

Life & Health



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Almond blossom, sent to teach us that the spring days soon will reach us.—*Edwin Arnold.*



Cerebro-Spinal Fever

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

CEREBRO-SPINAL FEVER has been attracting of late almost as much attention as the war. The pathology of the disease is better indicated by the name of cerebro-spinal meningitis. The termination "itis" always means inflammation, as in conjunctivitis, pharyngitis, bronchitis, etc. Meningitis is an inflammation of the meninges, or membranes, which protect the brain and spinal cord. It is an infectious disease, being caused by a specific micro-organism known as *Diplococcus intracellularis meningitidis*. The disease is not a new one, as it has been recognised for over a hundred years. Dr. Robertson reports there were 169 cases of meningitis in the State in 1914, and eighteen of these were specifically cerebro-spinal meningitis. Undoubtedly there were many other cases—both specific and non-specific—which were not reported. The disease occurs sporadically (*i.e.*, in isolated cases) and in epidemics. The first epidemic was reported by Vieusseux in Geneva in 1805. In 1806 it made its appearance in Medfield, Massachusetts. From 1805-1830 the disease was most prevalent throughout the United States. From 1837-1850 the disease prevailed extensively in France. From 1854-1874

there were outbreaks in Europe and several widespread epidemics in America. From 1875 up to the present time it has broken out in many lands. In New York in 1904-5 there were 6,755 cases, and 3,455 deaths. In Glasgow in 1907 there were 1,000 cases with 595 deaths. In Belgium during 1907 and 1908 there were 725 cases, with 548 deaths. In 1909 there were 130 deaths in England and Wales. At the present time isolated cases occur pretty well in all civilised countries of the world.

In the present epidemic in Victoria fifty-four cases have been reported at date of writing with thirty-five deaths. The epidemic has not been so general as one might naturally believe from the newspaper reports. Many cases of severe influenza are accompanied by similar symptoms, such as running at the nose, severe headache, great prostration, and pains in the limbs. In one of our Melbourne hospitals nine suspected cases were returned to the Base Hospital, St. Kilda Road, as being only severe cases of influenza. The only conclusive proof that the disease is the infective meningitis is the discovery of the special micrococcus. This is found often in the nose and throat, in the cerebro-spinal fluid, and in

the special polynuclear white corpuscles of the blood.

Stokes years ago made the observation that "there is no single nervous symptom which may not and does not occur independently of any appreciable lesion of the brain, nerves, or spinal cord. A development of some of the symptoms may thus be due to influenza, typhoid fever, pneumonia, and not to the specific fever. It is the development of several signs or symptoms that renders a case suspicious. These symptoms are fever, intense headache, especially at the back of the head and down the spine, delirium of a maniacal nature, an involuntary flexion of the head on the spine with tremor and rigidity of the muscles.

The disease is a very serious one, as its chief seat is the central nervous system. The death-rates in various epidemics, according to Hirsch, are from 20-75 per cent. The present epidemic has been over 50 per cent. The disease is not nearly so contagious as smallpox, measles, and scarlatina. It is not communicated so much by the defined case itself, as every possible precaution is taken, but by healthy people who have come in contact with a case. These, as in diphtheria, are called "carriers." The specific germ may be in the throat and nose or clothes, without producing any symptoms. A soldier returns from camp, resides with friends in the country, and the friends contract the disease. Several cases have occurred in this way during the present epidemic. All cases so far reported have been directly or indirectly connected with our military camps.

Prophylactic measures can be taken with the patient. He can be isolated, and the secretions from the nose, the sputum, and the urine can be disinfected. The attendant can adopt measures to disinfect the nose and throat by carbolic wash or application of eucalyptus in various ways; but many may have come in contact with the patient before any pronounced symptoms were developed, and these became "carriers" of the disease. It is in the treatment of these cases that

the chief difficulty of prophylaxis occurs. The period of incubation, the period in which the specific germs develop and produce the poisons which account for the symptoms, evidently varies to a large extent. The onset of the disease is usually sudden, and is ushered in by headache, vomiting, retraction of the head, twitching of the muscles followed by mental stupor, prostration, paralysis of various muscles, and insensibility, but during the incubation period there are no symptoms.

A carrier may have the micrococcus in the secretions of the nose and throat for an indefinite time. It is when other unfavourable conditions arise that the germs develop their specific poisons, and produce the disease. Ill-health, unfavourable surroundings, crowded sleeping accommodation, the hours spent in the theatres, picture shows, etc., will provide the necessary environment for the development of the meningococcus.

Attendance to the hygienic conditions of the person will ward off most of the diseases due to pathological germs, such as diphtheria, tuberculosis, pneumonia, etc., and what is true of these more familiar diseases is also true of cerebro-spinal fever. The secretions and the white corpuscles of the blood, when enjoying full vitality, will destroy all disease-bearing germs with which they come in contact if they are not presented in too concentrated doses. It is the room with closed doors and windows, and without ventilation, that makes the visiting of influenzal, tubercular, and other specific diseases dangerous to visitors. With ventilation the germs are comparatively few in number, and can be overcome by the vitality of the system.

Epidemics of cerebro-spinal fever are, as a rule, localised, and are very rarely widespread. As a rule, country districts are more affected than cities. Mining districts and seaports have suffered most severely. The advent of warmer weather, as a rule, puts an end to the epidemic, the winter and the spring being the most prevalent seasons. Osler writes:—

The concentration of individuals, as of troops in large barracks, seems to be a special factor, and epidemics on the Continent show how liable recruits and young soldiers are to the disease. In civil life children and young adults are most susceptible. Of Koplik's seventy-seven cases sixty per cent were under two years of age. Over-exertion, long marches in the heat, depressing mental and bodily surroundings, and the misery and squalor of the large tenement houses in cities are predisposing causes. The disease is not highly contagious, and is probably not transmitted by clothing or the excretions. It is very rare to have more than one or two cases in a house, and in a city epidemic the distribution of the cases is very irregular. Councilman found five instances in which the same individual is reported to have had the disease twice. Meningitis carriers, persons who have the germ in their throats or noses, but who are themselves unaffected, play an important rôle in transmitting the disease.—*The Principles and Practice of Medicine*, page 109.

In the worst class of the disease the poison is so intense that death may occur within the first twenty-four hours; in fact, before any decided pathological changes can be developed in the brain and spinal cord. In the majority of severe cases, death occurs within the first five or seven days. After that time recovery is the most likely result. The disease, however, may remain for seven or nine months. A full recovery from the disease may be much delayed, headache may persist for months after an attack. In children, chronic hydrocephalus (popularly known as water on the brain) may be a permanent result. Mental feebleness and difficulty in speaking (aphasia) sometimes result. Paralysis of different parts may persist for some time. Deafness is another result, and in children there may be consequently deaf-mutism.

In the body, if the disease is not too acute, the natural remedy for the disease is produced just as in other acute infectious diseases. Preparations from the destroyed germs sometimes have favourable results when injected into the blood. Dr. Robertson writes, "So far there was no cure for the disease. Those who have recovered had done so by reason of the manufacture of resisting vaccine in their own blood. The Flexner serum, discovered by the Rockefeller Institute, was the best remedy so far, but it was useless unless injected into an actual case of cerebro-spinal meningitis. . . . A supply

of the Flexner serum was kept in the State, but it had been quickly exhausted by the present outbreak. Eucalyptus would kill the organism outside the body, so would turpentine and many other things, but it would not affect the organism inside the body."—*Argus*, August 21.

Non-specific treatment, such as applied to ordinary cases of inflammation of the brain, is always advisable. The hair should be cut short, and the ice-bag applied at intervals. The diet should be liquid, and given frequently. Sometimes on account of stupor the patient has to be fed through a tube. The temperature can be controlled by tepid sponging. Where the case is of long standing, the skin must be carefully attended to on account of the liability to bed sores.

Where Do You Sleep?

R. Hare

IT is recognised by most minds that sleep is a physical, mental, and, in truth, a spiritual necessity. Poets have said some very beautiful things about it, and called it by some very sweet names:—

Nature's soft restorer, balmy sleep.
Life's nurse sent from heaven to create us anew day
by day.
Oh, sleep! sweet sleep! whatever form thou takest
thou art fair.

But they have never said more than is true concerning its value to man.

The ancients understood something of the importance of sleep, and a god, Morpheus, was especially dedicated to preside over slumbers, and to give sweet dreams. Probably our readers do not believe in this feature of Roman mythology, but for all that it has its signification in real life. It is indicative of a known want in human existence. Romance also talks of its "sleeping beauties" and of its "wakeful witches."

About one-third of our time should be devoted to sleep, so that the man who has lived seventy years should have spent about twenty-three of these in slumber's sweet forgetfulness. Of course, we read of men who are said to have spent but a

few hours nightly in sleep, but we must regard them as some of nature's non-descripts, or at least exceptions to a general rule. We may cheat nature with the hope of gaining time, but after all it will be a mistake, though it may take years to convince us of our folly.

There is no fact more clearly established in the physiology of man than this, that the brain expends its energies and itself during the hours of wakefulness, and that these are recuperated during sleep. If the recuperation does not equal the expenditure the brain withers—this is insanity. Thus it is that in early English history, persons who were condemned to death by being prevented from sleeping, always died raving maniacs; thus it is also that those who are starved to death become insane—the brain is not nourished and they cannot sleep. The practical inferences are three: 1. Those who think most, who do most brain work, require most sleep. 2. That time saved from necessary sleep is infallibly destructive to mind, body, and estate. 3. Give yourself, your children, your servants—give all that are under you the fullest amount of sleep they will take by compelling them to go to bed at some regular, early hour, and to rise in the morning the moment they awake; and within a fortnight nature, with almost the regularity of the rising sun, will unloose the bands of sleep the moment enough repose has been secured for the wants of the system.—*Many Thoughts*, page 563.

This is both wise and thoughtful counsel concerning the value of sleep, and now the force of the question, "Where do you sleep?" will appear, for if one-third of our life is spent under wrong conditions, nature must suffer for this as well as for all absolute neglect. When you sleep is your head in the corner of a room buried under heavy exhalations of carbonic acid gas? Or do you sleep where the sweet breath of the roses can blow across your couch with restfulness for your slumbers, and inspiration for your dreams?

Some sleeping apartments are little less than pestilential, and when their occupants rise in the morning from that "carbonic corner," it is at least with aching heads and confused perceptions.

The Creator has supplied an abundance of air, and all nature seems to appreciate the gift with the exception of the human factor. And this being, who should be the most intelligent of all, pushes his head into a corner, and undertakes to sleep in an unventilated and evil-smelling room.

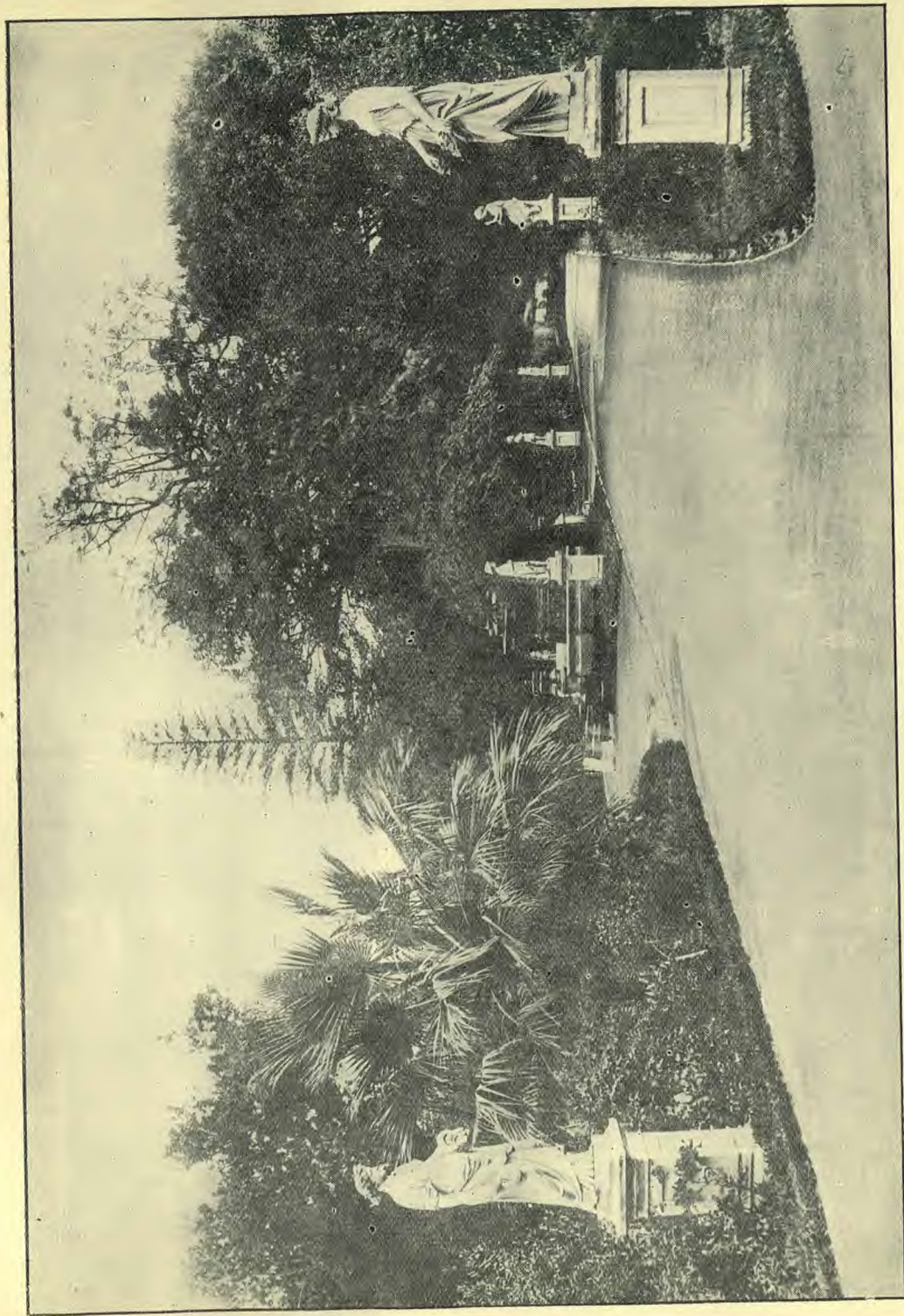
Each person exhales about one cubic inch of carbon-dioxide, and at least one cubic inch of other poisons at each respiration. This is thrown off into the atmosphere, and, if unchanged, the air in a room soon becomes poisonous and unfitted for use. At least 3,000 cubic feet of fresh air are required per hour by each person, and without ventilation—good ventilation—this cannot be secured.

How foolish, then, to sleep with the head pillowed in a corner of the room. Even if the door and window of the room are open, this must be a destroying practice, but with the door and window closed, it is nothing short of slow poisoning. Nearly 500 gallons of blood pass through the heart to the lungs each day. This must all be purified by casting off the poisonous elements through the breath, and by taking in the pure oxygen by inhalation. For this process more than eighty barrels of air are daily required, but if the air is retained stagnant in a room it becomes a deadly power instead of a life-giving agency. The air contained in a seven by nine bedroom, eight feet high, would remain fit for breathing less than ten minutes when inhabited by only one person, if unventilated.

The head should not be pillowed in the corner of a bedroom, but rather in the centre, neither should the door or windows be closed. Sleep can only become nature's true restorer when the best of conditions obtain for plenty of fresh air.

Again we ask the question, "Where do you sleep?"

AT least sixty-five universities and colleges of the United States now offer courses for the study of the liquor problem, for which curriculum credit is allowed. In addition more than a hundred colleges have voluntary study-classes, largely under faculty leadership, where credit is not given. From these figures it will be seen that the liquor problem is now the subject of serious, systematic study in 175 to 200 American colleges.



A PLEASANT WALK IN THE SYDNEY BOTANICAL GARDENS

Moderate Drinking and Efficiency

W. T. BARTLETT

EVERYBODY knows that alcohol taken freely makes a man incapable of thought or work, but there are many people who drink in moderation, and who claim that they do their work better for an occasional glass. They seem to think that, although two glasses might prove harmful, one glass may be beneficial. The truth is that alcohol in the smallest quantities is still a poison, and though its evil effects are limited by the smallness of the quantity taken, so far as that quantity goes it has a poisonous and paralysing effect.

The effect of moderate drinking, however, is no longer a matter for theorising about. Careful investigation has been made by scientific inventors, and one of these, Prof. Kraepelin, has demonstrated beyond question the loss of efficiency caused by the very slight use of alcohol. Sir Thomas Clouston, M.D., in a recent address referring to these experiments, said:—

“Kraepelin has made accurate scientific experiments as to the effect of moderate doses of alcohol, well within the quantity taken dietetically by millions of persons, inquiries extending to both intellectual capacity and the co-ordination of muscular action with mind. Kraepelin states that there was a sensible lowering of the capacity for work, increased excitability, that power of attention was diminished, will power lessened, and the reflexes dulled; while the co-ordination and adjustment of mental effort, with accurate voluntary muscular co-ordination, were adversely affected. He also found that a certain effect on the brain cells was left after the alcohol was discontinued, so that they were more susceptible to these effects for at least several weeks, so that when the use of alcohol was resumed the faults of attention and muscular co-ordination appeared sooner, and were so great under the influence of one ounce of whisky that

eleven per cent of errors occurred, and that three ounces of whisky produced fifty-four per cent of error as compared with the normal power of those experimented upon. Prof. Kraepelin told me that he was so impressed with the scientific result of those experiments that ever since he made them he had abstained from the use of alcohol in any form, and that no inducement would make him touch it in his diet.”

The amount of alcohol contained in one ounce of whisky is equal to that contained in one glass of ordinary beer. This would be considered a very moderate daily allowance, yet under the influence of this amount of alcohol the drinker loses eleven per cent of his normal efficiency. This means that his work takes longer to do, that it is not so well done, that he is more inclined to forget, and that he is in general far below the standard he is capable of reaching. It is no wonder that the railways in America, and other large employers of labour, are beginning to demand that their workpeople in responsible positions should be abstainers from alcohol. When the secretary of the United States Navy was justifying the order to abolish the use of strong drink for officers and men, he pointed to the stand taken by many of the leading railroad companies and said:—

“You take no chances with the engineer of your train. Why then should you seriously ask me to take chances with those who direct the movements of our ships? The wreck of a great battleship, the loss of a critical battle, and the honour of our country may easily hinge upon one of many men in the varied and complex duties which these great masses of intricate machinery called battleships have created.”

The same reasoning is sound when applied to all the important duties of life. The parents are dealing with responsibil-

ities of infinite weight when training their children. Men and women may exert a powerful uplifting influence on one another. Why should not those who appreciate the possibilities of life decide to live up to their full capacity, and make life fully worth living?

The International Medical Manifesto on temperance, signed by seven hundred and twenty-four doctors, made reference to the common idea that moderate drinking is harmless and even helpful. The doctors assert with all the weight of their scientific authority and practical experience:—

“All the bodily functions of man, and every other animal, are best performed in the absence of alcohol, and any supposed experience to the contrary is founded on delusion, a result of the action of alcohol on the nerve centres.”

No more delicate skill is required in any art than that of the surgeon. If the popular idea were correct that alcohol in moderation enables a man to excel himself, then the operating theatre, of all places, should attest the fact. The surgeon must be at his very best; one slip of a finger, or one momentary error in judgment, may have fatal consequences. What does Sir Frederick Treves, the famous surgeon, say?

“Alcohol is certainly inconsistent with what may be called ‘fine work.’ It is inconsistent with the surgeon’s work, and with anything that requires a quick, accurate, alert judgment.”

Professor Huxley laboured under no uncertainty whatever as to the value of alcohol to a brain worker who aspired to be at his very best:—

“I can say without hesitation that I would just as soon take a dose of arsenic as I would of alcohol, under the circumstances [as a stimulant to the brain, in mental work]. Indeed, on the whole, I should think arsenic safer.”

Surely every one of our readers is possessed of an ambition to live to some purpose, to be thoroughly efficient in such tasks as fall to his lot. Efficiency dignifies the humblest labour. Since alcohol

lessens our ability to do our best, let us for our own sake, and for the sake of Him who made us, refuse to cheapen ourselves by sacrificing the possibilities of life to indulgence in alcohol.

Teeth and Health

IN a recent public lecture at the Harvard Medical School Dr. E. G. Brackett, of Boston, called attention to the importance of the teeth in the human economy. “The teeth,” said Doctor Brackett, “are often a primary cause of rheumatism. Many persons seem to have perfect teeth, or the dentist has treated them so scientifically that the patient has no trouble; but it has been found in many cases that abscesses have formed at the root of a filled tooth, and upon the removal of these abscesses the rheumatism has disappeared.” Doctor Brackett also showed the close relation of the teeth to the general health of the body. Bacterial poisons are commonly found round the roots, especially where pus pockets exist. Not only do these pus pockets cause swollen joints, but they are responsible for other complications, including intestinal ailments. Fortunately, it is not hard to discover the sources of the trouble; an X-ray photograph of the jaw at once reveals the tiny pockets, which then can be easily removed.

“UNTIL little more than a century ago humanity had to rub along without false teeth, of which nowadays one firm alone claims to sell over 12,000,000 a year. The first successful maker was Giussepangelo Fonzi, an Italian dentist, who started practice in Paris in 1798, and, thanks to his skilful treatment of Lucien Bonaparte, soon made his way. After years of experiment he discovered the substance from which artificial teeth are made, and received the gold medal of the French Academy of Science. One of the earliest persons fitted with false teeth

was the Empress of Russia. After Waterloo Fonzi migrated to London, and then to Madrid, where Ferdinand VII. rewarded him with a yearly pension of a thousand ducats for a set of false teeth."

Diseases Transmitted through Public Baths

THE *Journal of the American Medical Association* says: "It may seem like an incongruity to speak of the hygienic dangers lurking in the public bath. The growing popularity of swimming pools has led to an increased interest in their sanitary condition. There is no longer any doubt that they can actually transmit disease. . . . Typhoid fever and diarrhoeal conditions have been traced to swimming pools in colleges and universities, secondary and elementary schools, gymnasiums, clubs, steamships, and special bathing establishments."

In the olden days, when an individual was born, lived, and died in a little neighbourhood, there was not the opportunity that modern travel presents for spreading diseases. But to-day an individual may become afflicted with an infectious or contagious disease, and travel extensively; and as he travels, he leaves the germs of his malady in all the public institutions that he visits. Conditions in this respect are very different from what they were a hundred years ago; and therefore those who really care to preserve their health, need to be much more particular than ever before.

The Microscope a Great Civiliser

THE microscope has been the most important of all instruments in the work of civilising the wild quarters of the globe. It is the microscope that has enabled us to discover the invisible enemies of man—the germs, or bacteria.

Common flies are fortunately not as large as ponies. But the high-power microscope can make them so. We turn our lens to a fly's foot, and we find it to

be a wonderful structure, furnished with two hook-like claws, and with two pads between the claws covered with hollow hairs or tubes, through which the insect squeezes a sort of gum, enabling it to walk stickily upside down on ceilings. We find that the eyes of flies and beetles are made up of thousands of little lenses, thus explaining their quickness of vision. We peer at the antennæ, or feelers, of a common moth, and we find them to be wonderfully complex affairs, consisting of a main stem, from which numbers of branches spring, covered with the tiniest hairs; the tongue of a butterfly is like a coiled watchspring; the tongues of other insects resemble lobster claws. The feet of many insects are furnished with claws like those of bears.—*Selected.*

SULPHUR and molasses has been regarded as one of the standard remedies for the so-called "spring fever." But Dr. Welzmler, physical director of the Y.M.C.A. in New York, says, instead of taking such mixtures, "eat less steaks and more fruit salads, and don't forget exercise."

"THE Kaiser," says an exchange, "though imitating Napoleon in many things, does not seem able to effect the Emperor's disregard for clothes. As everyone knows, his Germanic Majesty's wardrobe is the most extensive in the world. Napoleon, according to his tailor, Leger, who took him in hand in 1810, had until that time been so parsimonious that his whole outfit was not worth £80. Leger instituted reforms, obtaining a standing order for six grey overcoats in winter, and six green uniforms in summer, together with a new pair of trousers and a waistcoat once a fortnight. But his Imperial client's taste in such matters was so poor that Leger had to tell him on one occasion that he would not cut a tunic to his suggestion for all the wealth of France."

The Problem of Nutrition, or Why We Eat

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

BESIDES air and water, both of which are of prime importance to the maintenance of life and health, the living body also requires for its sustenance a certain amount of more or less solid matter, which we term food. Dr. Robert Hutchison defines food as "anything which, when taken into the body, is capable either of repairing its waste or of furnishing it with material from which to produce heat or nervous and muscular work."

As yet we don't seem to have found an infallible system of diet suitable alike for all ages and conditions of life. The stomachs and livers of people appear to differ as much as their noses, and there is some truth in the saying that "one man's food is another man's poison." Nevertheless, there are certain axiomatic, guiding principles with regard to our daily food which we can lay down without appearing to be unduly arbitrary or dogmatic. It is a fact that the simpler and plainer the system of diet, the less difficulty there is in adapting it to large classes of individuals.

The Human Engine

The body has long since been described as a living machine, a sort of combined furnace and engine in one. Like the engine, it requires fuel for the production of steam with which to drive it, and a certain small but none the less necessary amount of building and repair material with which to maintain its upkeep, and prevent it from going to pieces through deterioration. The food we eat furnishes both fuel and repair substance, and must be looked upon, along with air and water, as one of the supreme supporters of life. Good food is a natural stimulant, a real tonic, which only benefits and never leaves behind in its wake any after effects of a depressing and harmful nature.

We have, then, two great classes of food serving the two requirements of the

human machine. First, there are tissue-builders or tissue-repairers, the chief being the nitrogenous element of our food, that is, the proteins, such as the white of an egg, the curds of milk, the gluten of wheat and other flours, and the legumin of the pulses. During growth the body requires a larger proportion of these foods to provide both for building new tissue and repair of the old tissues, but after maturity has been reached, only an amount sufficient to make good the daily wear and tear of life is necessary.

1. *Building and Repair Food.*

- a. Proteins, including albuminoids.
- b. Salts or mineral matter.
- c. Water.

The second great class is composed of the fuel foods, and includes proteins because they are also capable of furnishing a moiety of fuel for the supply of heat and energy.

2. *Fuel or Energy Foods.*

- a. Starches and sugars.
- b. Fats.
- c. Proteins.

Tissue-Builders

As in the case of the locomotive or any other engine, the metal, that is, the building material, is of supreme importance. If the machine were not kept in repair, it would soon fall to pieces and become useless; so with the human machine. Protein matter is of "pre-eminent" importance, because without it life could not exist. It is the only food capable of building new tissues and making good the losses which are continually taking place. If all the protein matter were removed from the food a person would die sooner on such a diet than if no food at all were taken. It is possible to live on proteins and fat alone, as witnessed by the Pampas Indians of the Argentine and Patagonia; but, of course, it is not desirable or wise to select such an exclusive diet.

The amount of repair food required by the average adult is comparatively small, certainly less than ten per cent of the total intake. A growing child would require a larger proportion, and should therefore not be stinted in diet.

Fuel Foods

The best fuel foods consist of starch, sugar, and fats, and these may be looked upon as the real work and heat producers of the human body. Liebig, the famous physiologist, believed that proteids were the chief sources of muscular energy, but this has now been shown to be a complete fallacy. He also believed that carbonaceous foods, that is, sugar, starch, and fat were merely capable of producing heat, but no other form of energy. This, too, is a fallacy. Nevertheless, the vast majority of people to-day, judging from their habits, still seem to be influenced by the erroneous teaching of Liebig, and the consequence is that they take altogether too large an amount of repair food. This surplus of building material which is not required for the repair of the body becomes a sort of clinker in the human furnace, and causes irritation of one kind or another, and gives rise to various discomforts and probably also diseases, including cancer.

The great bulk of the food undergoes combustion in the body for the purpose of furnishing heat to maintain a certain fixed temperature of 98.5° F. This is the normal heat of the body, and only a slight variation of a few degrees above or below this natural temperature causes more or less dangerous disturbances. Fuel foods furnish all forms of energy, muscular, nervous, or chemical, as well as heat.

Every form of tissue activity, whether it is the contraction of muscle fibre, the sending of nerve impulses, or the manufacture of secretions or excretions, is always accompanied by the production of heat. It was once thought that the burning processes whereby heat is produced took place only in the blood, but now we know that the fires of the human furnace exist everywhere throughout the tissues and organs of the body, including the

blood, and that the chief purpose of the blood, as far as heat is concerned, is to equalise the temperature throughout the human system.

Hutchison tells us that "life and heat are inseparable," and it is a fact that any serious interference with the normal temperature of the body is accompanied by grave or even fatal consequences.

From this brief glance at the composition of our daily food we may conclude that ninety per cent or more of it consists of sugar in the natural state as we find it in various fruits, such as grapes and bananas, and vegetables, such as sugarcane and sugar-beet; or in the form of starch, as found so abundantly in cereals, rice, potatoes, and chestnuts, and which, in the process of digestion, is changed into sugar; and fats, such as butter, cream, and vegetable oils, like olive oil and coconut oil; and only a small proportion, something less than ten per cent, of the more solid building material is required for the maintenance of a healthy human machine.

Your "Peck of Dirt"

It is an old saying often quoted when eating amid doubtful surroundings that "everybody will have to eat a peck of dirt."

"Yes," said the old farmer, pulling a gob of hair from his mince pie and spitting out a button from his next mouthful, "I may have to eat a peck of dirt in my lifetime, but I don't want to eat it all at one meal."

In recent days people have found out that clean food means good health and dirty food means bad health. At the same time many a diner would lose his appetite if he went into the kitchen of the restaurant where he is eating.

Conversely many restaurants make a point of inviting visitors into their culinary departments where things are kept so neat and clean as to really afford a good advertisement.

The man who has been compelled to get his food in restaurants and cafés for

many years records below some of his experiences. The record becomes edifying if you proceed to kick every time your attention is called to anything similar:—

“I have seen a waiter wipe his sweaty forehead with the towel he carried on his arm for wiping dishes.

“I have seen knives, forks, and spoons, which had been used a short time before simply wiped on a not too clean tea-towel without even dipping them in water.

“I have seen tumblers, after having been used at table, simply wiped with a not too clean tea-towel without even dipping them in water.

“I have seen knives, forks, spoons, and tumblers, after being at table, rinsed in greasy yellowish dish water, and then wiped with a tea-towel which was an approach to rubber roofing in colour.

“I have seen restaurant kitchen help pass hands through their hair and then handle sliced bread.

“I have seen two mice jump out of a bread-box, and the sliced bread therein sent to the table as if nothing had happened to it.

“I have seen a waiter pick two flies out of a glass of milk with his fingers, and then place it on a table to be drunk by a child.

“I have seen a cook at a nickel-bound grill in white cap and coat insert his finger in his mouth to scratch the interior surface, and upon removal immediately pick up a nice porterhouse steak and place it upon the broiler.

“I have seen flies proceed direct from a spittoon to a bowl of berries on the counter which were waiting there to be served when called for.

“I have seen a cook change his shoes and socks in his kitchen and then, without washing his hands, proceed to the handling of food.

“I have seen a bowl of sugar spilled upon the floor, then picked up with the hands, and carried directly to the table.

“I have seen a basket of lettuce sitting on the floor in a restaurant kitchen and a dog belonging to the cook, but never mind—

“I have already probably seen too much, and will cease with the observation that we eat heaps of microbes without receiving any harm, and then again harm does result.—*The Healthy Home.*

The Art of Resting

To rest seems quite simple. There are plenty of people who do not have to learn how at all, to whom resting comes with a fine natural grace, as do the arts of eating and sleeping. These people are not all idlers, either. Perhaps the greatest workers of the world, at any rate those who accomplish most, are the men and women who can relax completely, even in the midst of vast affairs; who keep in their hearts an unwrinkled corner of serenity; who can snatch a moment's sleep between two great decisions, come out of it refreshed, and make their decisions right.

But to many of us hurrying, hustling, nervous people resting is one of the lost arts. We rush from work to so-called recreation and from recreation back to work again. We say that mere change rests us. So it would, if we took it in the right spirit; but there is no rest when the eye is on the clock, no rest when the hours and the days are too short for the things we undertake to do in them.

Then, for some of us, comes the imperative order: you must rest—and to our horror, we find that we do not know how. We try long hours of external quiet, long black nights when the quiet is only external. We try change of air and change of scene. But in spite of external quiet and external variety, the thoughts keep tapping—patter, patter, patter—on the tired brain like raindrops beating on a roof. It takes months, perhaps years, of wasted life to teach us the lesson that at the proper time we might have learned so easily.

For rest is a spiritual grace, an art that can be acquired in early years and practised with untold benefit. Teach it to your children and begin to learn it your-

self, even now—the art of being absolutely relaxed and quiet, even if only for a little while. No matter how work presses, no matter how life whirls about you, teach yourself to become for a few moments every day as passive as the white clouds or the green fields or the tranquil stars. So will you put a new strength into your work that will make every stroke and stitch of it more lasting and more beautiful.—*Youth's Companion*.

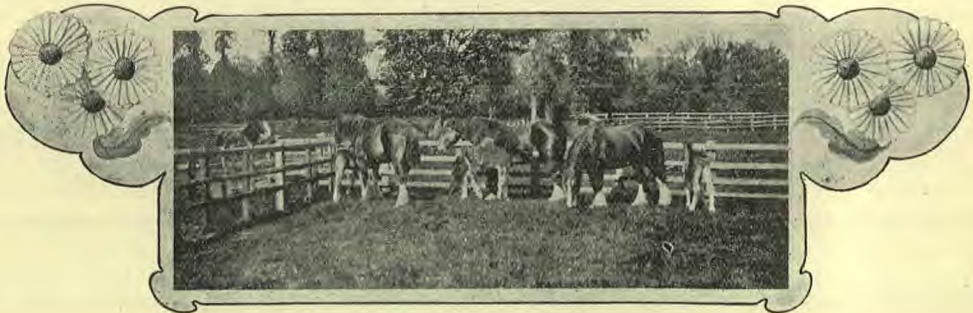
Camphorated Oil

THERE are, says a household journal, several easily prepared home liniments, which are good for stiff joints or to relieve the pain in rheumatism. One which should be in every home is camphorated oil. This may be bought ready for use, but is usually stronger when put up to order. In a bottle of best sweet oil put camphor gum until it will dissolve no more. It is best to put more than will dissolve to be sure of having it as strong as possible. This should be well rubbed in before the fire. It is also fine to rub on the throat and chest of a croupy child. It is of especial value to use about children, as it does not smart when put upon a cut and is very healing. This white

liniment is said to work wonders when applied to stiff joints.

LORD KITCHENER'S notion that the war may be for years is soldierly, but not sensible. We cannot afford to drain a million male adults who have passed a strictish health test from the work of parentage for several years unless we intend to breed our next generation from parents with short sight, varicose veins, rotten teeth, and deranged internal organs.—*Bernard Shaw*.

A SURGEON in the British army in India writes that he has for several years employed with success in the treatment of dysentery a very simple remedy consisting of one dram of cinnamon bark reduced to a fine powder, and made into a ball with a few drops of water, this to be taken every morning and evening. He has found this remedy a very successful one. He had learned of it from a Persian medical work, the remedy being very popular in Persia. The virtues of this remedy may be due to the antiseptic or germicidal properties of oil of cinnamon.





GOLD MINE, MT. ST. BERNARD, VICTORIA. THE HIGHEST MINE IN AUSTRALIA

N. J. Caire, Photo., Melb.



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

349. Cocoa

Enquirer asks if cocoa is a healthy beverage.

Ans.—Robert Hutchison states: "In some cases of gout it is advisable to strike tea and coffee out of the diet, for caffeine is a source of uric acid in the body. Theobromine is so too, but cocoa contains so little of it that it is practically harmless." In a footnote Hutchison remarks that "Sanitas Health Cocoa contains no theobromine (sold by Battle Creek Sanitarium Co., Ltd., Battle Creek, Michigan, U.S.A.*)" "The place of cocoa," says the same writer, "in the diet is not really very different from that of tea and coffee. An examination of the chemical composition of cocoa might lead one to suppose that it was of considerable nutritive value. But that would be a mistake. Theoretically, cocoa is a valuable food, but practically it is not, the reason being that so little of it can be taken at a time. In this respect it is exactly comparable to many of the beef-extracts already considered. . . . It takes about ten grammes ($\frac{1}{3}$ ounce) of cocoa to make a breakfast-cupful of the beverage, and assuming the average composition given already, this would yield forty calories of energy. It would, therefore, require fully seventy-five such cupfuls to yield the total amount of potential energy demanded of the body daily—obviously an impossible quantity. Of course, if the beverage is prepared

entirely with milk and plenty of sugar, it becomes an important food, but that is due to the milk and sugar, and not to the cocoa. Chocolate is of more value. Half a pint of milk and two ounces of chocolate yield together fully 400 calories, and $3\frac{1}{2}$ pints would suffice to supply all the energy and a large part of the building material required in a day." Many, however, find cocoa and chocolate interfere with the digestion. Specialists on dyspeptic troubles usually condemn the use of cocoa and chocolate. Although the action on the nervous system due to the alkaloid theobromine may be practically ignored, the fatty constituents interfere with duodenal digestion.

350. Liquorice

"Myrtleville" asks: "Would you kindly let me know something about liquorice? What is it? Where it comes from? and if it is good to take, and how much can be taken to be beneficial?"

Ans.—Liquorice root (*Glycyrrhiza radix*) is cultivated in England. It contains grape-sugar, glycyrrhizin, starch, resin, asparagin, and malic acid. Liquorice in anything like large quantities would interfere with the digestion. It is chiefly used in cough mixtures to cover the taste of other ingredients. Its chief action is mechanical. It is a demulcent, and allays the irritation of the throat. It is in coughs due to throat troubles that makes

it valuable as a temporary remedy. It, however, has no permanent effect on troubles causing cough.

351. Diet for Nursing Mother

"M. T." would like advice about diet for a nursing mother to take having previously taken cocoa and beef tea. Also a food for baby with mother's milk which is usually not sufficient alone after the first month or so. "Would you advise goat's milk, and in what proportion?"

Ans.—Cocoa and beef tea are absolutely useless for the production of milk, the amount of nourishment they contain being very small. Their bulk interferes with the appetite for more nourishing foods. Mothers frequently are induced to take porter and other alcoholic drinks, with the idea of increasing the amount of milk, but such drinks are not only absolutely useless but harmful. They certainly have no effect whatever in increasing the flow of milk. There is no special food that will have a specific action on the flow of milk. All good, nourishing and digestible foods will be found useful, especially new milk, fresh eggs (the less cooked the better), and cereal foods, such as rice, granola, gluten, granose biscuits. Oatmeal as porridge or gruel when it agrees is a good food for nursing mothers. If the breast milk is not sufficient for the child, some cow's milk should be used. This should be diluted with water (about equal parts with the addition of raw cream and milk sugar). Goat's milk is a comparatively strong milk, but is not any better suited for use in infancy than cow's. It may be used diluted as cow's milk.

352. Infantile Paralysis

"Ballara" asks for advice in reference to her boy aged seven years, who has suffered from the above for nearly two years. He has improved under massage, but she finds the treatment expensive.

Ans.—Some of these cases are due to causes which date back to intra-uterine life or injury during birth. About twenty

per cent are due to acute infectious diseases as measles, scarlatina, whooping-cough, cerebro-spinal meningitis, etc. Sometimes they are due to injury or some causes as epilepsy. It is frequently ushered in by convulsions, as the disease is generally associated with some disease of the cortex (surface) of the brain. Epilepsy is a very frequent cause. These cases require very constant and careful attention. When the disease becomes chronic, improvement is very slow. A good, nourishing, and easily digested diet and plenty of fresh air and sunshine are necessary. The galvanic battery is generally recommended—one pole being placed over the spine and the other moved over the affected muscles. Begin with an application for five minutes, and gradually extend to ten or fifteen minutes daily. The current must not be strong. Excellent results are sometimes reported from this treatment when persevered in. The use of the Faradic current in place of galvanic is advisable about twice weekly. The parts should also be massaged daily. Some recommend the inunction of cod liver oil.

353. Catarrh of Bile Ducts

"Ballara" also writes: "My boy four years old has complained of a pain in stomach for nearly a month. The doctor says he has 'catarrh of the bile ducts.' I have given the child medicine the doctor gave me, but he does not make any improvement. The pain is mostly after meals. He eats very little, and is getting very thin."

Ans.—Dieting is very important in this case. Until the pain ceases the amount of food taken should be small. We would recommend milk foods with cereals, such as zwieback made from fresh bread, granola, rice, and gluten. No other foods should be given. Twice daily fomentations should be applied to the abdomen. Use pieces of blanket as fomentation cloths. After wringing out in boiling water, enclose the fomentation in a dry piece (one thickness) of blanket, and

apply to abdomen. Apply fomentation every eight or ten minutes, and finish with a cold sponge and the inunction of a little oil.

354. Liquid Paraffin

"Mineral" writes: "I enclose an advertisement referring to the taking of 'mineral oil.' Acting on your favourable view of this practice I have been taking liquid paraffin. Would you please read this advertisement, and let me have your opinion of the statement made in it."

Ans.—The advertisement is that of a well-known proprietary pill. The advertisement refers to paraffin oil and its valuable properties, but it is very doubtful whether the pills contain a particle of this ingredient. We would recommend "Mineral" to keep to the simple liquid paraffin.

355. Scurfy Scalp, etc.

"Boonah" asks for good recipe for preserving peaches, and also complains that his scalp is inclined to be very scurfy, and his hair is starting to fall out. He writes: "I have no time for the numerous drugs and decoctions on the market. Can you give me a simple remedy?"

Ans.—The preserving of peaches we will leave to the culinary department. After washing the head well apply twice weekly the following ointment:—

R̄	Resorcin	grs. x
	Precipitated sulphur	grs. XXX
	Lard	one ounce

"Boonah" cannot expect to get rid of any trouble without perseverance and expenditure of some time.

356. Rheumatism

"Toowoomba" writes: "I would like to know if there is any cure for rheumatism when the joints are stiff and make a cracking noise like bones breaking on sitting down and rising up. My husband has been suffering for three and a half years (after an attack of rheumatic fever), and gets worse, just able to walk from one room

to another with the aid of two sticks."

Rheumatism is due to the retention in the system of imperfectly oxidised products of digestion, especially uric acid and allied products. These products slow the circulation in the kidneys and other organs and tissues of the body, and in the joints produce a deficient secretion, causing stiffness and pain—the result of irritation of the nerves. The chief causes of rheumatism are the consumption of a too highly nitrogenous diet and disorder of the digestive and excretory organ. Flesh foods, especially the red meats, beans, lentils, and rich articles of diet all predispose to rheumatism. Tea and alcoholic drinks are also a fruitful source of the rheumatic poisons. For a cure abstinence from flesh foods, tea, coffee, and all rich articles of diet is essential. The food must be simple and easily digested, and the action of the skin and kidneys must be kept free by daily sponging of the body and hot baths. Men working in the open air are not so prone to rheumatism as those of sedentary habit, as the burning up of the digested products is much more complete, and the by-products are consequently more fully disposed of by the kidneys and skin. Exercise in the open air and massage are very helpful to the rheumatic patient. Fruits and vegetables are also helpful, as they keep the blood in a more alkaline, and therefore a more fluid condition, thus helping the throwing off of the "physiological ashes" through the kidneys. When rheumatism is once established firmly, it is very difficult to get rid of it. A course of treatment in our sanitariums is helpful. The treatment itself does good, and the patient is educated in helpful living, which is so necessary in all rheumatic cases.

357. Irritation of Anus

"Toowoomba" also asks for treatment of irritation of back passage.

Ans.—The bowels should be kept regular by the free use of fruit and the drinking of water between meals. If piles exist, they should be treated. Bathe the

parts frequently with warm water, and use a liniment of olive oil and carbolic acid (5 per cent).

358. Fasting Treatment

"T. J. M." writes: "I am desirous of undergoing the fasting treatment followed by the milk diet, to try and effect some little improvement in a bad catarrhal condition of the nose and throat. A few days' fast produces such a remarkable change for the better that I am convinced that fourteen days' fast followed by two weeks' milk diet would entirely eradicate the disease."

Ans.—Fasting for a day, or at the most two days, will, in our opinion, often do good, but we certainly do not believe in long fasts which weaken the system, and, consequently, must lessen the healing powers of the system. It is certainly good to rid the system of all waste products. Fasting for a day or two enables the excretory organs to excrete the physiological ashes produced in the system, and the patient feels better in consequence; but a long fast means that the tissues of the body are consumed, and the general vitality lessened. A fortnight of dry, cereal food, such as granose biscuits, wheatmeal biscuits, zwieback, and fruit would do all that "T.J.M." requires, and would not produce the decided debility that must follow from a long fast.

359. Tooth Abscess and Chronic Cough

"D. C.," Queensland, writes that his dentist would not extract his decayed tooth until the abscess was cured, and asks for a remedy.

Ans.—We believe the sooner the tooth is extracted the better. This will entirely remove the abscess.

"D.C." also asks what can be done to remove granulations of throat, which cause a bad cough.

Ans.—See that the digestion is in good order. Live for a week on the dry cereal foods and fruit. The throat should be sprayed daily with a 15 per cent solution of protargol or argyrol.

360. Influenza

"Derrymore" writes: "My daughter caught a slight cold. She got aches and pains in the head and throat, which lasted two days and a night. She could not sleep or lie down in bed, as that seemed to make the pain worse. Since then she cannot do anything. The least exertion makes her throat sore. She cannot sleep very well lately unless at an open window. Do you think it would be bad for her throat, as I think she sleeps with her mouth open?"

Ans.—The patient has evidently had an infective sore throat, probably influenza. During the aching and feverish attack, there is nothing better than a good hot bath at night followed by a cold sponge. The bath is more efficacious when seven pounds of sea-salt are added to thirty gallons of water. For the sore throat the following paint is good:—

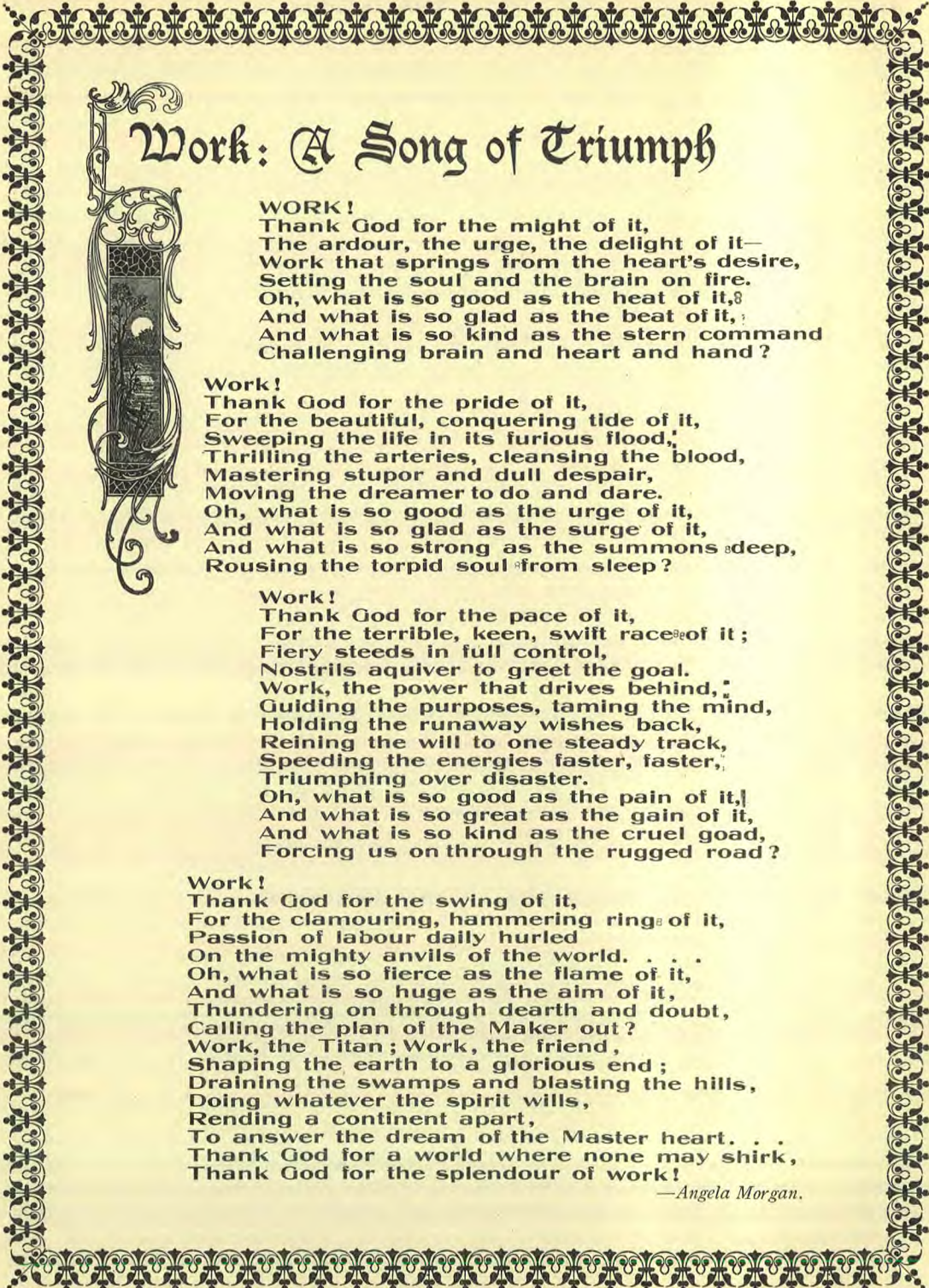
Ry	Formalin	ʒi (one dram)
	Tinc. Iodi	ʒiii (three drams)
	Glycerini	ʒi (one ounce)

In sleeping at the open window draught should be avoided as much as possible. Plenty of fresh air is good for all throat affections. Daily sponge front of neck with plenty of cold water. Mouth breathing is injurious for all throat affections. There is probably some obstruction in the nose in these cases.

361. Nervousness

"Hopeful" writes: "Since leaving school and starting work I always have more or less a heated feeling. My face and hands colour up to a real red, especially when the heated feeling is on me. I have very good health, am seldom sick, and have plenty of exercise."

Ans.—The condition is purely a nervous condition, but is not associated with ill-health of any kind. The flushing of the face alone would probably indicate some digestive disturbance, but not the hands. Probably a cold sponge followed by an oil rub in the mornings would, if persevered in, help the trouble.



Work: A Song of Triumph

WORK!

Thank God for the might of it,
The ardour, the urge, the delight of it—
Work that springs from the heart's desire,
Setting the soul and the brain on fire.
Oh, what is so good as the heat of it,⁸
And what is so glad as the beat of it,
And what is so kind as the stern command
Challenging brain and heart and hand?

Work!

Thank God for the pride of it,
For the beautiful, conquering tide of it,
Sweeping the life in its furious flood,
Thrilling the arteries, cleansing the blood,
Mastering stupor and dull despair,
Moving the dreamer to do and dare.
Oh, what is so good as the urge of it,
And what is so glad as the surge of it,
And what is so strong as the summons deep,
Rousing the torpid soul from sleep?

Work!

Thank God for the pace of it,
For the terrible, keen, swift race of it;
Fiery steeds in full control,
Nostrils aquiver to greet the goal.
Work, the power that drives behind,
Guiding the purposes, taming the mind,
Holding the runaway wishes back,
Reining the will to one steady track,
Speeding the energies faster, faster,
Triumphing over disaster.
Oh, what is so good as the pain of it,
And what is so great as the gain of it,
And what is so kind as the cruel goad,
Forcing us on through the rugged road?

Work!

Thank God for the swing of it,
For the clamouring, hammering ring of it,
Passion of labour daily hurled
On the mighty anvils of the world. . . .
Oh, what is so fierce as the flame of it,
And what is so huge as the aim of it,
Thundering on through dearth and doubt,
Calling the plan of the Maker out?
Work, the Titan; Work, the friend,
Shaping the earth to a glorious end;
Draining the swamps and blasting the hills,
Doing whatever the spirit wills,
Rending a continent apart,
To answer the dream of the Master heart. . . .
Thank God for a world where none may shirk,
Thank God for the splendour of work!

—Angela Morgan.



Give Up Meat

A Great National Saving

PROFESSOR JAMES LONG

THE Advisory Committee of the National Federation of Meat Traders' Associations having pointed out the importance of restricting the consumption of meat, with a view of economising the national supplies, it may be well to discuss its value as food. What would happen if the supply of fresh meat was stopped altogether? The question is easily answered—*meat is not an essential!*

However agreeable, and however useful it may be to the young, there is no doubt about its bad influence upon the health of the middle-aged man. This is not a mere pious opinion, but the result of a test of three years of the teaching of Chittenden, Fletcher, Bircher, and others who have demonstrated the fact that, by abandoning meat, there is a gain in health, strength, mental capacity, the joy of living, and length of life which is unknown to the average man. Yet I do not write as a vegetarian. Where the principle is recognised the practice may be so transformed that meat-eating—and fish is included in the term—is no longer observed as an essential of everyday life.

I find from the official returns that in the provincial markets of the country the wholesale price of the best lamb is 1/- to 1/4 per lb.; of veal, 10d. to 12½d.; mutton, 11d. to 13½d.; and beef, 11d. These figures are prohibitory to 90 per cent of the public, but so long as there are buyers farmers will sell, and instead of creating a

reserve for a rainy day that may possibly come before the conclusion of the war, they are diminishing the stock of the country. To kill calves for the luxury of eating veal is a moral crime at a time when they are needed for growing into beef and producers of milk, which is a hundred times more important to the young.

The market price of meat, however, is not the best guide to its cost as a food. A pound of beef without bone or waste, but with a medium quantity of fat, and costing a shilling a pound, provides only four to five ounces of nutritious food, for the remainder is water. Thus a pound of that food eaten in beef costs from 3s. 3d. to 4s. Where bone and other inedible portions of a joint are included the cost is higher still.

I take another example direct from the kitchen. A quarter of lamb weighing 9 lb. 2 oz. which was baked in the oven weighed when ready for table 6½ lb. At the wholesale market price referred to above this would have cost 1s. 10½d. a pound! Lamb contains a great deal more water than mutton or beef, and therefore, allowing for bone, the nutritious portion of this joint would have cost the consumer approximately 7s. a pound. As lamb is a much less suitable or perfectly balanced food than bread, oatmeal, or potatoes, or milk—while costing an enormously higher price—it is folly to urge that it is essential to life.

The nutritious material in the lean of meat is a substance known as protein, the function of which is to build up the muscular tissues of the young and to maintain them in repair in the adult. For the latter purpose the quantity which nature demands is very much less than the meat-eater consumes. It exists in almost every composite food which is placed before him, and so far is this true that where meat is excluded altogether it is difficult to avoid taking sufficient to suffice for his bodily wants. I have calculated the quantity in my own diet on many occasions,

a pound, it provides approximately forty units of energy for a penny. Where the lean is accompanied by fat its food value is greater, but in that case the buyer is paying a shilling a pound for the fat, or double its value. On the other hand, where wholemeal bread costs 2d. a pound a penny provides 600 units, so that this bread is worth, from the point of view of nutrition, twelve to fourteen times as much as the lean portion of meat, or still more when the bone is included. Rice at 2d. a pound provides 800 units of energy for a penny.



Good Specimens of Vegetarianism

and find it but little more than one-third of the minimum which an average man is supposed to require according to the standard which scientific men have laid down.

If these facts are true—and they have been abundantly proved by public demonstration and by many persons known to me in private life—it is obvious that a diminution in the quantity of meat eaten, still more where it is abandoned altogether during the war, will effect a great personal as well as a great national saving.

Most Extravagant Food

Here is an example of the fact that meat is by far the most costly and extravagant of our ordinary foods. Where lean meat, without bone, costs a shilling

It is claimed that meat alone makes a meal substantial, although it is chiefly composed of water, and that it is a great source of strength to the system—invigorating, muscle-building, and vital to life. There is nothing to warrant this belief. The more meat a man eats—if he depends upon no other assistance—the more he loses vitality. Strength, or energy, is the product of the starches and sugars, which are the products of foods of a vegetable character, and of the fats derived from

the foods of both kingdoms. The protein of meat is the source of repair of the muscular tissues, and although it is able to assist in the production of energy, that assistance is obtained, as we have seen, at much greater cost.

Vegetarian Animals

The elephant, the strongest; the horse, the fleetest; and the camel, the most enduring, in animal life, are vegetable feeders, extracting their energy, as man does, from vegetable foods.

Constant or excessive meat-eating becomes a danger to health, and even to life, when man reaches middle age. The system becomes charged with a residue much larger than it has been constructed

to deal with. Pressure is put upon the kidneys, the liver, the intestines, and finally on the heart, with the result that some organ breaks down altogether, or, in men with stronger constitutions, the production of uric acid is so large that gout or rheumatism ruins the health, the joy of living and the usefulness of life. This is the verdict of those special physicians to whom I am indebted for instruction and facts, and who have made a life study of a subject which they alone have handled.

I refer to the influence exerted among hundreds of patients who have abandoned meat-eating, and who are in consequence living vigorous, useful, and happy lives. The meat-eater is a greater drinker than the vegetarian, and the more meat he consumes the more he wants to drink, and to drink alcohol. His animal passions are greater and his temper less under control—for meat is a stimulant.

So long, however, as men have money to spend they will, as a body, eat meat; but if they cannot abandon it, they can at least consume less.—*The Daily Mail*.

Underground Vegetables

George E. Cornforth

OTHER underground vegetables are far less valuable than the potato as articles of diet. They are less nutritious and less digestible. In fact, it would almost seem that they are hardly worth eating when we consider the amount of work they give the digestive organs and the small amount of nourishment the system gets out of them. Their dietetic value is due largely to the mineral matter and flavours which make them useful as appetisers and perhaps as peptogens, the flavour of food being the property which causes the secretion of the digestive juices. But an occasional dish of one of these vegetables may be of service to people who have good stomachs, in giving variety to the diet. Fat in some form is almost always used as seasoning for vegetables, since this takes away the watery taste which

they have when eaten with nothing but salt; and thus, while the vegetables themselves have little nutritive value, they may become carriers of fat, which is an important article of diet. Since these vegetables are more valuable for their flavours than for nourishment, they are perhaps more useful for making soups and broths than for eating as vegetables.

Turnips

Turnips are little more than half as nutritious as milk. It seems hard to realise that a solid object like a turnip contains more water than a liquid like milk, but such is the case. The turnip, unlike the potato, contains no starch, but, instead, a substance called pectose. This is the substance which gives to fruits their property of forming jelly when boiled.

PREPARATION FOR COOKING.—Select solid turnips. Wash and scrub them well. Slice them into half-inch slices, then peel the slices, peeling deep enough to remove the white lining just underneath the skin, which is usually bitter.

Mashed Turnips.—After preparing the turnips as just described, steam them until they are tender, or boil in as little water as will cook without scorching them, having the water boiling when the turnips are put into it. Do not cook too long, for this will turn them dark and give them a strong flavour. Then, if boiled, drain off the water (which will make good soup stock), and either mash them with a potato masher, or put them through a colander; season with salt and hot cream or a little cooking oil.

Creamed Turnips.—After the turnips are sliced and peeled as directed, cut into half-inch slices; or peel the turnips whole, then cut balls from them with a vegetable cutter. The turnip which remains after cutting the balls may be used for mashed turnip or for making soup. Steam the dice, or balls, or boil in as little water as will cook without scorching them, adding salt just before they are done. Drain, if boiled, and put into cream sauce.

Cream Sauce.—One and a half cups of milk, half a cup of cream, one-quarter cup of flour, half a teaspoonful of salt.

Heat the milk and cream in a double boiler. Thicken with the flour stirred smooth with a little cold milk. Add the salt. Instead of milk and cream, one pint of milk may be used and one or two tablespoonfuls of cooking oil added to the sauce.

Carrots

The carrot differs from the turnip in that it contains sugar, only a small amount of pectose, and no starch. The carrot seems to be more of a decorative

vegetable than others of this class. It has a pretty colour, and may be prepared in a variety of attractive ways.

PREPARATION FOR COOKING.—Scrub the carrots well, scrape with a knife to remove the skin, and put into cold water.

Mashed Carrots.—If the carrots are large, either split or slice them, and follow the directions for mashed turnips.

Creamed Carrots.—Follow the directions for creamed turnips.

Carrots with Egg Sauce.—Prepare as for creamed carrots, adding one chopped hard boiled egg to the cream sauce.

Carrots and Peas.—Prepare as for creamed carrots, using with the carrots an equal quantity of green peas. This makes a pretty dish, the colour of the peas and of the carrots going well together.

Moulded Carrots.—Press seasoned mashed carrots tightly into individual moulds. Turn out on individual platters, and surround the moulds with green peas. Garnish with parsley.

Baked Mashed Carrots.—Season one quart of mashed carrots with one teaspoonful of salt and one-half cup of cream. Add two tablespoonfuls of potato flour or wheat flour, and two beaten eggs. Put into an oiled pan. Bake till set. Serve with chopped walnuts sprinkled over it.

Carrots with Fine Herbs.—Slice three large carrots and boil them. Chop one small onion, and cook in one tablespoonful of oil till lightly browned. Add the water in which the carrots were cooked, and boil the onion five minutes. Add the carrots, and one dessertspoonful of chopped parsley, and boil three minutes. Remove from the fire and squeeze in the juice of one-half a lemon. Add salt. Garnish with croutons made by cutting bread into one-half inch dice and toasting them in the oven till thoroughly dry and lightly browned.

Carrots Maitre d'Hotel.—Cut the carrots into halves lengthwise; boil in salted water, or steam. Place on an oiled dripping pan. Sprinkle with lemon juice, a little sugar, and chopped parsley. Bake till well heated through.

Parsnips

The parsnip differs only slightly from the carrot in nutritive value. The parsnip contains a little more sugar. In their preparation for cooking, parsnips are treated in the manner described for carrots. They may be mashed, creamed, or served with egg sauce, according to the directions for the treatment of carrots. Additional ways of preparation suited to parsnips are:—

Browned Parsnips.—After cleaning and scraping the parsnips, cut them lengthwise into slices one-fourth inch thick and two and one-half inches long. Steam or boil the slices in a small amount of water till nearly tender. When the parsnips are young,

this will require scarcely more than ten minutes after they begin to cook. Drain, and put the slices into an oiled baking-pan. Brush them over with salted cream or cream sauce. If boiled, pour the water in which they were cooked, of which there should be only a small amount, into the pan. Brown in a hot oven.

Parsnip Fritters.—Clean and scrape one large parsnip. Slice, and boil or steam till tender. Mash, and add two tablespoonfuls of cream, the yolks of two eggs, and biscuit crumbs to make of the consistency of griddle cake batter. Beat the whites of the two eggs stiff, and fold them into the batter. Cook on a slightly oiled griddle.

Parsnip Croquettes.—One pint of mashed parsnips, one-half teaspoonful of salt, one-half cup of thick cream sauce, one teaspoonful of oil, one egg.

Mix the ingredients, beating the egg before adding it to the other ingredients. Allow the mixture to get cold, then form into croquettes. Dip in egg, roll in zwieback-crumbs, and bake a few minutes in a hot oven. Serve with egg sauce.

Beets

Beets contain a larger amount of cane-sugar than the other vegetables of this class. The common beet contains nearly as much sugar as the sugar-beet, which is used in the manufacture of sugar. If care is not taken to cook the beet properly, much of the sugar may be lost.

Beets should be plump, solid, and unshrivelled. They should be well washed and scrubbed with a vegetable brush, but should not be scraped or cut; for the skin must not be broken, because that would allow the sweet juice to escape. Beets should not be pricked with a fork to determine when they are done. When sufficiently cooked, they will yield to the pressure of the fingers. Young beets can be boiled in one hour, but old ones may require three or four hours.

Baked Beets.—Beets lose the least nourishment in the process of cooking if baked. It requires two or three hours to bake them; they should be baked slowly, placed on the grate, as potatoes are baked.

Steamed Beets.—The next best way to cook beets is to steam them.

Boiled Beets.—The beets should be put to cook in boiling water, using as little water as will cook without scorching them, and the water should be nearly evaporated when they are done. When cooked, put them into cold water; then the skins can be easily rubbed off with the fingers.

After being cooked in any of these ways, the beets may be sliced, sprinkled with salt, and served hot, dressed with a little vegetable oil, or they may be served hot in lemon juice, or equal parts of lemon juice and water. A little sugar may be added if

desired Or a cream sauce may be poured over the beets just before they are served.

Cream Baked Beets.—Slice cooked beets into a baking-pan. Pour over them thin cream to three-fourths the depth of the beets, adding one level teaspoonful of salt to each cup of cream. Bake forty-five minutes.

Sliced or Chopped Beets with Lemon.—Cover sliced or chopped cold cooked beets with diluted lemon juice, and allow them to stand one hour or more before serving.

Beet Salad.—Chop or dice cold cooked beets, and serve with the following dressing:—

Beet Greens

Greens of all kinds are a class of vegetables from which the food substances for which they are valuable may be very easily lost in the process of cooking if special pains are not taken to cook them in such manner as not to lose these substances. The easy way to cook greens is to boil them in a large quantity of water. There will then be no danger of scorching them. But the objection to this method

YOUR OWN GARDEN

By R. HARE

Dig your own plot of garden and see to it well ;
Let your neighbour's alone, for you cannot tell
The hardness of soil, the canker or care,
That meets him in tilling the ground over there.

It may be the garden just over the way
Has not been cared for as yours every day ;
It may be that toil has fettered his hands,
And kept him hard pressed by anxious demands.
Unless you can help him out gather the stone,
Just leave your neighbour's garden alone.

And now learn the lesson, 'twill brighten the way
While walking with friends you meet day by day :
Don't look o'er the fence in hateful delight,
To find where the briars and thorns are in sight.

Some seeds you can scatter to blossom as flowers,
To heighten the joy and gladden the hours ;
Despise not the tintings of purple that be,
Your friend might be blameless if you could but see
The depth of the struggle, the length of the way,
Or weight of the burden he carries each day.
Sharp words cannot bless, guile cannot atone,
Then leave your neighbour's garden alone.

One-half cup of thick cream, two tablespoonfuls of lemon juice, one round tablespoonful of sugar.

Mix the lemon juice and sugar. Whip the cream, then add to it the mixed lemon juice and sugar.

Chopped hard-boiled eggs or chopped or diced potatoes may be added to this salad, also chopped celery in season, or it may be served with sliced hard-boiled eggs as a garnish. Sprigs of parsley may be used in garnishing it, or it may be served on lettuce leaves.

of cooking greens is that the large quantity of water dissolves the mineral matter, which gives to greens their principal dietetic value, and then the water is thrown away. If the greens are to be boiled, no more water than is necessary should be used. A better method of cooking greens, however, is steaming.

PREPARATION AND COOKING.—Select young beets, and look them over carefully, rejecting any imperfect leaves. Do not cut the tops from the beets. Wash

thoroughly. After the greens are cooked, drain well. If boiled, chop them, add salt and lemon juice, and a little cooking oil, or omit the lemon juice and pass lemon quarters, thus allowing each person to suit his taste as to the use of the lemon.

Onions

Onions contain a pungent oil of an irritating nature, which puts them, when raw, in the same class with condiments, and makes them valued as flavouring agents. This oil is volatile, so that this objectionable feature of onions is largely removed by cooking.

Boiled Onions.—Put the onions in water while peeling, and drop into water after they are peeled. This will make the task of peeling less disagreeable. Put them to cook in a small amount of boiling water, because they are very watery, and they become more juicy as they cook. Boil till just tender, but not longer, or they will fall to pieces and become dark-coloured. When partly cooked, add salt and a little cooking oil. The water in which they were cooked may be thickened with a little flour to make a gravy for them, if desired.

Why Drinkers Are Fat

NOT all hard drinkers are fat, but the tendency of alcoholics to obesity is too marked to escape notice. A writer in *The World's Advance* (Chicago, May) says it is because the alcohol usurps the function of the fat, which accumulates. As he explains, in substance:—

“It is noticeable that those addicted to the use of alcoholic beverages often reveal a tendency to corpulence which is proportionate to their use of the drug. This fatness is not a sign of health. It is not even an indication that alcohol is harmless. It is merely the result of the complete oxidisation of the substance of alcohol by the human body. The body will oxidise a two-ounce quantity of alcohol in twenty-four hours, and will do it so completely that no trace of alcohol can be found in any excretory substance. This simply means that the unnatural heat produced in the body by the presence of the stimulant answers, for the time being at least, for what would otherwise be produced by the expenditure of fats and carbohydrates. These latter are the

fuel stored up by the body and normally burned up in the production of necessary bodily heat. When alcohol is consumed it furnishes heat—though not a natural heat—and this expenditure is avoided. The fat is therefore stored up in the body unused, and corpulence is the necessary result. This, of course, is not a normal condition nor a proper process. It becomes more unnatural with increasing use of alcohol.”

Illness from Spoiled Food

WHY is it that “ice-cream poisoning,” once frequently mentioned in the daily press, is now rarely reported? Why do the sausage-loving citizens not succumb nowadays to “sausage-poisoning” as they used to do? We have to thank for this the activity of local boards of health, here and abroad, who are trying to keep spoiled food from our tables. All such cases of “poisoning,” we are assured editorially by *American Medicine* (New York, March), can be traced to bacterial contamination and the preservation of the foods at a temperature permitting the organisms to grow. We read:—

“A very common mistake is to make a hash or croquette the evening before it is to be cooked, and then allow it to remain warm all night. If raw meat is used and the weather is hot, serious results are likely to follow. Sometimes a large quantity of such preparations may be put into the refrigerator over night, but the centre of the mass is not cooled, and its contained bacteria multiply enormously. It may seem trite to call attention to these facts, yet it must be that they are not well known, since every summer witnesses a large number of fatal cases of food-poisoning not only of those who frequent public eating-houses, but in private houses also. We have frequently mentioned the ‘indigestion of travellers’ due to this cause, and suggested a more rigid control of such places, but it seems that accidents may happen in the most careful of restaurants in hot weather, if prepared foods

are not kept cold enough to prevent a putrefaction which cannot be noticed by any change of taste and odour. It would be a good plan when eating at strange places to avoid such articles as salads and hashes, in the same way we avoid milk of unknown and uncertified source.

“Our settlement-workers may do a lot of good because the enormous summer increase of deaths from gastro-intestinal diseases is in part due to infected foods which have been kept too long and too warm. Ignorant mothers must be told that ‘summer diarrhoea’ is not caused by the summer, although the heat may prevent a child recovering from a poisoning which would not be serious in winter. Dogs constantly make themselves sick by eating decayed food, and the baby may be made ‘as sick as a dog’ in the same way. We usually blame an enemy for poisoning our dog when it dies, and blame the weather for poor baby’s death, but it might be bad food in each case. Above all else we should remember the possibility that a ‘carrier’ may have prepared any foods which have been kept warm a long time before use. In other words, let us turn our search-light on doubtful foods a little more than we have been doing, and tighten up the screws on public eating-houses.”

A Progressive Movement

VEGETARIANISM was at one time looked upon as a fad of the worst and most bigoted type, but the day has come when it is accorded more serious consideration, and has a greater number of followers than even the most optimistic

adherent of the cause could have dreamt of twenty years ago. Extremists are as a rule so uncompromising in their views as to merit but scant attention, yet the surprising feature of the rigid Fruitarian Movement is its extraordinary progress and the number of educated and cultured people who have openly joined its ranks. Furthermore, every simple and natural dietist is an enthusiast, and anxious to bring others into the fold. There must, indeed, be something pleasing and attractive about a mode of life which so fascinates its devotees that their labours to



Vegetarians Taking Exercise.

enlist others as followers are unceasing.—*Daily Telegraph.*

Washing Simplified

THE secret back of successful laundry work is the loosening of the dirt which has become embedded in the fibre of soiled clothing. This is accomplished by means of chemical action, and of washing machines, which enable us to do the work in hotter water than was possible when we had to have our hands in the suds. Hot water expands, or opens, the fibre of textiles. The dirt, being loosened by chemical action, is then readily forced

out into the water. The power employed to remove the dirt is provided by the machine, so that the process is no longer a fatiguing one.

We must first have the right conditions for the work, and the complete equipment, even if it is of the simplest type. Then we must have all the needed supplies on hand, so that the work can proceed without delay. Washing is one of the processes that must be put through without interruption, and early in the day, so that the clothes may have the benefit of the air and sunshine of the warm hours. Furthermore, the clothes must be in the best condition to be washed. This means careful looking over before wash day, removing fruit and vegetable stains that would be set by being washed by a hot-water method, and mending rents, as the garment might be badly torn if it were to be put through the wash without previous attention. It also requires the careful sorting of garments, so that the cleanest white pieces are washed first, and the very dirtiest done by themselves. Flannels and ordinary coloured clothing and stockings require different treatment from the white pieces, so they are kept in separate piles.

Preparation

When getting ready for washing day, sort the clothes, remove stains, and cut up soap needed for next day's washing. Place in saucepan and cover with water. (From two to three cakes are needed, according to size of wash and hardness of water.)

Necessities.—Clothes boiler or copper, vacuum hand washer; two tubs, one with a clothes wringer attached; clothes basket and clothes stick.

The clothes are not soaked beforehand, but any special stains are removed. They have been mended and sorted before being brought into the kitchen. The breakfast dishes have been washed and the kitchen put in order, so that the work may proceed without interruption.

Method.—Fill the clothes boiler one-half full of hot water, cover, and bring to

near boiling point. Add the melted soap prepared the day before. If the water is soft, it may not require so much as two cakes. If very hard, it may require more. If the water contains organic impurities, it should have been purified and softened before being put into the boiler. Then add two tablespoonfuls of kerosene.

Begin with the cleanest clothes, filling the boiler two-thirds full. Now, while the clothes are in the boiler, operate the vacuum washer up and down in the suds, using a sidewise, shoulder motion instead of a direct up-and-down stroke. Very little strength is required to operate the washer.

A Very Important Point

Use the washer for three to five minutes, then with a clothes stick transfer the clothes from the boiler to the rinse tub. The important point in transferring the clothes is to drain them well while they are wound round the end of the clothes stick, so that they carry as little as possible of the suds from the boiler to the rinse water. An old-fashioned stick with two prongs is better for this purpose than a straight-ended stick. The rinse water should be as hot as possible.

As soon as all the clothes have been transferred from the boiler to the rinse tub, fill the boiler with another load, taking the next cleanest clothes. Cover and leave while you put the first load through the rinse water. Use the vacuum washer in the rinse water. From two to three minutes will be enough. Then run the clothes through the wringer into the clothes basket or large pan placed at a convenient height below the wringer.

As the clothes are taken out of the basket, and shaken out for the next rinsing, examine each piece to see that all the dirt has been removed. If any very soiled parts have not been cleaned, dip them in melted soap, rubbing the soap into the fabric, and either rub on a small wash-board or place in the boiler to be washed again. The rest of the clothes are then carried in the clothes basket to the sink to await another rinsing and bluing. The

same amount of water must be maintained in the boiler as when you started washing, so, as it gets lowered by transferring clothes to the rinse tub, replenish from the tub, adding more hot water to the tub as needed to keep it up to the right height.

The second load is washed in the boiler with the vacuum washer and carefully transferred to the rinse water. A third load is placed in the boiler, covered, and left to heat while the second load is being rinsed. It may be necessary to add more melted soap to the third boiler load. A half cake more will usually be sufficient. Cover and leave while the second load is being rinsed.

The same thorough rinsing is given, using the vacuum hand washer, and the clothes are put through the wringer, shaken out, and laid with the first load at the sink.

The Flannels and Coloured Clothes

Now the water in the first rinse tub is reduced in temperature, and can be safely used for the flannels and coloured clothes. It should not be hotter than is comfortable for the hand, and should have soap enough to carry a good bead of suds. Ordinary flannels may be washed in it, and the average run of coloured clothes. For all-wool flannels and delicate-coloured clothes, a special suds of mild soap should be prepared. Special directions for washing flannels and fine pieces should be followed. But for the average wash, begin with the flannels, using the vacuum washer for three to five minutes, running them through the wringer and then through two rinse waters of the same temperature as the water in which they were washed. Shake them out carefully, pull into shape, and hang in the sunshine at once. If the day is not pleasant, find a place in the kitchen where they will dry quickly.

The coloured clothes follow next. Stockings are best done in fresh suds because they are very apt to get liny in the suds used for other pieces.

Now begin with the second rinsing of

the white pieces that require starching, putting them through the rinse water, then through a bluing water, and then starching. Follow with the calicoes that require starching, so that all the starched pieces may be on the line next after the flannels. Then the largest white pieces are rinsed and blued and hung out.

Points to Remember

1. Remember that *melted-soap solution* rubbed directly into the soiled portions of garments is far more effective in loosening dirt than twice the amount of *undissolved bar soap*.

2. That dirt that does not yield to the first application of soap solution and hot suds needs more soap solution in fresh suds, rather than boiling or rubbing longer in dirty suds.

3. That wash water should be clean and soft to get the best results.

4. That hot water causes the fibre of cotton clothing to expand, and thus frees the dirt embedded in its meshes.—*Georgie Boynton Child*.

The Unwisdom of the Don't Method

"I'M told fifty times a day what to *don't*, but not a word about what to do, unless someone wants a job or an errand done. How's a fellow with eyes and ears and hands and a brain and a tongue going to stand it, if he 'mustn't' all the time?" So complained a boy with a mingled note of indignation and discouragement in his voice, as he and his cousin Nell started for an outing loaded down with negative instructions.

"You're not the only pebble on the beach, Fred. I expect every day to hear somebody say, 'don't breathe,' for it's 'don't,' 'don't' till I feel as if I must draw my mouth up with a puckering string and my hands tied down like the wings of a roasted goose."

The 'teen-ager has no normal use for "Don't." His or her innate, irresistible, irrepressible, necessary impulse is to be doing—finding out, gaining experience,

practising. The "don't" method carried to its logical conclusion bears a striking resemblance to the Irishman's experience in trying to teach his horse to live without eating. Just as success seemed to loom in sight, "the horse up an' died." Just about the time a son or a daughter seems to have learned all the possible "don'ts" he or she is very sure to "up an'" cease to be a true son or daughter at heart, and to find home intolerable.

A certain woman had suffered keenly in childhood from the thoughtless and unremitting forbiddings of her elders, but later had been beautifully led into natural self-expression. She set out on the sea of motherhood fully resolved that her children should suffer as little as possible from outward repression. As when a distinguished person goes to a national capital or great metropolis, keys are handed to him signifying that he has the freedom of the city, so this mother wanted to honour her children by giving them the freedom of their own individualities. She thought of them as beginners, learners, foundation layers, pathfinders, experimenters, self-finders, investigators, realised that they must make many experiments that would look foolish to her. Her thought was that unconscious action, unconscious attitudes, spontaneous speech, adventures into danger-land were their inalienable rights, whether or not they fell

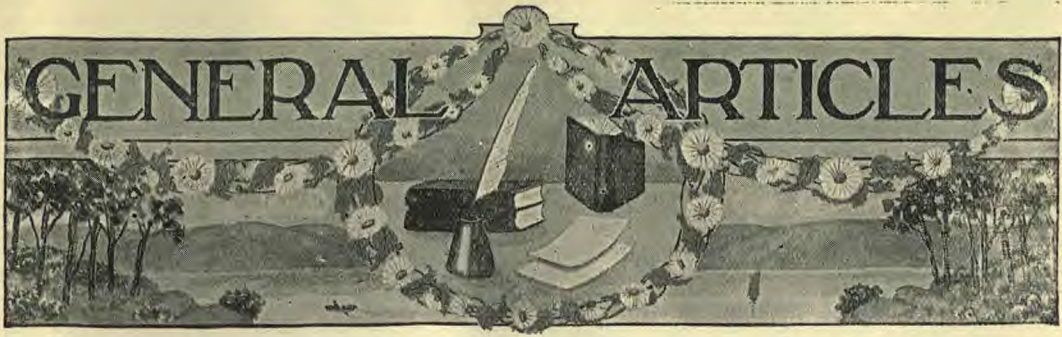
into the "correct form" that so many of their elders fail to observe.

Withal, this mother trained *herself* in two ways: first not to take little passing moods and whims and excitements too seriously, and to remember that many of to-day's mannerisms will be forgotten tomorrow; second, to try to see the seeds of good in childish and youthful self-expression. She was very earnest about helping her children cultivate really good manners, yet when it didn't seem expedient to say, "Now, dear, this is the way we do," or to tell a pretty story to point a moral, she resolutely refrained from the too convenient "don't," and saved her instruction for a more convenient season.

It's not an easy matter for a mother always to suggest the right way indirectly, or to say "do" in such a variety of attractive ways that there will be little temptation to say "don't." Readiness to do this calls for rapid mental action in season and out of season, for patience, determination, ingenuity, hope, courage, insight, and foresight; also for no small amount of self-restraint and self-discipline.

If a mother can learn to let "do" be a word of inspiration in ninety-nine cases out of a hundred—she is the one whose children shall be most really and fully influenced by mother wisdom and love.—
Elizabeth Irwin.





The Germ of Typhus Fever

TYPHUS fever has since the Peloponnesian war at least, says the *Scientific American*, been travelling companion to Mars; and its various names—famine, siege, camp, putrid fever—have well indicated the relationship. An adequate history of this infection would be the history of Europe since Charles V, to go no farther back. With its congeners—smallpox, cholera, plague, typhoid—typhus has modified the course of most wars, has indeed abruptly ended some wars. The widespread Napoleonic campaigns served to disseminate typhus throughout Europe; and now, a century after, the like pandemic condition is liable to obtain. And only by the proved ability and vigilance of our coast quarantine authorities are we assured of being spared “visitations” of this pestilence.

This typhus is a filth disease, transmitted by the louse's bite, and only that way. Brill's disease, of which more presently, is a mild form of typhus; and our American tabardillo, which our American physician Ricketts was martyred in studying, is “the thing itself.”

The typhus mortality is especially high among military surgeons—it has been 60 per cent; and indeed, up to May 1st last above two hundred doctors and nurses have died in Serbia fighting this so indifferent ally to any and every foe—this slayer of non-combatant and soldiery alike, far more destructive than any ordinance. The only effective means thus far has been to eradicate the louse;

which, in the circumstances now obtaining in many parts of Europe, is a procedure as available as was sweeping the Augean stables. So that now, more than ever before in history, is the need of some such prophylactic against typhus as has been so successful against smallpox and typhoid, as has been successful in considerable degree against cholera and the plague. And, indeed, the blessed boon would seem to be forthcoming at this, the psychological moment.

In the pathological laboratory of Mount Sinai Hospital, in New York city, Dr. Harry Plotz, a physician not yet twenty-five years old, isolated from the blood of Brill's disease sufferers a rod-shaped (bacillary vegetable) parasite which Dr. William H. Welsh has named the *Bacillus typhi exanthematicus*. This germ when first isolated is anaerobic (unable to exist in the presence of oxygen); but after a time it can be grown aerobically (in the presence of air). It is pleomorphic (occurring in various distinct forms), 0.9 to 1.93 microns long and in breadth one-fifth to three-fifths its length. It is not acid-fast, it has no capsule, and polar bodies can be demonstrated in it. At the time of this discovery the Balkan war was sending over plenty of “straight typhus material;” and Dr. O'Connell, the physician at the Port of New York, allowed Dr. Plotz to take blood from such patients; and these specimens yielded the bacillus got from the Brill's disease sufferers.

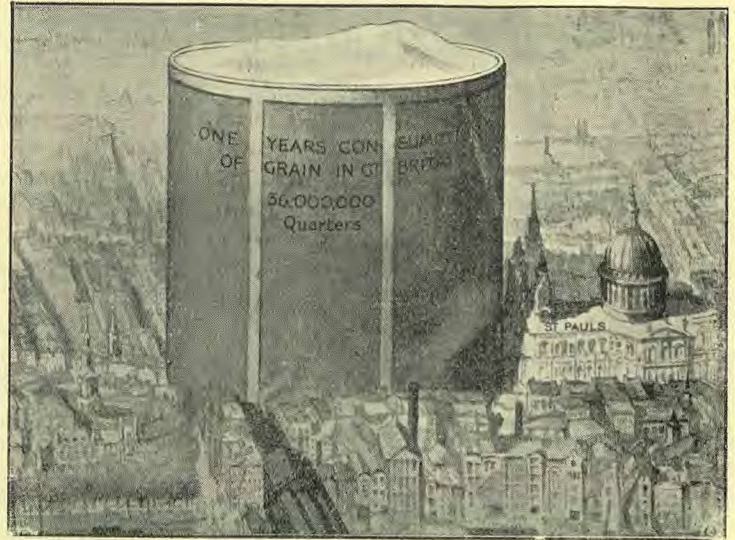
Complement fixation tests were then made by Dr. Plotz and his colleague, Dr. Peter K. Olitzky. They used the serum of eight cases of typhus fever; and antigens were made up from organisms obtained both from cases of Brill's disease and straight typhus. The antigen made from the Brill's disease bacillus binds the complement in the same manner as the antigen made from the bacillus isolated from the typhus cases. And complement fixation tests were made in thirty-six control cases with absolutely negative results. Inoculations in guinea pigs of a pure culture of the bacillus gave the disease to those animals. And serum from a convalescing typhus patient was proved to have bactericidal properties against the organism obtained from Brill's disease. Thus, the latter is really an endemic form of typhus, the real, the virulent form being manifest in that epidemic now ravaging in Serbia.

These findings Dr. Plotz reported in the *Journal of the American Medical Association* of May 16, 1914, and on the evening of April 14th last, before the Pathological Society of New York and to the applause and most hearty congratulations of many eminent physicians and scientists, Dr. Plotz announced not only the discovery of the germ of typhus, but also that this discovery has resulted in the perfecting of a preventive serum. It is, of course, too early to be certain of its efficacy; however, many physicians going to Serbia to fight typhus have had themselves inoculated with it, thus evincing their faith in it.

"BETTER not wait till you want to borrow something else before you take home the first tool you borrowed."

The World's Wheat Supply

NO other single article of food, says the *Sphere*, London, has so much importance for civilised races as wheat, and in war time, when a country's food is in danger, the chief anxiety turns on the wheat supply. Bread is one of the main items of food for the bulk of the people, and wheat products of one kind or another enter into the diet of practically every white person.



The Sphere
A Year's Consumption of Wheat in the United Kingdom

The United Kingdom is the greatest buyer of wheat in the world, and any serious rise in prices of wheat, flour, and bread means great distress for the millions who hover near the poverty line. The extra expenditure is, indeed, felt in practically every household. Hence it is that the work of the British navy in ensuring regular food supplies is very largely focussed on guarding the conveyance of the immense quantities of wheat which we require.

After the United Kingdom comes Germany as an important buyer of wheat, and this despite the fact that she is high up on the list of wheat-producing countries. The fact emphasises the profound change which has taken place in Germany

since 1870. By becoming a great industrial nation she is no longer able entirely to feed herself, and thus it is essential for her to draw supplies from abroad.

Normally, Germany bought largely from Russia, Hungary, the Balkan States, and America, but, one after another, these sources of supply have been interfered with. Germany undoubtedly made provision against this, and a good deal of the present agitation and bread restriction in Germany may be a political manoeuvre to influence neutral countries.

But some time in the future Germany's position will be critical, for she did not reckon on the war closing her food supplies for a long period, and her own blundering and piratical policy has drawn the net round her more closely than she anticipated would be the case. Germany planned for a short and terribly vigorous war. The extension of the time limit will soon produce marked results.

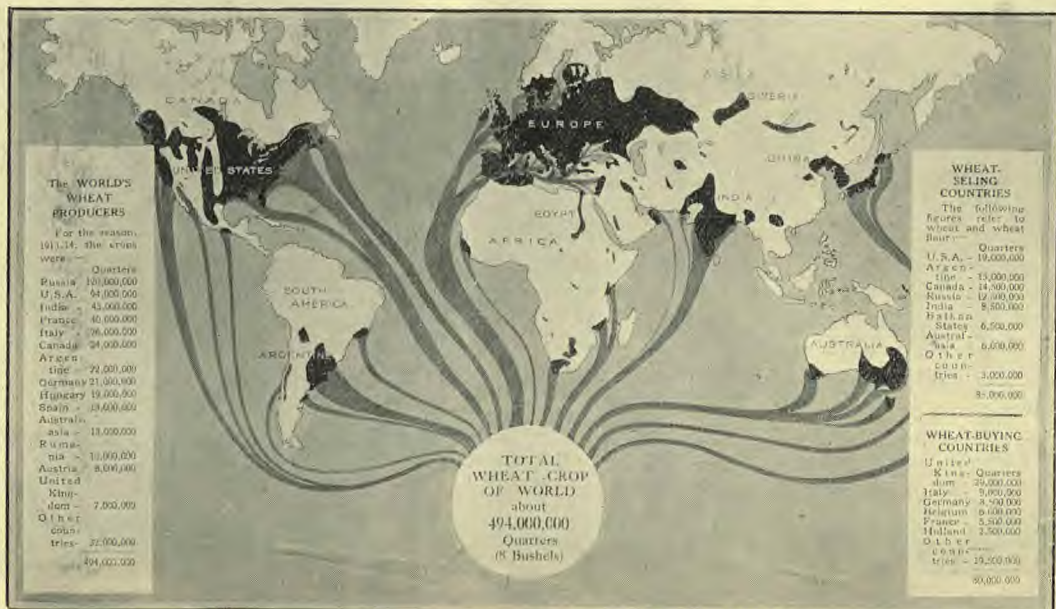
Continuing its article the *Sphere* shows how important is the free passage of wheat to the mother country. This writer says:—

An effective blockade of the British Isles would, however, have been far more

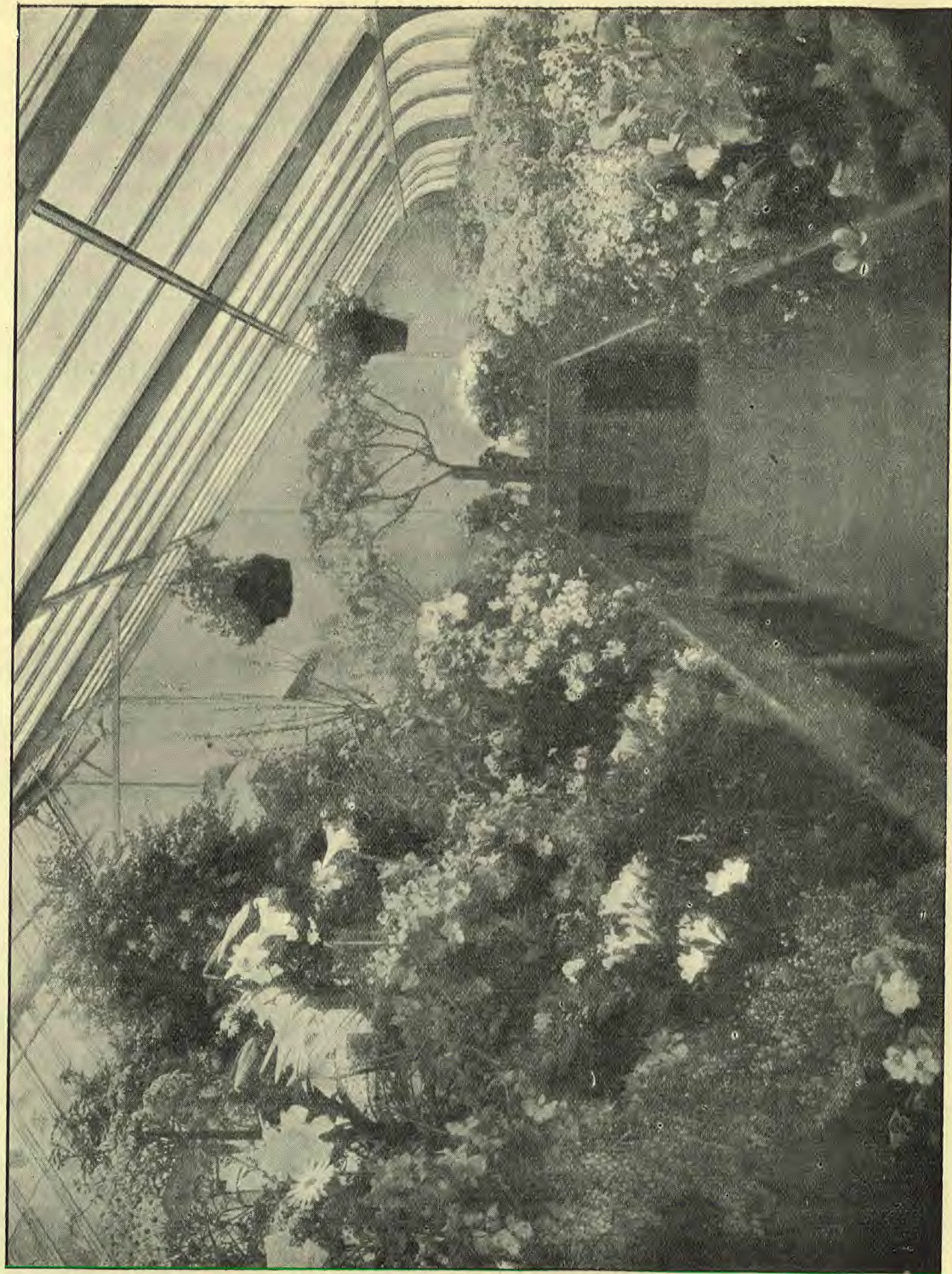
punishing to us at this period. We require more than three times as much imported wheat as Germany, we have very small reserve stocks, and we did not possess the carefully planned storage organisation of Germany.

So great is our demand for wheat that we draw supplies from all over the world, and if our mastery of the seas was negatived for even a few weeks we should be in an unpleasant position. It is absolutely essential for our national existence that we have a navy powerful enough to keep the food routes open, no matter what combination of naval power is pitted against us.

The importance of our alliance with Russia is clear when it is seen that Russia is the greatest wheat producer in the world. But the United States is our principal supplier, accounting for nearly one-third of the entire supply. Canada comes next, with India third, Argentine fourth, and Australia fifth. One of the causes advanced for the increased price of wheat this year is the failure of the last Australian crop. But had Russia a free passage through the Dardanelles, or a warm water port in north Europe, this deficiency could have been made up.



The World's Wheat Producing Countries are Shown in Black



YOU MAY HAVE SUMMER ALL THE YEAR ROUND WITH A GREENHOUSE LIKE THIS

Building a Greenhouse?—Facts to Help You

W. R. COBB

YOU want to build a greenhouse, not a large one, but just a simple little flower room—not too small to be impracticable, but just large enough to putter around in and yet show good results? How shall you determine just how to go about it, where to place it, etc.? Of course circumstances will largely control many points, but there are certain basic facts that the builder should know, and to which other things must be adjusted.

The greenhouse must not be shaded by any trees or other objects in the winter time. It may be attached directly to a dwelling, garage, stable, or other building, or it may stand by itself in the garden. When attached to some building having a cellar, it is possible to save the expense of digging one for the boiler of the heating apparatus.

Leanto greenhouses are the least expensive to build, and give good results, but are not as good as full span houses.

The ideal width for a small greenhouse is 18 feet. This width gives ample space for three plant beds or benches, one on each side, and one in the centre. Good results are, however, obtained in houses 16 feet and 11 feet wide. The narrower houses cost more in proportion, and the atmospheric conditions are not as good as in the wider houses. The smaller the house the more the attention needed in ventilation, watering, etc.

The length of your house depends on the room available and on the amount you care to spend. The longer and wider the greenhouse, the less it costs in proportion. Twenty-five feet is a good length to start with for real efficiency, and you will be surprised at the quantity and quality of flowers that can be grown in a house of this size. This makes the ideal width, then, 18 x 25 feet.

It is usual to build a concrete, brick, or stone wall as a foundation to support the

sides and roof, this wall to extend about 2 feet 6 inches above the inside floor level of the greenhouse. It is possible, however, to dispense with the masonry walls. In this case, the rafters of the steel frame are carried below the surface of the ground and embedded in concrete. The side walls from the ground level to a height of 2 feet 6 inches can then be built of boarding covered on the outside with shingles or clap boards. Frequently, a concrete wall 4 inches thick is substituted for the wood construction on the sides. In either case, the stability of the greenhouse does not depend on these side walls—they are simply mediums to keep out the weather.

The roof and sides of the greenhouse should preferably be built with a steel frame lightly capped with wood. This costs but little more than all wood, but is far lighter and more enduring. In fact, it ought to last a lifetime.

The curved eave type presents a graceful appearance, but gardeners generally concede that it does not grow any better flowers than a greenhouse with straight eaves having a cast-iron gutter at the junction of the side walls and roof.

The best glass is what is known as "A quality, double thick." Fix this with the end of each pane lapped over the one below a quarter of an inch. The glass is simply bedded in putty, and not back puttied as in an ordinary window. This makes a tight roof and leaves no putty on the outside to be torn away by rain and ice.

One line of ventilating sash at the ridge will answer in houses up to 18 feet wide. Larger houses should have two of these, each to consist of a line of glazed sash about 30 feet wide hinged to the ridge and extending the entire length of the house. The most satisfactory way of operating these ventilating sashes is to use

the simple but effective apparatus made for this purpose by builders of green-houses.

The plant benches may be built entirely of wood, a combination of wood and steel, entirely of cast iron, tile and steel, or steel and slate. The all wood bench is the cheapest; the only advantage in using any other type is in the lasting qualities. The benches should be arranged to hold about six inches of soil. This allows you to plant directly in the beds, just as you would in the garden; or you can omit the soil from the beds and set the plants in pots on the benches.

Hot water, because of its more uniform heat and less intensity, has proved the best medium for heating a greenhouse. The pipes should be placed under the plant benches on the sides and connected to a hot water boiler located in the work-room cellar, or in that of any adjoining or nearby building. The size of the pipes should not be less than two inches, and may be increased to four inches according to climatic conditions and the requirements of the plants.

The proper heating of a greenhouse is most important, as upon this depends, to a great extent, its success. It is really the province of a greenhouse engineer to arrange this detail. Different plants require different temperatures, but the average is 55 degrees to 60 degrees when the thermometer registers zero or below at *night*, as frequently during bright days the sun furnishes all the heat required.

Houses for growing fruit, large palms, aquatics, etc., require special treatment. The greenhouse manufacturers employ a corps of experts, and they are always at the service of any one who contemplates building.—*Garden Magazine*.

The Exhibition Aquarium

Worth a Visit

WITHIN five minutes' tram trip from the G.P.O. visitors to Melbourne this spring will find one of the most varied, interesting, and entertaining shows to be found south of the line. Melbourne Aquarium does not only mean the Fish-house, started in 1884, developed to date. Under the same roof is a fine Picture Gallery, adorned with over 200 master-



An Inexpensive "Leanto" Conservatory

pieces by Rembrandt, Berghem, Bridgford, and other famous artists, as well as choice statuary and rare art treasures. Prominent among the portraits is a life-size presentation of the late Premier, and the numerous other items catalogued include a towering statue of Cain, a sculptured Cupid and Psyche, the vase presented by the French Government to the Victorian Government in 1880, a gold casket once the property of Marie Antoinette, and many other exquisite specimens of fine art. The lighting of the gallery through stained-glass windows is admirable, and the salon is a very popular resort in the afternoons, where regular

concerts, inaugurated by Mr. Thos. Short, the secretary to the trustees, are given. The adjoining refreshment rooms, reached through a small vestibule, are luxuriously and tastefully furnished, and screens are provided for those who desire privacy at table.

Passing into Museum No. 1, the visitor finds abundant food for study in the South Kensington Art and Technological collections, in the Entomology, Zoology, Botany, Ethnology, Fishery and Armament Court. Included in the many objects of interest here are the monster sea leopard, the giant crocodile, a ton in weight, and 16 feet in length, the "lung fish," which alone breathe like human beings. In Museum No. 2 is a Krupp gun, captured by Victorians from the Orange Free State Boers during the war; and country folk especially will be interested in the admirable illustrations of diseases in cattle, horses, etc., and some fine wool exhibits. An old-time Cobb's coach and the famous Armstrong's Gattling guns find place here, as do specimens of every article used in the city sewerage system, several splendid models, including St. Peter's, Rome, the lighthouses of the world, a rocket and life-saving apparatus, etc.

Many fine views of New Guinea and Tasmanian life and scenery are shown in a special court. The Cyclorama is a truthful picture of Melbourne in 1842, and close by is the Egyptian Tomb, containing two mummies, one a young priestess, dating from 1200 B.C., and the other a chieftain, dating from about 3000 B.C., both of them discovered forty miles south-west of Cairo. No one has yet found a name for the wood of which their sarcophagi, or coffins, are made. Another interesting side-show is the "Bush Scene," showing a prospector panning off, while a blackfellow and lubra look on in the distance.

In the "Fish-house" proper are all known varieties of salt and fresh water fish, the latest novelty among which are

the fan-tailed goldfish from Japan. Striking features of the general arrangements here are the seal ponds, indoor and outdoor. In the outdoor pond, the five seals, the biggest of which, "Captain," weighs 9 cwts., go through a very diverting performance every afternoon.

Next door to the Aquarium is the Fernery, profusely verdant with tree-ferns, etc., and a delightful, cool spot on a hot day. In the centre, a "bush track" ascends to a shady retreat, with waterfalls and fountains playing all around. Under the hill is a fairy grotto and hatchery for hatching fish—altogether a place to linger in were it not that the trained dogs and monkeys are about to give their daily gymnastic matinee upstairs in the main Exhibition Building. To this, for a wondering laugh, the visitor wends his way, or else on to the parapet of the dome, where, from a height of 200 feet, he can view Melbourne. The foregoing is necessarily but a passing glance at a few of the attractions presented at the Aquarium, but those mentioned are sufficient to prove that the visitor to Melbourne this spring cannot spend a recreative shilling to better effect than at the Aquarium turnstiles.

NATURE'S SONG

R. Hare

I LISTEN to the murmur
Of the streams that girt the hill,
And I see the sunlight breaking
Over vale and rill;
While the birds in chorus
Chant their songs of gratitude,
And above it all is written—
"God is good!"

There is joy in nature
Though her heart is rent with pain,
And the woodland voices echo
To the glad refrain!
Perfume of sweet blossoms
From her altars ever rise,
Reaching through the dawn and gloaming
To the skies.

Haste my soul and render
Tributes for each passing day,
Learn to sing with nature's gladness,
Love's sweet lay.

The Mechanics of Convalescence

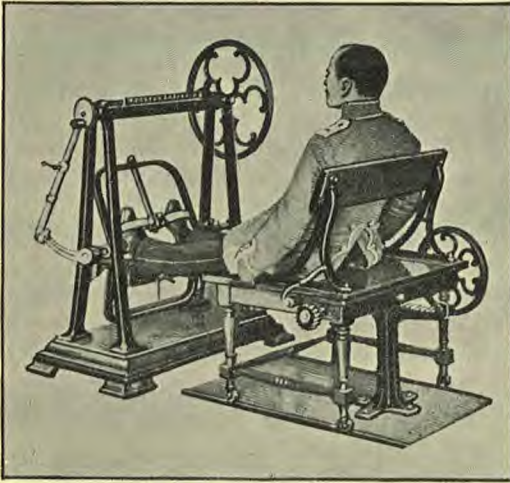
Methods of Hastening the Cure of Wounded Soldiers

WALTER BANNARD

MEDICINE and surgery have had a very serious task set before them in the handling of the vast hosts of wounded men in all the belligerent armies. It is to the credit of the members of the healing pro-

The work done has been largely the application of the advances of medical and surgical science in the cure of the ordinary ailments and accidents to which mankind is liable. These advances, though, have of late years been very great. There is above all the advance, most important in surgery, in the prevention of blood poisoning, there are the increased knowledge of sanitation, the use of the Röntgen rays, and the benefits arising from other recent discoveries in the art of healing. Owing to all these improvements, we are told, large numbers of the wounded are rapidly cured and returned to the front.

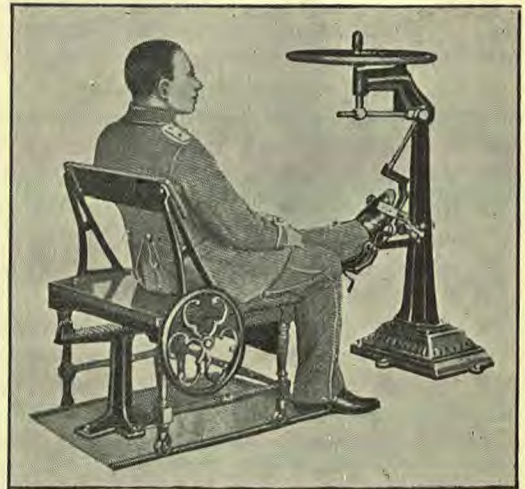
It is not at all strange that the medical and surgical skill of times of peace should



Exercising the Legs

fession that, both as individuals and organised bodies, they are coping courageously and wisely with the great undertaking so suddenly thrust upon them. So far as known, they have never failed to give their Samaritan care impartially to friend and foe. Someone has said that the curative art is the only present-day branch of science which is benign to all men alike. There is sore need of some benign influence in the terrible struggle, for the injured men already under care may be far exceeded in numbers by those wounded in the coming days of the war.

Outside of inoculation for tetanus it is stated that no strikingly new treatment has so far appeared in the care of wounds and disease, unless the vaccine for typhus just announced should prove its utility.



Pedal for Bending and Stretching the Foot

be so successful in the era of war. Rheumatism, pneumonia, and typhus are much dreaded diseases of camp and trench life, and the treatment of fractured bones or other bone injuries by shot resembles that of accidents to the bones in ordinary life. The main object in the surgery both of war and peace is to restore as completely

as possible the natural functions of the injured parts, so that the improvements in the treatment of accidents made of late years can now be happily used to shorten the soldier's convalescence. Heat, light, and electricity, which have all their successful applications in medical and surgical science, have been turned to good account, and mechanico-therapy has proved of much value, especially in the after-treatment of injuries which leave stiffened joints.

Mechanico-therapy

This system of treatment had its origin in Sweden, and its theories have been largely developed in that country and also in Germany, where the use of machinery in the cure of injuries to the bones, nerves, and muscles is widely extended both in hospital and private practice. Dr. Charles H. Jaeger, the well-known authority on mechanico-therapy, states that, in reply to his inquiry, some six hundred institutions and physicians in Germany said they used medico-gymnastics to hasten convalescence not only in affections of the joints, but also, in many instances, in diseases, as pneumonia and pleurisy, and after operations not referring particularly to joints. Most of them had been using this treatment for a considerable period of years, and convalescence, in the general opinion, was decidedly shortened thereby. One reason for the large use of mechanical methods in the treatment of injuries in Germany is the compulsory state insurance of workmen, which obliges the employer to bear the greater part of the expense of illness from accidents. This naturally leads the master to seek after methods for shortening the duration of the workman's inaction, and Germans declare that mechanico-therapy has proved a good way of detecting the lazy worker who wants to live off the insurance fund. This form of treatment being of such general use in Germany, it is not surprising that the military hospitals there are largely equipped for it, a provision which now stands them in good stead.

The mechanical treatment is generally

an after treatment, although it may begin before the injured bone or joint is entirely healed. It is based on the idea that lack of use leads to lack of nutrition and atrophy of the part, and its aims are the improvement of nutrition and the maintenance of functions. It seeks to attain these ends by massage and gymnastics. Various kinds of machinery are used which have different methods of



Apparatus for Breathing, Gymnastics and Chest Expansion

maintaining movement, but the force of all is adjustable and the movement is defined. The movements are active, the patient taking part, passive, in which the patient is acted upon without his own exertion and resistant, in which the machine exerts a regulated resistance to the action of the patient. In these exercises the patient stands, sits, or lies, according to the treatment required. Among the apparatus used is machinery for bending, stretching, or rotating various joints which may be stiffened from trench-rheumatism or from a wound; machinery for expansion of the lungs, thus permitting better oxidation of the blood after a shot in the breast; machinery for producing mechanically such operations as percussion, friction, kneading, or vibration. These last operations are also performed

by hand massage. Hand massage is one of the cures of antiquity revived and scientifically developed in the latter part of the last century. The soldier of to-day has the benefit from it once enjoyed by the Roman legionary.

Other aids employed to hasten the cure of soldiers eager to be back at the front are electric light baths, currents of hot air heated and kept in motion by electricity, and electricity in various other forms, as direct and low-frequency currents,



Apparatus for Applying Electric Hot-air for Stiff Joints

which aid in overcoming the paralysis of muscles or nerves caused by a wound. All men who are hurt in a war are not necessarily wounded. In a strenuous life calling for violent exertion many ordinary accidents may befall them, or they may be stunned or otherwise injured by the wind concussion of the huge shells.

To-day plastic surgery allows the preparation of stumps which can support artificial additions much better than was formerly the case. Maimed soldiers, the melancholy aftermath of war, are not now condemned in as great measure as in past times to inaction and methods of earning a living that are only modified forms of beggary. The belligerent countries are already trying in various ways to meet the problem of equipping the cripples of

war for their new conditions of life. In England, convalescent crippled soldiers are being placed in homes for crippled children, where they can learn suitable ways of earning a living. The care of maimed soldiers in Germany was assigned last August, only a few days after hostilities were declared, to the German Society for the Care of Cripples, which immediately began to make plans for work on a large scale in connection with the authorities and private benevolent organisations.

The Scientific American gave some account not long ago of a book written by a one-armed German, who wished to show German soldiers similarly maimed how to wait on themselves. The same desire to help those of like affliction has led an English officer, blinded in the Boer war, to undertake the teaching of the independence he has gained to men who have lost their sight in the present struggle.

Although science and devotion to the task have wrought so many successful cures in this war, there are injuries which still baffle them. A doctor in an American hospital for the wounded is reported to have said that the staff had had next to no abdominal cases. This would indicate that such patients are apt to die before reaching the base hospital.

Power of the Imagination

IT is important in illness to keep up the spirits and let good cheer and hopefulness exert their powerful influence over physical conditions. A person may brood over fancied symptoms until actually ill; and sometimes cases are reported in which, in ailments induced by morbid fancies, a cure has been effected by means which worked on the imagination. A journal describing some cases of this character says:—

“One of the most remarkable cases of this description is connected with the first introduction of nitrous oxide—laughing gas. It was believed that this gas would be of great value in cases of paralysis. Sir Humphrey Davy undertook to experiment with it upon a paralytic patient, who was told that a certain cure for his disorder had just been discovered. Before applying the gas Sir Humphrey placed a small pocket thermometer under the tongue of the patient, who believed that this was a portion of the cure. A moment after the thermometer touched him, he exclaimed gleefully, ‘I feel better already.’ Sir Humphrey did not deceive him, but after taking the thermometer from under his tongue, dismissed him, and told him to come again in a few days for a second application. After two or three doses of the thermometer the paralysis seemed entirely cured.”

Dried Eggs

A COMPARATIVELY young industry—the conversion of eggs into the frozen and desiccated product—should become a great stimulus to the egg industry. In fact, it seems destined to have a great future. The desiccated product not only furnishes an excellent and highly nutritious substitute for fresh eggs, in compact form, to campers, explorers, sailors, and soldiers, but there is an increasing demand for it for general culinary purposes, and

wherever eggs are used in large quantities, as, for instance in bakeries and restaurants, says a bulletin of the Agricultural Department.

The product, as it appears in the market, is chiefly in the form of golden yellow flakes, which are made ready for use by simply dissolving them in hot water. The cold storage of eggs only retards, but does not prevent deterioration. With the modern method of freezing and desiccating eggs, on the other hand, it is possible to obtain a product that retains for a long time the qualities of fresh eggs.—*The Companion.*

“‘NOT only is it healthy to yawn,’ says a French physician, ‘but artificial yawning should be resorted to in cases of sore throat, buzzing of the ears, catarrh, and similar trouble.’ It is said to be as efficacious in its way as gargling the throat, with which process it should be combined.”

CITY life is often healthier than country life because city water is usually better than well water, and because in the city flies and mosquitoes are controlled, and the public is guarded more thoroughly from contagious diseases. But city noises, city hurry, and city excitement affect the nerves and send men back to the country to visit. Live in the country if you can, and make your visits to the city.



Little Miss Touchy

Little Miss Touchy won't play any more,
She has flounced herself home and has banged the front door;
While little Miss Sunshine and Miss Laughing Eyes
Have stood by and watched her in silent surprise.

Now what is the reason that Miss Touchy Toe
Has stopped in her play and has misbehaved so?
She says it's because she has had to be "It"
Five times, and she just doesn't like it a bit!
And they kept playing tag when she wished to play ball!
And they whispered about her, and laughed at her doll!
And she knows they don't like her, or surely they'd try
To do what she wants, and would not make her cry!

She forgets that all morning she had her own way;
As to what they should do and the games they should play.
And they had to be "It" well—not five times but nine!
While she went on romping and thought the play "fine."

And the whispering that grieved her was nothing at all
But Sunshine's kind plea that they stop and play ball
Just to humour Miss Touchy, her mate whispered "yes,"
And then, true to her name, gave a laugh, I confess.
It was not at the doll or at poor Touchy Toe,
But she laughed just because she was happy, you know.

And then Touchy cried, and exclaimed, "Tisn't fair!"
And went home in a pet, because they "didn't care
How wretched she was! She could plainly see
That nobody liked her." Poor Touchy, to be
So selfish and silly! I wish that she knew
The way to keep pleasant and happy, don't you?

"St. Nicholas"





CHILDREN'S HOUR

SOMEBODY ELSE

Who's Somebody Else? I should like to know.
 Does he live at the North or South?
 Or is it a lady fair to see,
 Whose name is in every one's mouth?
 For Meg says, "Somebody Else will sing,"
 Or, "Somebody Else can play;"
 And Jack says, "Please let Somebody Else
 Do some of the errands to-day."

If there's any hard or unpleasant task,
 Or difficult thing to do,
 'Tis always offered to Somebody Else—
 Now isn't this very true?
 But if some fruit or a pleasant trip
 Is offered to Dick or Jess,
 We hear not a word about Somebody Else,—
 Why? I will leave you to guess.

The words of cheer for a stranger lad
 This Somebody Else will speak;
 And the poor and helpless who need a friend
 Good Somebody Else must seek.
 The cup of cold water in Jesu's name,
 Oh, Somebody Else will offer;
 And cords of love for a broken heart
 Brave Somebody Else will proffer.

There are battles in life we only can fight,
 And victories, too, to win;
 And Somebody Else cannot take our place
 When we shall have "entered in."
 But if Somebody Else has done his work
 While we for our ease have striven,
 'Twill be only fair if the blessed reward
 To Somebody Else is given.

—Union Signal.

What a Kind Word Did

THERE was once a schoolboy named Robert, who passed for a very dull one among his companions, and was ridiculed and called "blunderbuss," etc.

It happened one day that some members of the school committee were examining the pupils in drawing. With downcast eyes Robert timidly held up his specimens

amid the half-suppressed laughter of his comrades.

"Don't be ashamed, my boy," said one whom we will call Mr. Curtiss. "I made worse-looking trees and horses when I began to draw. Go on, you'll conquer—will even surpass me, I'm thinking." He then drew a sketch and gave it to the boy, saying, "There, see what can be done by perseverance."

This little incident gave Robert a start in life. Those words were for him as solid capital well invested.

Several years after, Mr. Curtiss was extolling some architectural drawings which a friend had shown him. He commended in the highest terms both the designs and their style of execution. "The architect considers himself indebted to you for his success," said his friend.

"Me!" exclaimed Mr. Curtiss, "I don't understand."

"Do you remember encouraging a boy at the hillside school, and giving him this sketch?" replied the other, producing the small drawing before mentioned.

"I had entirely forgotten it."

"That boy," continued the informant, "is the originator and executor of these designs. At the time you spoke to him, he was much depressed by reason of the incessant and torturing persecutions of his schoolmates, and was on the point of giving up school altogether, and going to work with his father at his trade, which was that of a carpenter. Your words, however, nerved him with new energy and spirit, and your little sketch became to him as a talisman through the whole of his subsequent school life."—Selected.

Trapping Monkeys in Brazil

IN the Brazilian forests the hunters catch the monkeys in this way. They have some very small boots made and covered inside with pitch. These they carry into the forests, and then in full



sight of the monkeys, who are watching them from the tree-tops, they pull off and on their own boots several times. They then go away, leaving the little boots behind. Down come the monkeys, and pull them on in imitation of the hunters. Then the hunters rush upon them and catch the silly creatures—for they can't climb with boots on, and they can't shake the boots off.

About the worst "tight boots" that young people can get trapped with is bad company, says the writer who tells this story. Children put on the ways of those with whom they like to play. The only safe thing to do is to avoid keeping bad company, and to refuse to put on any evil habit. Many a boy has begun to smoke because he has seen other boys doing so and thought it manly, and after a few years has found an evil habit fastened tight upon him. He is more foolish than the monkeys in Brazil. Don't put your feet into Satan's traps.—*Present Truth.*

Bathing Instincts

P. A. DeForest, M. D.

ANIMALS and human beings have a sort of instinctive liking for agreeable bathing. Almost every species of animals and every tribe of humans clean their bodies by some means. Each species have their own way, and the materials they use to accomplish the end desired vary with their habits and environments. One cannot help noticing with what evident satisfaction the cat makes her toilet with her rough tongue, although she is not fond of water. The cattle perform their toilet with their tongue for themselves and for each other. Dogs, horses, and wild animals love to wade in the streams, and if they are shallow and the weather be warm they will lie down in the water and enjoy its refreshing coolness. The household canary is dumpish and disconsolate without his morning bath, and the lively chattering sparrow will fight for the first place in a street pool after a rain. Even a pig loves to wallow in the mud because instinct tells him that an earth bath is purifying to his dirty skin, as it absorbs organic poisons very rapidly. The fowls love to bathe in dust because it is a feather renovator. Fowls which have not this opportunity become afflicted with lice.

Among the Israelites bathing was not

only a religious ceremony, but was calculated to teach them that purity of body was essential to purity of soul, that God required both, and that freedom from disease was one of the results of purity of habits. The ancient Greeks and Romans in the zenith of their power, resorted much to the baths, so that it became almost a universal practice to build sumptuous bathing establishments wherever they extended their power.

Bathing, be it by water, by rubbing, by dust, or by mud is not a senseless habit which animals and humans fall into, but a real instinct implanted along with self-respect to keep them free from disease.

TWO BOYS WHOM YOU KNOW

LAZY-BONES crieth his luck is not right;
Hustle-boy trieth—and winneth the fight!

Don't Be Lazy

A LITTLE boy was once walking along a dusty road, the sun was very warm and oppressive, but, as was his usual way, he stepped along very quickly, thinking that the faster he walked the sooner he would reach the end of his journey.

He soon heard a carriage coming, and, when it had caught up with him, the driver reined in his horse and kindly asked the lad to ride, which he gladly accepted.

When he was seated in the carriage, the gentleman, a good old Quaker, said, "I noticed thee walking along briskly, and so asked thee to ride; but if I had seen thee walking lazily, I would not have done so, by any means."

Boys, think of this, and wherever you are, whatever you may be doing, never be lazy, and you will always be repaid for your trouble in some way. Don't forget the Bible says: "Whatsoever thine hand findeth to do, do it with thy might."—*Selected.*

"Honour Thy Father and Thy Mother"

I ASKED little Mary what she understood by the above command, and her answer surprised me. She said, "Being kind to them."

I wondered how she thought such a very little girl could be "kind" to her parents. So I asked: "If your mother told you to do something, sweep a room perhaps, and you did as she told you, would that be honouring her?"

"Yes," said Mary, "if I wanted to, it would, but if I didn't it would not be honouring her."

This, then, was her idea—not simply doing as she was told, but doing it cheerfully—not obedience only, but loving obedience. Real obedience is obedience from the heart. Children, was little Mary right?

Sometimes boys and girls do what their parents tell them, not cheerfully, but with angry, scowling faces. The anger manifests itself too in the way the work is done. They do not take pains to do as well as they can, and if they have an opportunity, by some apparently careless act to make more work than they do, they do not fail to avail themselves of it. Yet if you were to tell some little girl whom you should see behaving so that she was not minding her mother, very likely she would be surprised, and say, "Why, I am doing just what she told me to. But there was no obedience in her heart."

Perhaps some boy or girl will say, "How can I always want to do what I am told to? How can I love to do disagreeable things?"

By thinking how much you owe your parents, how kind they have been to you, and how many times they have done things for you that were unpleasant and hard too. You may love to do things that are disagreeable because, when you do them cheerfully, you prove that you really love your parents.—*Eliza J. Burnham.*

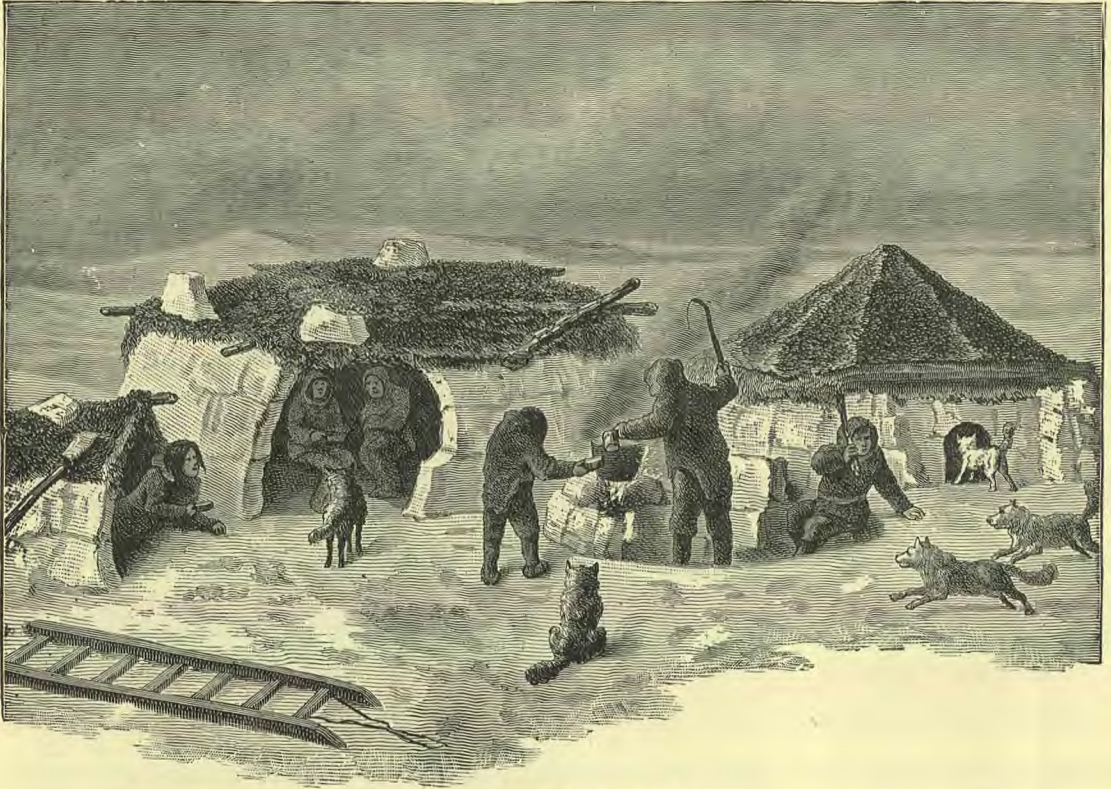
A Baby in the Polar Regions

LITTLE Miss Peary, the daughter of the Arctic explorer, has the distinction of having been born at a higher degree of northern latitude than any other white child living or dead. Her first toilet, given by an Eskimo nurse, consisted of a layer of superfine seal-oil, after which she

"But it is forty degrees below zero!" said Mrs. Peary.

"Yes, so nice and mild! It will soon be noon of the year," replied the nurse.

So little Miss Peary, who had been promoted from the bag to a garment of fur, was gently lowered into another bag of reindeer skin that was tied round the



How the Eskimos Live

was slipped into a double sealskin bag, with fur inside and out. After forty-eight hours of hibernation she announced that she was hungry, and the nurse said she was the sweetest baby that ever lived. There was no other woman about to improve on this remark, so the Innuite nurse became god-mother, and bestowed her own unpronounceable name on the little white stranger. The proud nurse assured the mother that, protected by that name, it would be safe for the baby to take an airing.

neck. Over the head was slipped a sealskin hood that enveloped the face and neck. Little holes were left to admit air. She was then put on a sledge, with a polar bear rug under her and an eider feather blanket over her, and the whole was drawn by a splendid pair of Eskimo dogs, decorated with bells, the nurse trotting along beside her charge.

The baby came back as pink as a rose, and afterwards, unless the weather was really severe, she had an airing every day. —*Selected.*

THE DAWDLE BUG

DID you ever hear of the Dawdle Bug?
It loves a place that is warm and snug;
It never flies, but creeps and crawls,
And on the sofa or hammock sprawls.
Listen! You'll hear its lazy hum:


"In a minute I'll come! In a minute I'll come!"

In the morning dressing there is a tug,
If a child has been stung by the Dawdle Bug;
Breakfast table will have to wait;
School bell rings for a boy that's late;
Unlearned lessons, a dunce cap tall,
And no time left for a game of ball.

Now, a cure for the sting of the Dawdle-Bug
Lies neither in medicine, pill, nor drug
(Some say the oil of birch is good;
I haven't tried it, and never would);
But the poison can't in the system lurk
Of a boy who is brisk in his play and work.

—Selected.

Fine Courtesies

SMALL, but important courtesies are to bow pleasantly, to greet acquaintances cordially, to give a friendly clasp of the hand, to cultivate a memory of faces and names in order to be able to say something to show interest in the affairs of others. A point is to put others at ease.  A prompt reply to notes of invitation

is an important point. It is an obligation to answer an invitation to a luncheon, dinner, tea party, or house party within twenty-four hours, because a hostess wishes to know on whom she may depend, or whether it will be necessary to fill a vacancy. An invitation to a home wedding or wedding breakfast should be answered promptly.

Many little courtesies are to be observed in conversation. Among these are to look people in the face when talking or listening, not to let the attention or mind wander, not to show impatience in listening, but to try to be interested in what others are saying.

In the street there are many small courtesies observed strictly by well-bred people. A well-bred person never brushes past anyone. If the contact is unavoidable in a crowd, one should say, "Pardon me."

Good manners are the outward sign of inward graces of heart and mind. They sweeten social intercourse and contribute to happiness beyond proportion to the effort of thoughtfulness and self-discipline which they cost.—*The Girl's Companion*.



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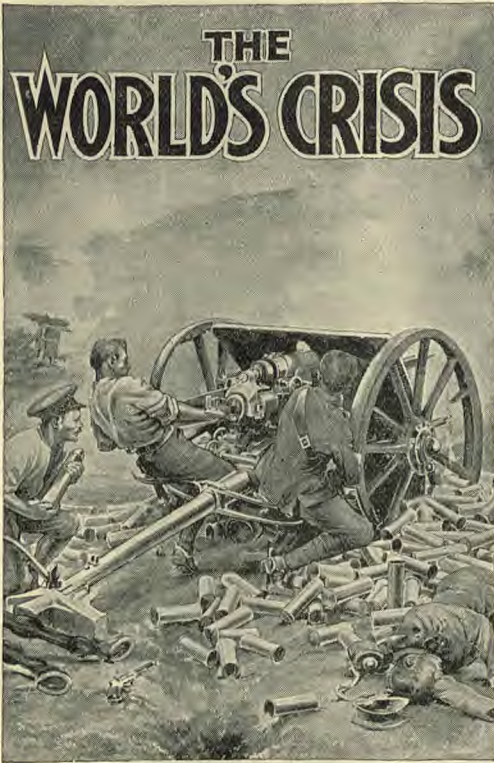
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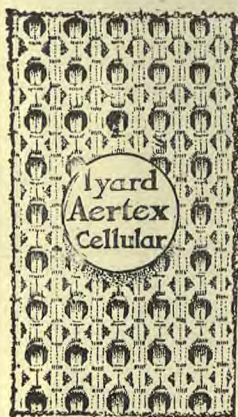
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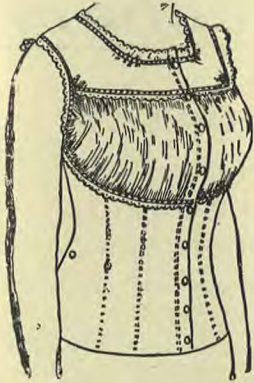
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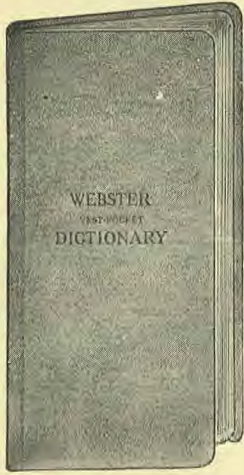
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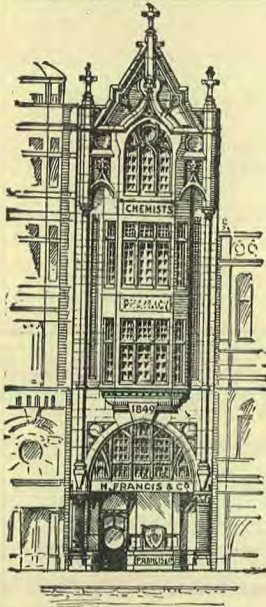
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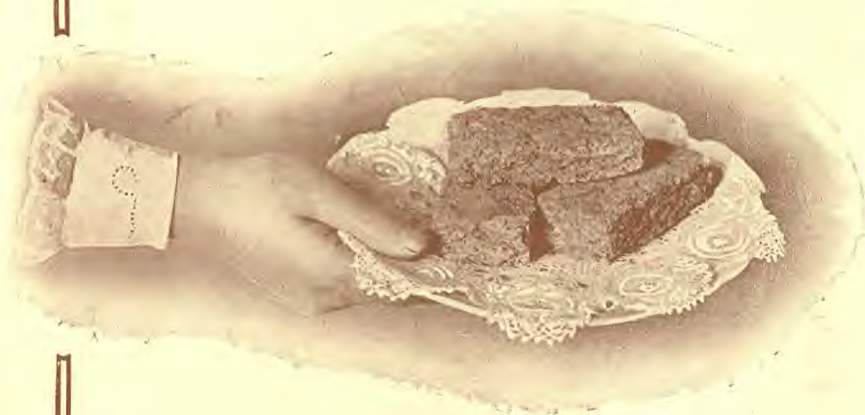
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