough massage of the legs, ankles, and feet. This, of course, must be done, to begin with at any rate, by a qualified masseur.

342. Asthma

"S. J. (Wellington)" asks for treatment for a case of asthma and also whether a short fast, inhalations of steam, or hot enemas would do good.

Ans.—A short fast would do good if the tongue is coated, but not otherwise. Hot enemas are only useful when there is constipation; they should not be above blood heat. Inhalations of steam will not give any ease to asthma. The treatments mentioned by "S. J.," "cold mitten friction, cold morning shower, sea bathing, and well-ventilated bedroom" are all good tonic measures. The tea and beer should be omitted from the diet, also the salmon. There is no special diet for asthma. Certainly an attack of indigestion will often bring on asthma. We would advise that milk be substituted for the meat, that wholemeal bread be taken in place of the white bread, and that the following indigestible articles be avoided: Foods cooked with or in fat, hot scones, rich cakes, hot buttered toast, sloppy foods, pickles, sauces, pepper, mustard, spices, and vinegar. Fruit or vegetables but not both should be taken with each meal.

The climate is of great importance in cases of asthma. Mostly a warm, dry climate suits best. The seaside does not as a rule agree with asthmatics. No definite rule can be fixed; the asthmatic must find by experiment what will suit his case; some do better in the country and others in the cities. A change in climate often results in a cure. High altitudes should be avoided in very chronic cases when the heart is affected. Nitre (nitrate of potash) fumes are very useful during the attack. Unless the air of the room is dense with its fumes little benefit will ensue. It may be burned on hot coals on a shovel or nitre papers may be used. Nitre papers may be made by placing sheets of blotting paper in a saturated solution of nitre, and drying. Prepare

the saturated solution by dissolving as much nitre in hot water as can be dissolved. The following makes a good powder: Equal parts of belladonna, hyoscyamus, stramonium leaves, and nitre. Half a teaspoonful may be burned for each fumigation. We have found the following prescription very efficacious:—

R	Potassii iodidi	ʒii
	Vini antimonialis	
	Vini ipecacuanhæ	aa ʒiv
	Tincture stramonii	ʒiii
	Syr. pruni virg.	ʒj
	Aquæ Camphoræ	ad ʒviii

S One tablespoonful in water thrée times a day after meals.

343. Dandruff

"Toilet" asks for treatment of dandruff.

Ans.—Dandruff is medically known as "seborrhœa," a disease of the skin which sometimes extends to the forehead, eyebrows, nose, and even the cheeks. If not attended to it will cause loss of hair and perhaps baldness. The essential treatment is the thorough washing of the head at frequent intervals with soap spirit, which can be obtained at any reputable chemist's. It is very essential that the soap be thoroughly removed from the scalp by two or three washings of fresh water. The best application after the washing is an ointment of salicylic acid and sulphur, ten per cent of each, in lard or vaseline. Resorcin may be used in the same strength instead of the salicylic acid, but it has the tendency to give the hair a distinctly auburn tinge.

344. Cuts, Wounds, and Ulcers

"Emergency" wishes to know what are the best applications for cuts and wounds.

Ans.—When a wound does not heal readily, the fault is often said to be the state of the blood. Certainly a healthy condition of blood will hasten the healing, but when a wound does not heal readily, in ninety-nine per cent of the cases it is due to the wound not having been thoroughly cleansed from germs and dirt. If water is used for cleansing wounds

it should be boiled and preferably contain some boracic acid. It is better, however, not to use water of any description, although in some cases when the wound is very dirty it is indispensable. The wound is better cleansed with a sterile piece of gauze soaked in tincture of iodine. There is nothing better for destroying germs in wounds than iodine. After the iodine application the edges of the wound should be brought together by sutures of horsehair or silk and again painted with tincture of iodine, covered with boracic acid, and bandaged. If thoroughly attended to in the first place, the wound will not need dressing for two or three days. If, however, there has been any bleeding subsequent to the above treatment, it is better to remove the dressings, again paint with iodine, cover with boracic acid, and rebandage. Many unhealthy wounds which have not healed and have really become ulcers do remarkably well with a plain boiled water application. Give the wound a thorough painting with tincture of iodine and cover with a piece of sterile gauze soaked in boiled water. Over this place a piece of oiled silk or bandage. Renew the application two or three times a day. The gauze or old linen used over the wound is thoroughly sterilised if it be boiled in the water used for the application.

345. Insomnia

"Desperate" asks for a remedy for the above.

Ans.—Most of the difficult cases of insomnia have been made chronic by the use of sleeping draughts. The sleeping draughts lose their effect and the sleepless condition is much aggravated. The cause must be ascertained and removed, if possible. Severe mental shock, worry, long continued mental strain, severe mental work, alcohol, excessive smoking or snuff-taking, tea or coffee, and chronic constipation are frequent causes. In old age the broken and short sleep is the result of senile degeneration of the smaller arteries of the brain. In these cases it is more difficult to reduce the amount of blood in

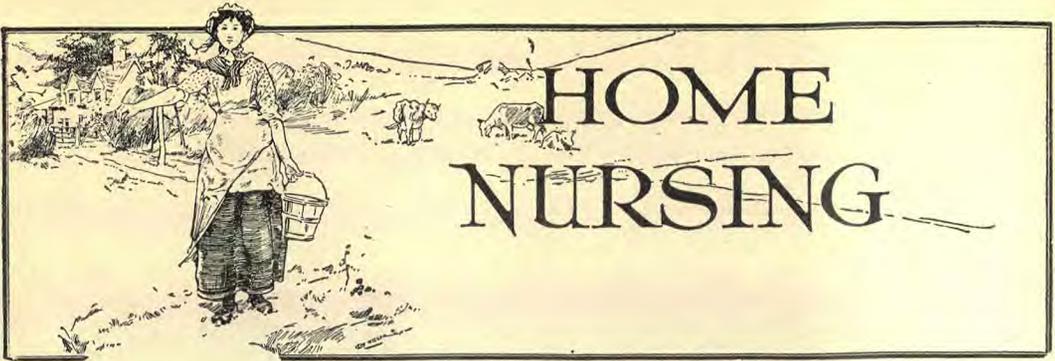
the thinking parts of the brain. Patients of a nervous temperament are more liable to insomnia. Alcohol is often taken at bedtime to induce sleep, but the habit is a pernicious one and the quantity will have to be increased to produce the desired result. This practice most certainly makes the condition more chronic.

The evening meal should be very light and nothing should be eaten after six o'clock. Tea, coffee, and flesh foods should not be taken at the evening meal. A leisurely walk after tea is advantageous in many cases. Reading, especially of excitable literature, should be avoided. The bowels should be kept regular by suitable dietary. Sometimes absorption of toxic (poisonous) products from the bowels is the sole cause of insomnia. The bedroom should be well ventilated and excess of bedclothes should be avoided. The feet must be kept warm and a hot water bottle used if necessary. A hot foot bath is very helpful to sleep in some cases. Another good remedy is the prolonged neutral bath. The water is kept at a temperature of about 98° F. and the time occupied in the bath about half an hour. Sometimes a short hot bath or good general hot sponge will help sleep. An indiarubber bottle filled with cold water and placed under the head is helpful to some. Drugs should be avoided and never taken except on the advice of a medical man.

346. Is Typhoid Fever Infectious?

"Anxious" wishes to know if typhoid fever is infectious.

Ans.—Yes, typhoid fever is decidedly infectious. The germs causing the disease are found in abundance in the stools and in the urine. If these evacuations are liberally treated with some disinfectant, such as chloride of lime or phenyle, and buried or burnt and the soiled linens immediately boiled, infection cannot take place. Visiting a typhoid patient so treated is not accompanied by any danger of infection. Germs do exist on the skin but the regular sponging is quite sufficient to obviate infection from this source.



When Scabies Makes Its Appearance

EMOGENE L. MANCHESTER

SCABIES with the "a" pronounced as in scale and the accent on the "ska," is just plain, old-fashioned itch with a more dignified name. Sooner or later some child in the school or neighbourhood is pretty sure to get it and then before long a number more are likely to become infected.

The appearance of this contagious, parasitic skin disease usually strikes dismay to the mother heart, for the old saw—"As disagreeable as the seven year's itch," is sure to pop into her mind; besides, there is a certain feeling of mortification and chagrin at the idea of harbouring the itch beetle on the body of any member of the family. It is not an agreeable thought and speaks of uncleanly habits somewhere. However, any one, even the most fastidious, is liable to become infected from exposure. It is not a matter of reproach to contract the disease but no one need keep it. Even with our modern and effective method of handling the disease it means some trouble and annoyance to get rid of it, but it can be done.

Now-a-days, it is quite a different problem from what it was before the parasite which causes the trouble was discovered. In earlier times the victim who contracted this malady was liable to be in the greatest torment for months or even years. The disease does not affect any vital organs and yet prolonged annoyance and irritation and the constant scratching soon cause a marked impairment of the health

when the trouble is not checked. Itch is still said to be much more common in European countries than it is here, especially among the poor and illy-housed classes. The skin departments of large hospitals frequently meet the disease, and many more cases are treated by local practitioners or by home means. So there is still a possibility that itch may invade the peace of the home and it is reassuring to know its cause and how its ravages may be speedily checked.

The itch parasite *acarus* or *sarcoptes scabiei* is a beetle shaped much like a turtle. It has eight legs and horny jaws which it uses to burrow between the layers of the skin, thus enabling it to crawl along just under the surface. The female lays her eggs in the path behind her and this darkened track or line often can be distinctly traced for an eighth of an inch or so in length.

The darkened line is not made by the eggs but by the dirt and dust which filters into the small groove. Each lady itch-beetle lays about a dozen eggs and in the course of from three to eight weeks, dies. The eggs in turn hatch and repeat the burrowing and egg-producing process.

The mites select those parts of the body where the skin is thinnest and there is protection and warmth—between the fingers, toes, the wrists, beneath the arms, across the abdomen, and in the groins. Any place where the clothing chafes—such as where the suspenders rub or under

the armpits—forms a fine camping ground for a lusty colony.

The itching is especially annoying at night. The patient scratches and rubs the blotched and roughened surface and when the tops are broken there is danger of a secondary infection from nails and clothing. The appearance may become so much like typical eczema or salt rheum that the primary cause of the trouble may be entirely overlooked or unsuspected.

The annoying parasites are readily conveyed from one person to another, from man to some of the lower animals, and many contend that it may also be communicated from animals to people. Children at school get it by hand to hand contact, by sleeping with infected persons, in infected beds, or by contact with infected clothing.

Where the habits are not cleanly, the body may become loathsome in appearance. Whenever the hands or body show hardened papules, small blisters, or pustules, scabies should be suspected, but in young children it should not be confused with nettle or heat rash.

Naturally, treatment which does not destroy the parasite will not be successful. The first object of the treatment is to get rid of the trouble makers. After the irritating creatures are destroyed, the rash will soon subside. The disease is one of the skin, so internal remedies do not reach it. The first step is to take a very leisurely hot bath which is well impregnated with ordinary baking soda. The body should be scrubbed energetically with a flesh or nail brush and plenty of soap. Continue the bathing and soaking half an hour, then dry the body with a coarse towel. Night is the best time for this treatment.

Next, anoint all parts of the body showing the disease with a suitable parasiticide, that is, an ointment which is intended to destroy the mites.

In the case of young children, the skin is tender and ointments containing sulphur are likely to irritate. Balsam of Peru may be spread on clean linen and applied to the surface, or a ten per cent

ointment of Balsam of Peru made, using lanoline as a base. In the latter case, the addition of a few grains of menthol or of a little mentholated vaseline is cooling to the heated surface. A mild sulphur ointment is made by taking of precipitated sulphur—one drachm, Balsam of Peru—one drachm, and vaseline—one ounce. This should not be used if there is an eczematous tendency. This treatment of washing and anointing should be repeated each day and clean clothing put on afterwards. Bedding and body clothing should be washed separately and sterilised.

With older children a stronger sulphur ointment is desirable and the powdered sulphur may even be dusted between the sheets of their beds. A very satisfactory ointment recommended by Shoemaker for itch is:—

Beta-naphthol	grains	40
Sublimed sulphur	drachms	1
Oil of eucalyptus	drachms	1
Zinc oxide ointment	ounces	1

Apply the ointment regularly and by the third or fourth day the condition should be considerably relieved. Do not discontinue treatment, however, until a complete cure is effected.

If the ointments have caused any irritation, apply a soothing application such as talcum powder, equal parts of starch and boric acid, or a lotion made of equal parts lime water and sweet almond oil.

The various kinds of itch known as baker's, grocer's, etc., are not true itch unless due to parasites, but rather a form of eczema caused by certain substances.

Discourage children from wearing each other's caps or clothing and especially discountenance the use of the common school drinking cup or roller towel.

THE SHORTEST POEM KNOWN

We
De-
Spise
Flies.

—*Cincinnati Enquirer.*

TOBACCO is the worst natural curse of civilisation. — *John Ruskin.*



QUIET TALKS WITH MOTHERS

Drills in Building Character

EDITH BARBER WRIGHT

THE child whose mother does not take time to direct his play or to enter into his activities is entitled to deep sympathy, and the mother who has never had the joy of a sympathetic friendship with her child or who is not interested enough to get acquainted with him is much to be pitied.

There are a great many mothers who give unnecessary thought to their child's dress, spending time and energy in making garments elaborately embroidered or over-trimmed with frills and furbelows of lace and ribbon. These same mothers claim that they have no time to direct the energies of their children and that schools and churches are supported for the purpose of giving children their mental and spiritual training. Even the mother whose work fills her day to overflowing would do better to neglect something other than her child's training.

There are certain things that are necessary for a child to cultivate in order to be successful and to compete favourably with others. He must learn to observe accurately, must have self-confidence, the habit of initiative, an analytical and reasoning mind and must be able to concentrate. It will be to his advantage to be able to think quickly, to become skilful with his hands, to practise self-control and to be thoughtful and considerate of others. These things are not absorbed from books but must be taught him in the home as well

as at school by continual drilling. They are more important than his other lessons because they decide his future success or failure.

These acquirements cannot be incidental, they must be started with the start of life, and it rests with a child's parents whether or not he takes the right road to success. To let a child "run wild" during the first years of childhood unless there exists an utter ignorance of modern methods, is inexcusable. Incompetence, laziness, or selfishness is sometimes at the root of such neglect, but it is more often lack of time or just not knowing how.

Every mother desires to have her children physically strong, mentally keen, with a sense of moral obligations and a deep spiritual insight. Every mother dreams dreams and plans about the future of her child in which he figures as a superior person. But it takes something besides dreaming to help a child to develop those qualities that will make him successful. There must be untiring effort on the part of the mother to drill her child until he has formed habits which will give him the best start in life. Such drills should form a part of the child's daily companionship with his mother up to the age of seven. It is a customary mistake for them to think that if they aid their children in their school studies they are doing all that is necessary towards helping them to be efficient men and women.

In order to help their child to grow into an honest, industrious, upright, helpful citizen, parents must constantly keep in mind his fourfold nature, the physical, mental, moral and spiritual, and give him every opportunity for an all-round development.

First of all there must be incessant bodily activity. Nature demands this for

play and exercise as much as they wish.

Children gain a great deal by playing together and they should be allowed to do so without the interference of older people. However, all children need to be taught how to play and what to play in order that they may get the most out of their plays, for by means of them they should learn lessons of self-control, justice,



PLAYING AT SHOP HAS GREAT EDUCATIVE VALUE

the symmetrical growth of the body and its complex parts. Parents should realise this and make arrangements for their children to exercise. To compel a child to "keep still" is to force him to disobey one of God's sacred laws. Of course there will result noise, confusion, and disorder from the activities of children, but the mother who knows that this is necessary will find it easier to cultivate patience.

When possible, a room with little furniture should be provided for a play room and here children should be allowed to

honesty, unselfishness, fair play, etc. It is the duty of the mother to teach her children how to choose wisely and profit by their play activities.

There are three main types of plays:—

1. Those that require marked bodily activity, as athletic exercises.

2. Those that require manual skill, as hand occupations.

3. Those that imitate activities, as playing shop, house, school, etc.

For manual work there should be provided a sand table, blackboard, chalk of

various colours, crayons, pencils, water-colours, brushes, blunt-pointed scissors, paste, plasticine, clay, coloured beads, coloured papers, etc. Not only should the mother see that her children are provided with this material but she should occasionally work with them, stimulating them to put forth their best effort.

It is the mother's duty to help her children by directing their plays and seeking to give them an all-round development. The first lessons should naturally begin in the form of finger plays when the children are very young. Then there should follow a variety of manual occupations as paper folding and cutting, drawing with chalk and crayon, clay and plasticine modelling, weaving, raffia work, etc. Fruits, vegetables, plants, animals and people as well as such objects as boats, canoes, wigwams, houses, wind-mills, sleds, barns, carts, etc., should be drawn or constructed. By using some of these constructed objects with the sand table, valuable lessons in history or geography may be taught or stories illustrated.

Scenes from native life, stories of the early settlers, the Dutch, Esquimaux, Japanese and other nationalities may be presented to the children in such a manner that they will gain knowledge which will be of help to them in their school work.

A class of manual work requiring greater thought and skill should be given the children as they develop. Tooled leather, metal work, carving, carpenter work, cardboard construction using toned papers and water colours for decorating, will be found most helpful in directing the minds and energies of growing boys and girls.



It should constantly be borne in mind that the real object of work of this kind is not the product of the child's hands but the effect on the child himself. The real value of work of this kind is to make him neat, orderly, quick, imaginative, resourceful, interested, observant, reasonable, inventive, persistent, industrious and independent.

In this work children should be constantly trained to be orderly, neat, accurate, independent, and able to concentrate. They should set everything in order and put away each thing in its proper place after finishing. They should keep all their work spotless. Smudged, soiled, or crumpled work should be done over. They should be as accurate and exact as possible in everything they do. They should work with as little assistance as possible and try to help themselves. They should work steadily until their work is finished, not giving attention to other things until their work is done. Because of the value of this habit, care should be taken not to set too long or tedious tasks.

Parents should realise that children are creatures of habit. A habit is "a rut made by going over the same course repeatedly, a rut into which the same act will fall ever afterwards." The habit forming of children should not be left to chance or environment but should be established by conscious and repeated effort sympathetically directed by some one of authority.

Every mother might use a set of habit drills to advantage in training her children. They can include drills in obedience, order, neatness, observation, imitation, association, imagination, attention and concentration.

The training of a child's senses makes him keener and more alert. If the child is to get the greater part of his education from the world about him he should be taught to use his senses. Our leading educators are beginning to understand that the way to open a child's mind to the objective world is to help him to

make use of his senses, especially those of sight and hearing.

For the first lessons in sight training coloured papers, crayons, fabrics, yarns, etc., may be used. After the standard colours are recognised then the tints and shades may be introduced. The matching of different colours is a most helpful practice. Observation games where the children note down in a limited space of time a group of objects placed on a table or those seen from a window are valuable in training the powers of observation. Have the children observe and describe pictures as well as out-of-door scenes. There are many games and drills which may be used as tests to cultivate the powers of observation.

Bells, tumblers with different quantities of water, musical instruments, sounds of birds, animals and insects will furnish suggestions for training the sense of hearing.

Fabrics, as velvet, wool, silk, cotton, linen, satin, sateen, burlap, buckram, corduroy, cheesecloth, canvas, chamois leather, etc., are good for training the sense of touch. During the lesson the uses of these various fabrics may be discussed.

When the children had become familiar with these fabrics they may be blindfolded and in time tested to see if they can identify them without making mistakes. Materials as wood, sandpaper, metal, rubber, glass, stone, china, plaster of Paris, brick, cardboard, cork, blotting-paper, straw, braid, wire screening, crayon, soap, clay, tin, etc., may be used in the same way as the fabrics.

Occasionally a test of the sense of smell may be given, using flowers, spices, herbs, lemons, etc. The sense of taste may be tested by the use of salt, lemon juice, peppermint, honey, etc. Only the smallest quantity should be given.

Too much stress cannot be placed on the value of parents walking out of doors with their children and pointing out to them the wonderful lessons of creation. By coming in contact with the marvellous

colours and forms which represent God's handiwork they get close to the Creator and recognise something of His power and of the vastness of the universe. Mothers should strive to lead their children to trace back to the Giver of all good and perfect gifts, the foods consumed to give them strength. All the objects that surround them should be natural reminders of their obligations to Him and should stimulate a feeling of reverence and gratitude.

The capacity for being thankful is a matter of education and habit. For this reason mothers should earnestly strive to cultivate the attitude of gratitude and thankfulness in their children. These as well as other spiritual truths can only be taught when there is a close bond of friendship between the mother and her children.

I cannot emphasise too strongly the value of giving children tasks to do in the home. Let children assist with the house-work. The spirit of co-operation binds mother and children more closely. Do not thrust them aside when they express a desire to help. Mothers should look upon this work as a part of the educational training of a child and make provision for such assistance. Some of the valuable lessons that may be taught in the home are: Airing the beds, making beds, dusting, setting the table, washing dishes, cleaning silver, taking spots out of clothing, watering plants, arranging flowers, cooking, sweeping, etc.

Stories that describe horrors, bogies, or anything that will produce fear in the mind of the child, should be kept from them. Tales that make wrong actions attractive should never be told them.

As children develop into men and women taking their positions



in the field of activities, they will achieve success more readily if they have been drilled in the common courtesies of life. It will be mutually beneficial if a mother can arrange to train her children with others. By playing or working together, children are aroused into mental activity for fear of chagrin or fear of being outdone. A few suggestions for a drill in the common courtesies of life have been arranged by Mr. Hillyer. They are as follows:—

1. One should always knock and wait

7. Each child by an act or word should show regard for the desires, preferences and happiness of others.

8. A boy should pick up anything dropped by an older person or by a girl and present it to them.

9. All the children should be most careful to acknowledge any courtesy extended them with a "Thank you."

10. They should never interrupt, or ask a question of two people, who are conversing, but wait until they have finished.

11. They should also practise intro-



ALL PLAY AND NO WORK IS DETRIMENTAL EVEN TO THE CHILDREN

for a responding "Come in" before entering a room.

2. Children should be careful not to pass in front of anyone unless compelled by circumstances to do so, when they should say, "Excuse me" or "I beg your pardon."

3. Boys should rise from their seats at the approach of their teacher, an older person or a girl.

4. Boys should wait for girls to be seated before seating themselves.

5. Boys when going through a door should wait for older persons or girls to pass through first.

6. A boy should offer his own chair to a teacher, an older person or a girl, if there are no chairs nearby and fetch others if needed.

ducing one another, using the simplest forms, for example:—

E—, do you know B—? C—, I want you to meet H—, or A—, I want to introduce T—.

12. They should be sure to say "Good-bye" when leaving and by way of parting, express their thanks, pleasure or appreciation.

These common courtesies of every day life should not be left to untrained instinct or to an occasional chance direction, but should be taught the child by the mother through constant drill.

If a light luncheon is served to a group of children there is an opportunity to teach them table courtesies and habits. A few simple rules for them to observe are:—

1. Wait for all to be seated.
2. Help others first.
3. Anticipate wants of others and pass food.
4. Eat and drink noiselessly and cleanly.
5. Chew thoroughly.
6. Eat without haste or greed.

Children who have been drilled in conversational habits will be at a tremendous advantage when they leave home and mingle with other people. It is unjust to turn children out into the world without giving them a chance to acquire pleasing conversational habits through practice. The lack of this training seriously handicaps a young man or woman when they come in contact with people of culture and good taste. Mothers should endeavour to have their children observe the following rules and practise them until they become habits:—

1. Speak only when no one else is talking. Never break in when another is speaking.
2. Give others a chance to talk. Do not monopolise the conversation when once in hand. Do not speak more than once when others are anxious for an opportunity to speak.
3. Eliminate subjects that are unpleasant or which will give offence.
4. Do not continue to talk about a subject until you become tedious.
5. Say something when there is an awkward silence. Try to draw the silent ones into conversation.

6. Pay attention to the remarks of others and continue them or answer them without contradiction.

7. Do not make unkind remarks or ask unpleasant questions.

8. Be truthful.

9. Use courteous terms and a pleasant manner of address.

Parents make a great mistake in encouraging their children to talk "baby talk" and allowing small children to mispronounce words. Children handicapped in this way will not succeed as well in their school work. Children should be drilled in the home to put life and spirit into their conversation. Nasal, harsh or unpleasant tones should be corrected. A pleasant voice is a great asset to a young man or woman.

There are a great many mothers who feel that they have all they can attend to in clothing and feeding their children, and that they cannot find time to play with or to enter into their life as they would like to do. While it may be impossible for a mother to follow all these suggestions, even a small portion of a day spent in companionship with her child will produce results beyond her comprehension.

It is the mother's friendship and sympathetic understanding more than anything else that helps to shape her children's lives for future usefulness. It is her love and faith and the tender memories of a pleasant home life that give them courage and strength to "fight the good fight."

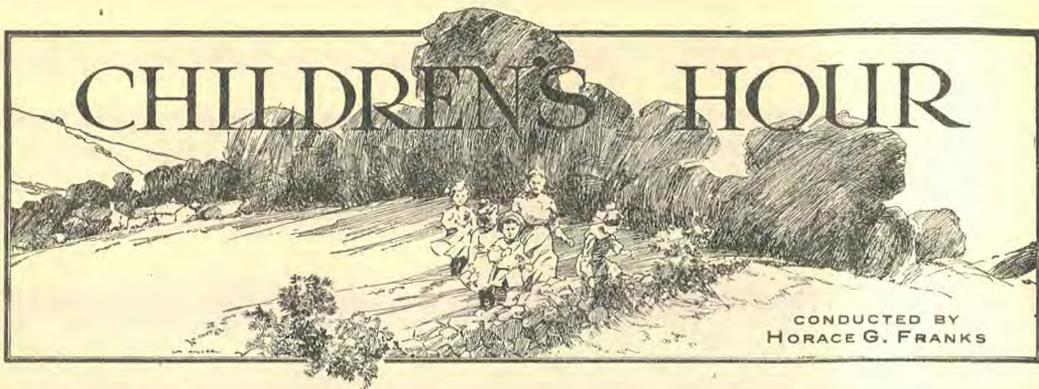
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Child's Health Alphabet

A is for **Adenoids** which no child should own
B for right **Breathing** to give the lungs tone
C is for **Cough** which we should not neglect
D for the **Dentist** who finds tooth defect
E is for **Evils** of foul air and dirt
F is for **Fresh Air**—too much cannot hurt
G is for **Gardens** where boys and girls play
H is for **Hardiness** gained in that way
I is **Infection** from foul drinking cups
J is for **Joy** in the bubbling taps
K is for **Knowledge** of rules of good health
L is for **Lungs** whose soundness is wealth
M is for **Milk**, it must be quite pure
N is for **Nurses**, your health to insure
O is for **Oxygen**, not found in a crowd
P is for **Pencils**—in mouths not allowed
Q is for **Quiet**, which sick people need
R is for **Rest**— as part of our creed
S is for **Sunshine** to drive germs away
T is for **Tooth Brush** used three times a day
U is for **Useful** health rules in our schools
V is the **Value** of learning these rules
W is **Worry**, which always does harm
X is 'Xcess—indulge in no form
Y is for **Youth**, the time to grow strong
Z is for **Zest**. Help the good work along.

How to Live Long

SIR JAMES SAWYER, an English physician, has formulated the following seventeen rules for prolonging life :

1. Eight hours' sleep.
2. Sleep on your right side.
3. Keep your bedroom window open all night.
4. Have a mat to your bedroom floor.
5. Do not have your bedstead against the wall.
6. No cold tub in the morning, but a bath at the temperature of the body.
7. Exercise before breakfast.
8. Eat little meat.
9. Eat plenty of fat [not animal fat]

to feed the cells, which destroy disease germs.

10. Avoid intoxicants, which destroy these cells.

11. Daily exercise in the open air.

12. Allow no pet animals in your living rooms. They are apt to carry about disease germs.

13. Live in the country if you can.

14. Watch the three D's—drinking water, damp, and drains.

15. Take frequent and short holidays.

16. Limit your ambitions.

17. Keep your temper.

More About the Birds

IN our last issue we learned some very interesting things about feathered babies in their homes. This time we will find out where the birds sleep.

Birds are not like little children, who all sleep in very much the same way, because our feathered friends have very many curious habits. They sleep in many different ways, in different places, and for different lengths of time. Many of them sleep all through the winter, while others are content with short daily naps all the year round. And the baby birds are often so sleepy that, like baby boys and girls, they very often go to sleep in their nests while their parents are feeding them. On other occasions, when the mother bird arrives home after her food-hunt, she sometimes finds her feathered chicks fast asleep in their nest, so that she has to tap them on the head

with her beak in order to wake them up!

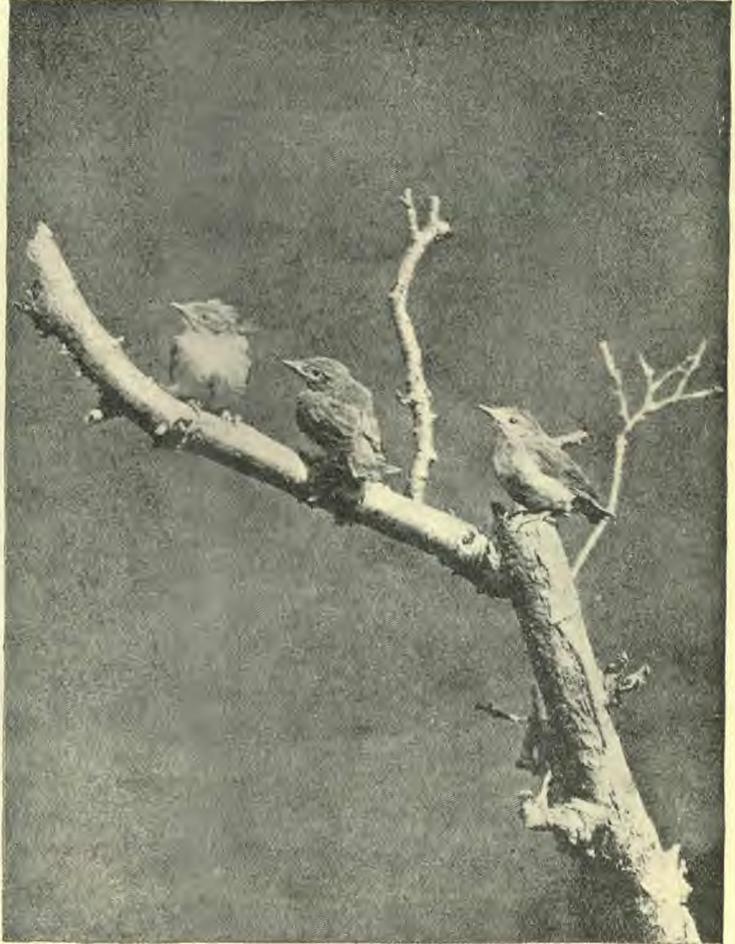
I suppose there is very little need for me to tell you at what time the birds go to bed, for I expect you all know that the "day-birds" believe in the old proverb, "Early to bed and early to rise"; therefore they go to bed with the sun, or just a little later. Of course, there are some birds who like the darkness better than light and who make the most weird and uncanny noises during the night. You know their names as well as I do, so I will not stop to give them.

But let us return to the sleeping habits of the day-birds. As a rule such birds as thrushes, robins, black-birds, starlings, and crows sleep—or roost—on the branches of trees and bushes. Starlings are very sociable, because they generally gather together in large companies before they "retire for the night." The sparrow, that little bird we all know so well, has a summer bed and a winter bed. During the hot weather they sleep right in the open air among the branches of trees, while on winter evenings they are to be found cosily tucked away in the clinging ivy on a building or in a hole in the wall. During the very cold winter nights sparrows and wrens have been found all huddled together in holes, either in a wall or in the ground.

A little girl once asked me how it was that the birds did not get cold during the winter nights because, she said, "the poor little things have no warm clothes or

blankets to wrap around them." Perhaps you have often wondered the same thing, so I will tell you what I told her.

In winter the birds *do* have warm blankets, for the Creator has provided them with beautiful soft fluffy down near



JUST WAKING FROM A NAP

their bodies, and when they go to sleep they tuck their heads right into this soft cushion. They then puff out their feathers and by this means imprison a quantity of air which, through being kept still, gets warm and acts like an overcoat.

Just one more point of interest and then I must close. You want to know how a bird keeps its balance on a tree when it is asleep? It does not fall off

because it cannot! When a thrush sits on a branch, as you see in the picture, and bends its knees, the muscles in its toes immediately become so tight that the bird is really locked to the branch so that it cannot get off until it straightens its legs again, thus loosening the tendons in its toes.

Next time we may perhaps spend a little time noticing how the birds get their food.

If You Are Well Bred

YOU will try to make others happy.
You will not be shy or self-conscious.
You will never indulge in ill-natured gossip.

You will never forget the respect due to age.

You will think of others before you think of yourself.

You will be scrupulous in your regard for the rights of others.

In conversation you will not be argumentative or contradictory.

You will not forget engagements, promises, or obligations of any kind.

You will not bore people by constantly talking of yourself and your affairs.

You will never, under any circumstances, cause another pain if you can help it.

You will not think that "good intentions" compensate for rude or gruff manners.—*Selected.*



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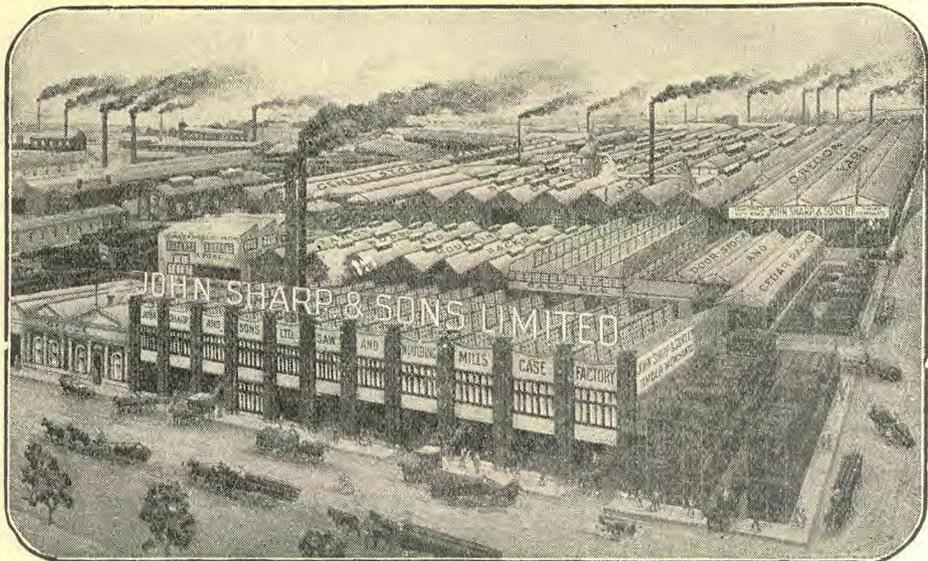
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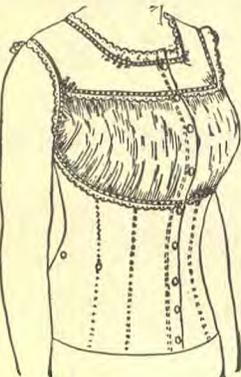
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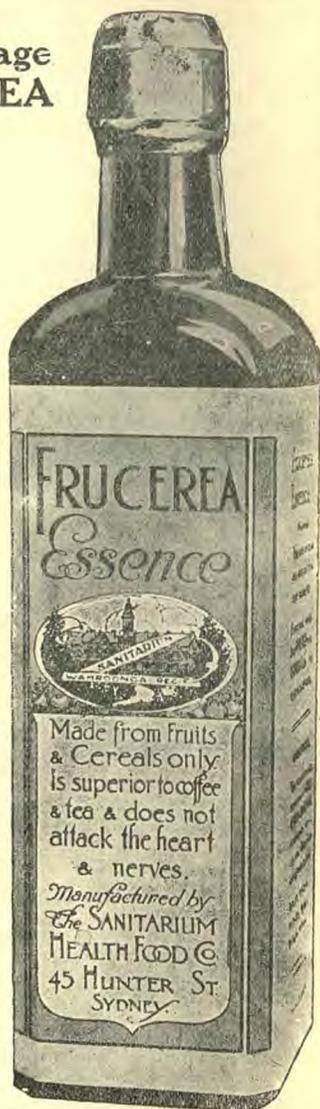
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