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Herald of Health

Vol. VII LUCKNOW, U. P., JANUARY, 1916 No. 1



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„AMONG THE SNOW PEAKS.“



GENERAL ARTICLES

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 benefit

and never leaves behind in its wake any after-effect 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 Foods.*

- 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 tissue 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 nor-

mal 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 kelas; 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 cocoanut 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.



Hysteria--Causes, Symptoms, and Treatment

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

HYSTERIA is a nervous disorder characterized by lack of self-control, chronic irritability, and the development of a long train of most varied symptoms, many of which simulate more or less other diseases, and especially epilepsy, paralysis, and diseases of the sensory organs. It is most common among young women, but women of any age are liable to attack; also children, and more rarely, men.

Causes

Hysteria is rare among the uncivilized. In from ten to thirty per cent of the cases the parents or the grand parents give a history of alcoholism, "nerves," hysteria, epilepsy, insanity, or some form of nerve or braindegeneration. Alcoholism and toxemias including autointoxication, are important causes of hysteria. Too much luxury and idleness, reading sentimental novels, perverted habits of thought, secret vice, and sexual excess are contributory and sometimes direct causes of hysteria, especially in susceptible individuals. Shock, and especially sudden shock, whether physical, emotional, or moral may bring on an attack. Unwise education and training, and especially too much petting and coddling in childhood and youth, may lead to hysteria; and worry, anxiety, nerve strain, grief, disappointment, and especially disappointment in love, may provoke an attack in those who are susceptible. Most hysterical patients lack energy and suffer from lowered vitality. Thoroughly healthy persons never suffer from hysteria.

Symptoms

The chief trouble is in the mental outlook and the irritable state of the nerves. Although the patient is suffering from ills and aches that are more or less imaginary, these are real to the patient. This is particularly true of the chronic cases where many of the aches, pains, and nervous disturbances have become more or less deeply fixed through

habit, and therefore still more real and genuine to the patient. There are few maladies that are not imitated by the hysteric, who hears or reads of symptoms, and imagines she has them all.

The symptoms of hysteria are usually classified under three headings—psychic, sensory, and motor.

Psychic Symptoms

The most striking sign of hysteria is the loss of will power and nerve control. The patient is whimsical, emotional, impressionable. Laughter or crying, gladness or sadness, smiles or tears, are readily forthcoming. The typical hysteric is fond of sympathy and loves to be petted, coddled, and coaxed. Her fondness for attention and caressing often cause her to feign symptoms that she does not have. The patient is self-centred, is given to introspection, and is supremely selfish and egotistic. She thinks that no one suffers as she does, and that her complaint is unique and incurable. Lonely and unappreciated, sad and sorrowful, she imagines that the whole world is unsympathetic and even her relatives and friends have forsaken her.

Irritability, more or less constant and chronic, with quick temper and a marked tendency to sulk when disappointed or crossed, are cardinal symptoms of hysteria.

The patient is constantly dissatisfied with almost everything, and is very peevish. She is quick to imagine slights or personal affronts when none were intended. It is difficult to please a hysterical patient, and she never thinks that she receives sufficient attention. Hallucinations are rarely absent. Hysterical patients are also subject to stupor or delirium, and may go into fits of ecstasy or catalepsy or a trance.

Sensory Symptoms

Most of the senses of the body are perverted. The senses of touch, temperature, and

pain are often dulled, or may be completely absent. The partial or complete loss of the senses is usually transient, and takes place sometimes in one part of the body, sometimes in another. These symptoms are often described as a more or less pronounced numbness or stiffness, as if a part were partially or completely dead.

An exaggerated sensitiveness of the sensory organs is equally common, so that the patient complains of creepy sensation, tingling, stinging, pricking, cutting, stabbing, and various other pains and aches either general or local. Peculiar sensitiveness to heats, cold, light, darkness, and certain sounds, not to mention noises, is almost characteristic of the hysteric. The breasts may be sore and tender, and there is often a marked tenderness of the stomach, and the abdomen may become so sensitive and painful as to make one suspect peritonitis. A localized sharp pain of the head as if a nail were driven through the skull is one of the typical symptoms. Another cardinal symptom is a sensation as if a ball were rising in the throat. This symptom is usually associated with some form of indigestion. The joints become not only exceedingly tender and painful, but there may also be swelling, with stiffness and limitation of movement.

Motor Symptoms

Tremors, usually of the vibratory kind, are common, and are sometimes obstinate. There are contractures and deformities and also numerous forms of paralysis, such as paralysis of one side or of the entire body, or local paralyzes such as loss of voice, inability to swallow, and retention of urine.

Fits that closely resemble epilepsy are common. But the patient contrives to fall conveniently and comfortable, preferably upon a couch or upon some pillows or upon the carpet, and rarely suffers injury. The screams, cries, and violent movements are obviously on purpose.

The Treatment

In dealing with hysterical patients it is always well to treat both body and mind.

The first step is to secure the complete confidence of the patient, without which little can be done. Consummate tact is required, with firmness mingled with gentleness and kindness. Make it clear that the symptoms are not serious, and lay stress upon the fact that the disease is curable, and that, with the hearty co-operation of the patient, successful recovery is sure to ensue.

The patient wants change of scene and association, and almost invariably gets on better away from relatives and friends. The Weir-Mitchell rest cure, combined with gentle tonic baths, electricity, daily massage, and a nourishing but non-stimulating diet, with an abundance of fresh air, are the best measures to adopt. The various procedures of hydrotherapy, phototherapy, including radiant heat baths, high frequency for the anesthesia of the skin, diatherapy for invigorating the patient with warmth, medical gymnastics carefully regulated according to the strength and condition of the patient and under the direction of a physician who is familiar with this treatment, are valuable agencies in dealing with hysteria. Brief tepid or cool sitz baths, neutral full baths (92° to 98° Far.), salt glows, tepid or cold wet-hand rubs, mitten frictions, cold sprays and douches, are all useful measures for restoring nerve tone.

The Diet

While the diet should be made ample and nourishing, it is a mistake to think that these patients are benefited by the "feeding up" system. The majority of hysterical patients are already overfed, and would benefit from a reasonable restriction of their food allowance. Some patients who feign going without food and take very little or scarcely anything at mealtimes, supply themselves in abundance between meals.

Stimulants and narcotics, including alcoholic beverages, tea, coffee, and cocoa, should be cut off from the dietary. Tea is bad for the nerves, and this is especially true of neurotic patients. Hysterical patients do better on a non-flesh diet. Butcher's meat,

more or less rich in various organic extractives, has a somewhat exciting and irritating influence upon the nerves, and is capable of causing auto-intoxication by the absorption of poisonous wastes from the alimentary canal, and it encourages constipation.

A fruitarian diet, on the other hand, possesses all the advantages that nervous patients require. It is nourishing, and when properly selected, combined, and prepared, is easy of digestion. Almost all fruits have a gentle, laxative effect upon the bowels and serve to regulate them. A fruitarian diet also has a distinctly soothing and quieting effect upon the nerves, and the change of diet alone is often productive of good results. Fruit, both fresh and stewed, may be used freely, and salads prepared with lemon juice instead of vinegar, will be found most valuable. Nuts and nut preparations, vegetables, cereal foods, milk, cream, butter, and eggs are also to be recommended for hysterical patients. The food should be well cooked, and but a small variety served at one meal. Three meals a day are ample, and the practice of taking food between meals should not be encouraged.

Sweets, candies, jams, marmalades, preserved fruit, cakes, pastries, and all rich and highly seasoned dishes should be avoided. The plainer and simpler the fare the better. Rich and tempting dishes increase the work of the digestive organs and lead to some form of dyspepsia. Condiments, with the exception of the sparing use of salt, should find no place in the preparation of food, nor on the table.

Medicine and Drugs

Hysterical patients soon develop a marvellous capacity for taking drugs and medicines, and are liable to do themselves incalculable mischief. They are seldom content with what the doctor prescribes, and are inclined to supplement his prescription with various proprietary and patent medicines which they find advertised in the public press. The habit of drug taking is soon formed and they imagine that the various pills and drafts are

doing them good, and that they cannot get along without them. Such patients are extremely susceptible to the use of habit drugs, such as alcohol, morphine, opium, heroin, cocaine, chloral, veronal, and bromides. As these drugs produce their effects by paralyzing the nerves and rendering them still more irritable and excitable, their use should be strictly forbidden. So-called tonics are of little if any value, and it is far better not to rely on them at all. What I have said about drugs applies with particular force to all advertised preparations, and grave warning should be given of the disastrous results that these are likely to produce. Liver pills, stomach tonics, blood purifiers, and so-called nerve and brain foods are all humbugs and delusions. No possible benefit can come from their use, but much harm.

To Relieve Sleeplessness

Most victims of hysteria suffer from sleeplessness, or imagine that they do. They often complain of a "faintness" or "all gone" feeling in the night, and they are accustomed to take food and food drinks at all times of the night. Eating at night is one of the surest ways to disturb sleep and cause unpleasant dreams or even nightmare.

A warm bath or a neutral bath for ten to thirty minutes immediately before retiring will often soothe the nerves and bring on sleep. In other cases a tepid or cool sponge with equal parts of alcohol and water will prove refreshing and help to encourage sleep. Some are benefited by a hot foot bath, which has the effect of drawing the blood away from the congested head, thus equalizing the circulation. Hot fomentations to the spine in some cases, or to the stomach when there is indigestion, also relieve congestion of the head. Sometimes the application of a cold compress to the forehead or the nape of the neck will be more effectual in relieving congestion of the head than hot applications to the extremities. It is important to see that the feet are warm, and that the bed is dry and warm, but not overheated.

A gentle massage of the spine or the head or the limbs after retiring rarely fails to bring about a restful condition favouring sleep. A mild electric current, either galvanic, faradic, or sinusoidal, has proved successful when other measures failed, and is worth trying in all obstinate cases of sleeplessness.

The bedroom must be well ventilated and supplied with an abundance of fresh air. Sufficient covers, which should be as light as possible, should be furnished, to insure the necessary warmth. If good ventilation can also be combined with quietness, especially from noises within the house, the chances for sleep are greatly improved. As a rule, external noises are less annoying than house noises, although they should be minimized as far as possible.

Sleepless patients should be careful to avoid all narcotic drinks, including tea, coffee, and cocoa, as well as alcohol. Tobacco, too, should be strictly tabooed by persons suffering from insomnia. Sleeping drafts should never be resorted to. All sleeping drafts are dangerous. The very fact that they possess the power of paralyzing the brain cells and inducing an artificial sleep ought to be sufficient evidence of the great danger that lurks in these drugs.

When the patient is able to be up, she should be encouraged to go out of doors daily for walks, drives, cycle rides, or games, such as golf, lawn tennis, and croquet. An active outdoor life is one of the best means of insuring sleep.

Dealing With the Fit

Give little attention to the fit, and explain that it is a matter of minor importance. In many cases it is wise to state emphatically that the fits can be controlled; but one will have to use a great deal of tact and diplomacy in dealing with the patient. When a patient is taken with a fit, all bands should be loosened about the neck and waist, and an abundance of fresh air should be provided.

A liberal dash of cold water over the face and chest is an excellent procedure, and can be safely applied in the majority of cases. The fits are not dangerous, and the patient takes care not to get hurt, so that it is rarely necessary to do anything more. If the patient falls on the floor, put a pillow under her head, cover her with a blanket to protect her from catching cold, and then leave her for an hour or two. Afterwards assure her that the attack was a mild one and did not amount to anything. If the water is used wisely and freely and the fits are ignored as a trivial thing, it not infrequently happens that they are speedily abandoned as being too uncomfortable and not worth while.

After the patient has been away for a rest or other treatment she should, on her return home, be placed in as bright and cheerful an atmosphere as possible, and provided with a reasonable amount of pleasant and wholesome diversion. Later on, suitable occupation is necessary, for useful employment, free from worry and anxiety is one of the best preventives of a future attack. It is not work, but rather the want of something to do, that brings on hysteria.

Antidotes for Fatigue

BY A. CARVER NAUD.

"THAT tired feeling" has always been the theme of innumerable jokes. If these bits of humour bring a laugh to some weary human being, the pleasantries, though stale, are justifiable. "That tired feeling" itself is not a joke. When it manifests itself in physical exhaustion or brain fag, it is a condition to be reckoned with seriously, regardless of

whether it is a temporary sensation or a chronic experience.

A great deal might be written on the subject of fatigue, attacking the various causes, such as eye-strain, over exertion, prolonged activity, monotonous endeavour, dissipation of energy, distasteful duties, poor health, or poorly understood efforts.

The various stages of fatigue might also be treated at length in articles on dissatisfaction with work, indifference, hopelessness, inevitable inertia, actual suffering, and total collapse.

But this is not strictly in accord with the subject of antidotes for fatigue, for we presuppose that one is fatigued. Perhaps that fact is forced upon the conscience when one feels irritable or pursues tasks in a slovenly, slipshod manner. Perhaps one feels blue or discouraged, or, maybe, he has reached the stage which in the vernacular of slang is described as being "all in."

A young woman who works hard with brawn and brain says: "There are three stages to my weariness after I begin to feel tired. At first I am amused at trifles, and am inclined to laugh heartily when there isn't so very much to laugh at. After this I get touchy and ill-natured, and feel quarrelsome and scrappy. At last I reach the 'cry baby' stage, when my heart breaks over trifles and life doesn't look good to me any more."

This young woman is, by the way, overworked. She looks and acts far older than her years would justify. She will probably continue in her present course until she at length graduates into a sanitarium and eventually joins "sweet Alice" of Ben Bolt fame.

If one would overcome the fatigue that sometimes obtrudes itself seemingly without reason, it is a wise plan to begin the day right. Do this by making a start the night preceding. Go to sleep in the evening with bedroom windows open. On awakening in the morning try the effects of a brisk walk out-of doors before entering upon the activities of the day.

Sometimes if one will drink a cup of hot water on arising, it will cleanse the system and at the same time act as a gentle tonic to stimulate the body and aid in warding off undue fatigue during the day.

Some fruit and a cereal for breakfast, supplemented, perhaps, by a bit of toast, will

relieve the body of the sensation of heaviness that frequently follows in the wake of eggs and bacon, chops, and coffee. When one enters upon a daily routine with animation and buoyancy, unwonted weariness is not so likely to be a constant companion as might otherwise be the case.

Correct dress, especially low heeled shoes of a wide last, will do much to keep fatigue at a respectful distance. Comfortable clothing should be the rule for those who would not be "spent" at the end of the day.

If unwarranted weariness overtakes one in the midst of the customary occupation of either mental or muscular powers, it is surprising how quickly one can rally the diminishing forces by sipping a glass of hot milk. This is particularly good in the case of housewives.

Work that is carefully planned beforehand will not exhaust so quickly nor exact so heavy a toll from the human system as work handled haphazard.

When one awakens with a dread of the day before him and begins his activities in a lethargic manner, working in a maze of repugnance to the duties in hand, it is time to call a halt. An effort should be made to secure more congenial employment; and, failing in this, an attempt should be made to introduce such outside interests as will stimulate the mind and give it broader and deeper channels.

When fatigue comes on unduly, it is sometimes an advance signal of approaching disease. Often it is well to consult a physician and stem the tide of sickness in its incipient stage.

More frequently a little attention to hygienic living will banish the "tired feeling." It is almost incredible, for instance, how much good one can accomplish by such economical, unimportant remedies as early rising, deep breathing, sufficient sleep, thorough ventilation, and proper diet.

A brief cessation of activities is oftentimes all that is needed to rest one from a minor

attack of fatigue. Sometime merely closing the eyes for an instant will give relief.

When it is possible, in case great weariness overtakes one, it is well to sit down a moment while one reads a bit, or allows the mind to dwell on some pleasant thought or memory. In extreme cases it is best to lie down and let the entire body relax. If one has the time and the opportunity for a nap, so much the better.

Those who can do so prefer to recline at ease and think—of nothing whatever. After a little practice one can master the habit of resting the mind and the body at the same time. A few moments of such a rest will often do more good than an hour or so of sleep. This is particularly true in those instances where sleep is fitful and broken, when the body or mind is tired.

Of course, no one can expect to do the work required of him in the world and never suffer fatigue. It is a good thing to feel tired

enough every evening to "make the bed feel good."

It is very unwise to suffer fatigue to the point of complete exhaustion and collapse.

If ordinary activities produce such results, it is time for a person to avail himself of competent medical advice.

Many times, however, some of the simple harmless devices enumerated will make it possible to husband the strength so that life is far less cumbersome, and what otherwise burdens become pleasures.—*Alden Carver Naud.*

"Now, Tommy," said the teacher, "what is a simile?"

Tommy hesitated visibly, "—I—I forget now," he finally answered.

"But if you said, 'My hours at school are bright as sunshine,' what figure of speech would that be?"

"Irony," responded Tommy.—*Ladies' Home Journal.*

Water in Maintaining Health

Sources of Supply—Need of Guarding Them—Treating Water That Is Dangerous to Use

BY H. C. JAMES

"THE greatest influence on health is exerted by those things which we most freely and frequently require for our existence, and this is especially true of water and air."—Aristotle.

It is true that for the sustenance of life, water comes secondary in importance to air alone, the body containing about seventy per cent by weight of water, and requiring between two and one half and three quarts daily as a medium of exchange for the elimination of waste products from the body.

Preventing Disease

Water as a factor in the maintenance of health, and as well in the prevention of disease, is far-reaching in importance; and though a subject of extended study and discussion, it still fails greatly of receiving from the public the attention that its importance

demand. Pure water is valued by all; but oftentimes the cost of securing such is deemed too great, and the sacrifice of health and of life follows as a result.

Under the varied conditions of life to which the human family are subjected, we find the prevalence of sickness and the resulting mortality to vary widely.

The factors predisposing to disease are numerous, but perhaps among the most important is the role played by water; and especially is this true in warm or tropical climates, where cholera and dysentery claim their victims by the thousands.

Normal and Polluted Water

All waters are subject to great variation in character and composition from time to time, depending upon the source from which they are derived for use; and they may be classed

as normal or polluted, according to freedom from direct or indirect pollution by waste products of human life and industry. Hence it follows that normal water is not necessarily suitable for drinking purposes, although it is incapable of causing specific disease.

Water being the most general solvent known, we need not wonder that absolutely pure water is not found free in nature, coming in contact as it does with the products of decomposition of both plants and animal life, thus taking up bacteria, as well as easily absorbable minerals and gases.

In general, pure water is considered to be that which is free from all disease-producing germs, and having no disagreeable or harmful ingredient.

Sources of Water

Primarily we think of the source of water as the aqueous vapour condensed in the form of rain and snow. Secondly, there is surface water, as of ponds, lakes, and streams; and thirdly, ground water, such as springs and wells.

This classification is but arbitrary, for convenience in use, with no sharp lines of demarcation; for evidently there is continual change. Rain water soon becomes surface water, and surface water passes quickly into the ground, and the ground water frequently reappears as springs, and forms streams and lakes.

Water from these different sources is used with varying results, dependent upon the conditions attending or preceding its withdrawal for use.

Collecting Rain Water

Thus rain water, if properly collected and cared for, may be considered free from contamination by organic material, and the purest of all natural waters. As collected for use in many large cities, from great watersheds, its purity depends upon the conditions of the land from which it is drained, whether inhabited, used as range for cattle, or kept from all possibility of animal waste and contamination. Likewise the water taken from rivers and lakes may be compara-

tively pure, or it may be greatly contaminated by the sewages and waste products of manufactories, which are continually poured into the streams from the cities. By this means, disease is often spread for a considerable distance from the place where it originated. Especially is this true of typhoid fever epidemics.

Shallow and Deep Wells

As regards the third source, ground waters, two classes may be mentioned,—first, that which is taken from shallow wells; and second, that of deep or artesian wells. By shallow wells are meant those the water of which is obtained above the first impervious stratum of clay or rock. In these are found practically the same dangers as in surface water, the products of decomposition and waste passing through the loose soil. Not only should a well be located upon higher ground than any outbuildings, but it should be as far removed as possible from all sources of contamination; for the water level will necessarily be much below any surrounding buildings, and thus the water from these may possibly find its way to the well.

The principal danger of all surface and shallow water is the carrying of disease; and toward the prevention of this, great care should be exercised. While some such water may be more or less hard, the hardness usually can be overcome by simply boiling the water.

Slight Danger from deep Wells

As regards deep well water, the danger of contamination and of disease is very slight; while on the other hand, such water is usually hard, containing salts that cannot easily be removed and still leave the water perfectly satisfactory for drinking purposes. Very little trouble, however, can arise from the use of such water.

In conclusion, we might take some suspicious water, as from an irrigating ditch, and determine what is necessary that it may be made fit for use.

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EDITORIAL

The Role Insects Play in the Spread of Disease

MAN with his inventive genius and his scientific trend of mind is always meeting surprises. He no sooner conquers one objective than in so doing he lays bare another to be conquered. An example of this is the invention of the battleship. The submarine was then invented to destroy the battleship. Now during this war, apparently a submarine net has been produced to catch the submarine and the next step will be the arrival of a means of destroying the nets. It is the logical continuation of this spirit of discovery that dominates the scientific mind and gives to us all that is new in the world.

No phase of this labour is better illustrated in the great struggle that is going on in the world to-day against disease. Not a front of trenches and dugouts, but a front of germs and germ carriers. The physician in his study of the spread of disease from one person to another evolved the disease germ theory; but in the evolution of the disease germ theory he was brought face to face with the disease germ carrier which plays as important a part in the spread of disease as the germ itself. The discovery of the germ carrier has brought light to many a dark chamber in the study of the spread of disease. It has also inaugurated many new methods of attack against the scourge of disease and offers to mankind a longer life passed in peace and contentment.

Some of the old foes upon which we place responsibility as germ carriers are the mosquito, flea, bug, louse, sand-fly, house-fly, and tsetse fly. We say old foes because the mischief caused by these has been carefully followed and has been proved beyond doubt. Who has not heard of the mosquito

in connection with malaria and yellow fever; the flea with plague; the louse and bug with typhus fever; the house fly with enteric and cholera; and the tsetse fly with typanosomiasis or sleeping sickness? In India, this subject assumes even greater proportions as this country is the hot bed of the insect kingdom. Without doubt there are many unheard of relations existing between insects and disease in India that are hidden in the veil of mystery in the form of knotty problems to be solved by the investigators of the future.

Another striking feature connected with this subject is that there is a seasonal variation in the spread of certain diseases corresponding with the time of maximum multiplication of certain insects. This is a circumstance that could not be accounted for by mere coincidence, and which drew the attention of the investigators to the insect as an important actor in the drama. An illustration of this is malaria. The height of the breeding season of the mosquito bears a definite relation to the epidemiology of the disease. In our large cities the highest curve in the death-rate of infants from gastro-intestinal disease corresponds with the fly season. It is this fact that has brought the watch-word, "a fly less city," in many of the large cities of the United States. As a result, campaigns have been inaugurated against the fly by the local health authorities, and rewards are offered for the greatest destruction among these pests. Destruction of these flies saves the lives of many infants.

The relation that this subject bears to the various fronts in the present war demands our attention. Never before was war waged

upon such an enormous scale, being an underground war where the conditions are so favourable for the spread of disease among the troops, yet the loss of life among the soldiers due to disease has been less than in any previous war. This is the case at least in those parts of the front where those in authority are living up to all the light that we have in sanitary reform. In accordance with our subject it has been noted that the freedom from disease in the trenches is proportionate to the care that is exercised in keeping the soldiers free from vermin, principally fleas, lice, and bugs. This has called into use the disinfection of troop trains and the clothing of the soldier. Sir William Osler has well said that living or not living up to all the present light we have in sanitary reform in this present war may very easily be made the deciding factor in the issue of the great struggle.

The same story is repeated in the Canal Zone in the construction of the Panama Canal. A number of years ago the French failed in the attempt to accomplish this task because the workmen could not be kept on the job, disease was so rife. In other words our knowledge of sanitary reform was not sufficient to protect the workmen from the ravages of disease. Later Colonel Gorgas, the sanitary engineer under direction of the United States government, completed the task, for which he has received special mention from several governments, and simply owing to the fact that he saw the necessity of killing off, or exterminating the mosquitoes and keeping the workmen free from vermin. This, together with other sanitary reforms, put an end to the spread of disease and preserved the health and lives of the workers.

There are several methods by which insects spread disease from man to man. Firstly, they travel through all manner of filth which contains disease germs. Their feet and legs become smeared with the dirt and filth through which they have dragged themselves, which they in turn deposit on our food.

When the food is eaten, the germs which may have been carried by the insect, begin to multiply in the system and the disease is transmitted to the individual. Secondly, germs have been known to live within the bodies of insects and pass through the insect in the excreta in a living condition. The germs gain entrance to the insect by way of the infected food which it has eaten. The insect deposits its germ-laden excreta upon our food through which the germ gains entrance to our systems. Thirdly, an infected insect may die, be ground up into dust by traffic, and be conveyed to our bodies by means of the air through the mouth and nose or the dust alighting on our food. Fourthly, an insect upon which we depend for some article of food infects the product with its dirty feet and legs. A good example of this is the honey bee. Fifthly, there is the bite of the infected insect. The mosquito and malaria are illustrations. It is the last class that has been the easiest to trace and compute the amount of destruction left by them. With the operation of all of these different means by which insects can spread disease one can readily see what an important factor they are with which we must reckon in the prevention of disease.

The counteracting measures employed against the ravages made by insects are,—

1. The destruction of the insects.
2. The protection of our own food so that insects do not have access to it.

The first explains itself. It means the inauguration of campaigns to destroy the insect and its eggs. With this we will deal more fully when we take up each insect separately. Number two consists in removing everything that will attract insects, as the principal desire of insects is food. If everything is kept away that will serve as food for them, there is no reason for them to put in an appearance. We should provide for the protection of our food by keeping it away from insects, where it will not be polluted by their dirty infected feet and legs. The careful follow

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MOTHER AND CHILD

Household Department

The Proper Care of Children

BY DR. E. S. MAXSON

WHAT care should children have in order that they may grow and develop? Much has been written on this subject, so I will merely try to call up some of the points that ought to be remembered.

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

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

The matter of diet is necessarily one of very great importance. Milk is not only the proper nourishment for infants, it should enter largely into the diet of older children. Cow's milk for children should always be fresh and clean, but should not be too rich in cream. Professor Holt, New York, thinks that Jersey milk is ordinarily too rich for children. The average healthy child should take, altogether, from a pint and a half to one quart of milk each day.

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

In the diet of children, cereals, when well cooked, are of great value. Rolled oats or some of the wheat preparations are to be commended. These also tend to lessen the decay of the teeth. These cereals should be eaten with milk, but with little or no sugar. Toasted stale bread is better than fresh bread for children.

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

Sweets are a great source of temptation. Dr. L. Emmett Holt, who is perhaps the most celebrated specialist in diseases of children in America, places sweets among the things that should be especially forbidden. On the other hand, Dr. Holt recommends for young children the use of the juice from sweet oranges. He also recommends for children the eating of stewed fruits, as apples and prunes.

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

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

The clothing for children should be light but warm. The legs and forearms, being a distance from the heart, should be warmly

clad in cool weather. When the feet become wet, care should be used to change the shoes and stockings.

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

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

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

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

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

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

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

IMPORTANCE OF THE CHILDREN'S TEETH

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

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

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

In regard to the production of teeth of the right character as a function of food, I may say that the milk of a healthy mother has in

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

The things to be avoided in the nourishment of the young child are starch, sugar, sweets, and polished rice. The child that is fed good, wholesome milk and such cereals, fruits, and vegetables as I have mentioned, needs scarcely any other adjuvant for the nourishment not only of his teeth, but of all the tissues of the body. If milk is not given in some considerable quantity, a little powdered carbonate of lime or a little lime water may be given from time to time to supply the deficiency of lime in the cereals, where the phosphoric element is usually in excess. Such a diet will develop in the child a normal growth of temporary teeth, and lay the proper foundations for those of a permanent character. If you do not get good teeth in

childhood, you will never have them. The mature molars are of but little account.

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

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

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

HARVEY W. WILEY, M. D.

HEALTHFUL COOKERY

Recipes for the Preparation of Food for the Sick

BY GEORGE E. CORNFORTH

The December issue gave general directions for the preparation of food for the sick. Following are a number of the most useful and valuable recipes for the preparation of special dishes.

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

Vegetable Broth

- 1 pint finely chopped celery
- 1 pint finely chopped carrots
- $\frac{1}{2}$ pint finely chopped turnips
- $\frac{1}{2}$ pint finely chopped onions
- $\frac{1}{2}$ pint tomatoes
- 4 sprigs parsley
- $1\frac{1}{4}$ quarts cold water

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

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

Cream Asparagus or Spinach Broth

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

Cream Celery Soup

- 2 stalks celery (tough outside stalks will do)
- $\frac{3}{4}$ quart milk
- 2 level tablespoons flour
- 1 level teaspoon salt

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

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

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

Bean or Pea Broth

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

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

Oatmeal Gruel

- $\frac{1}{3}$ cup rolled oats
- 1 pint water
- 1 pint or more hot milk
- $1\frac{1}{4}$ level teaspoons salt

Add the salt to the water, and bring to a boil in the inner cup of a double boiler. Stir in the rolled oats. Boil over the fire two or three minutes, then set the inner cup in the outer cup of the double boiler, which contains boiling water, and continue the cooking for there

hours or longer. Then rub the oatmeal through a strainer. Add hot milk to make of the proper consistency for gruel.

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

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

Barley Water

$\frac{1}{4}$ cup pearl barley
2 quarts cold water

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

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

Rice Water

$\frac{1}{4}$ cup rice
1 quart cold water

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

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

Toasted Flake Gruel

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

Hot Malted Milk

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

Hot Milk

makes a nutritious drink for a sick person.

(Concluded in February)

DIET AND LONG LIFE

THE long life of the Bulgarians is not due to the fact that they consume butter-milk—they do not use much buttermilk—or that, as later suggested, they eat garlic three times a day, but that they live largely on a simple diet, and that they are a pastoral people, having few large cities, eighty per cent of the population being agriculturists. Among any nationality you will find many who attain great age, whether the food is skimmed milk and potatoes, as in Ireland, olives and black bread, as in Italy, onions and black bread, as in Spain, figs and black bread, as in Turkey, or acorns and cornmeal, as among the Indians of the Southwest.

You will not, however, find many centenarians among those who habitually consume six-course banquets, and take little exercise. If you want to live thus, you must prepare yourself for a short life, that will not be a merry one either, wound up, as it probably will be, with Bright's disease, or cancer.—*Brain and Brawn.*

POOR FARE

GRAVE complaints were made by the undergraduates to the dean of a university against the college cook. The dean summoned the delinquent, lectured him upon his shortcomings, and threatened him with dismissal unless matters were improved. "Good gracious, sir!" exclaimed the cook. "You oughtn't to place too much importance on what young men tell you about my meals. Why, sir, they come to me in just the same way and complain about your lectures."—*International Culinary Magazine.*

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.*

TEMPERANCE

Alcohol and the Young Man

THE alcohol habit is generally formed in youth. Social customs seem to have been specially framed so as to snare the young and bind them in the chains of strong drink before they realize that there is any danger. The youth just entering upon manhood is anxious to show that he is no longer a boy, and he takes some pains to acquire the habits associated with adult life in his circle. It is not easy for a young man to refuse when an older one invites him to go into a public-house to have a glass. Happy the youth who has been well trained at home, and who has begun to build his life on well-thought out principles rather than to allow it to be directed by the example or sneers of the vicious.

The same youthful ardour that makes its possessor peculiarly liable to temptation when it comes from friends and comrades is also very likely to lead to excesses. There is something fascinating for most young men in running risks, and in doing what sober-minded counsellors warn them against. Self-confidence is strong. Consequently it is in the early years of manhood that multitudes wreck their lives and condemn themselves to a miserable fate by laying the foundation of the alcohol habit. Sir T. S. Clouston, D.D., says:—

“At least nine-tenths of my 2,000 alcoholic patients who became insane had taken to drinking to excess before they were twenty-five years of age—in short, during the period of adolescence. Enough is now known of the physiology and psychology of this period of life to have led us to expect this result from any poisoning of the brain during the time it is developing. The brain cells of the adolescent are entirely unfit to tolerate alcohol with impunity. Psychological motion is strong, inhibition is weak, the moral sense is fluid, and the social instincts are keen, at that period of life. Physiologically the brain cells are then incomplete, and the whole body has not reached full development. It is the period when, if there is any bad heredity, it shows itself. It is the period when the most serious of the nervous disasters are apt to appear. Alcohol is then specially dangerous, so dangerous that I think it should not be taken at all.”

The nerve cells are not fully developed, says Sir Thomas Clouston, until twenty-five years of age. No person should taste alcohol before that age.

Dr. Duncan, of Glasgow, would go farther; he holds that no one should take alcohol until middle age.

Even the resort to alcohol at middle age would not be without danger to the user, but the postponing of the practice to that period would at least prevent a vast amount of drunkenness with its attendant evils.

JACOB RUPPERT SAYS;—

“BEER PROMOTES EFFICIENCY”

If, from your own Experience, you do not know Mr. Ruppert's Statement to be a lie, ask the Physicians at any Hospital, ask the President of any Railroad, ask any reputable business man.

If you were about to have a dangerous Surgical Operation performed, would you prefer to have the surgeon take a few Glasses of beer just before the operation, to “promote Efficiency”?

If you were about to take a trip on a Railroad, would you prefer to have the Engineer and the Telegraph Operators and the Switchmen along the line take a few beers while you were on your way, to “promote Efficiency”?

If you are a business man, do you prefer to have your employees “rush the can” occasionally, to “promote Efficiency”?

Remember, you can get just as drunk on beer as you can on whisky!

Remember, you can get just as drunk on beer as you can on whisky!

Remember, you can get just as drunk on beer as you can on whisky!

It is only a coward, says Sir Robert Baden-Powell, who is willing to forget when he ought to remember. In his book, "Scouting for Boys," he writes:—

"Remember that drink never yet cured a single trouble; it only makes trouble grow worse and worse, the more you go on with it. It makes a man forget for a few hours what exactly his trouble is but it also makes him forget everything else. If he has a wife and children it makes him forget that his duty is to work and help them out of their difficulties, instead of making himself all the more unfit for work.

"A man who is drunken is generally a coward—and one used to see it very much among soldiers. Nowadays they are a better class, and do not drink.

"Some men drink because they like the feeling of getting half stupid; but they are fools, because once they take to drink no employer will trust them, and they soon become unemployed, and easily get ill, and finally come to a miserable end."

Sir Victor Horsley tells us that the muscles in a state of health are always in a condition of tension, capable of prompt, vigorous work. This alertness is a valuable feature of the heritage of youth, and while this readiness for effort endures it should be put to the best use. Physiologists speak of this tension as "tonus," or "tone." Alcohol, says Sir Victor, noticeably diminishes this "tonus," which means that muscular movements are weaker, and not so correctly performed. "For the accurate and quick performance of skilled movements, such as are required in violin playing, it is, of course, essential that this tone of the muscles should be at its best. It is a matter of common knowledge that abstinence from alcohol is essential for those who would use their mechanical skill to the greatest advantage, this being a matter of muscular training and control."

So if youth is to be what it was meant to be, the period of greatest physical development, the time for mastering a variety of useful arts, for making of the body an efficient machine under the full control of the mind, alcohol must be left alone.

—*Present Truth.*

ABSTINENCE AND PROSPERITY

ALMOST daily we read in the public press further good reports from Russia of the great advantages that have already accrued from the banning of vodka. The comptroller of the Russian treasury, in a report to the Budget Committee of the Duma, attributed the favourable economic conditions which obtain in Russia to day to the prohibition proclamation of the Tsar. He stated that the national savings in December, 1914, amounted to no less than £2,910,000, while for the same month of 1913 the amount was only £70,800. These statistics simply confirm the reports which come from almost all districts of Russia that the wave of temperance has brought with it financial and commercial prosperity.

ALCOHOL AND POVERTY

HE must be a very ignorant and ill-informed person who would ever think of associating alcohol with prosperity. The man who gives his hard-earned money for strong drink, and especially one who takes it freely, is a spendthrift and a waster. He not only wastes his money, but equally his health, physically, mentally, and spiritually. But thrift and temperance go together and when a man has learned to control his appetite for drink he is also able to control other wastes and stands a far better chance of achieving economic success. The drunkard's home, or what is left of it, is a poverty-stricken home with starving wife and children.

DRINK AND DIVORCE

SOME interesting statistics are reported from the Brooklyn (U.S.A.) Domestic Relations' Court which began its sessions in 1913. According to the "Springfield Republican" "the magistrates sitting in it decided to find out as nearly as might be the underlying causes of disunion in the families that came under their notice." According to their report 390 cases of divorce or 55.8 per cent were traced directly to the use of strong drink. In other words, alcoholic indulgence is by far the most frequent cause of domestic bankruptcy. When the demon of drink enters a home domestic peace and happiness soon leave and the result in perhaps the majority of cases is disruption of the home and demoralization of its members. It appears from their report that the proverbial mother-in-law only accounts for 1.4 per cent of domestic disunions.—*Good Health, London.*

DISEASES AND THEIR TREATMENT

Tubercular Glands of the Neck

BY C. H. HAYTON, B.A., M.D.

THE chronic swellings of the neck which occur in children so commonly are chiefly tubercular in nature. They are the enlargement of the lymphatic chain, the absorbent glands which are found in large numbers on each side of the neck. This set of glands, as has been said in a previous article, drain the mouth and pharynx and adjacent parts.

The swellings on the neck appear in early childhood, most commonly at two years and under. When first observed the swelling is small, round, and painless, and quite movable. It causes the child no inconvenience. The swelling grows to a considerable size and looks very conspicuous, so much so that the parents often bring their children to a surgeon to have the swelling "cut."

After a time the mass becomes soft and the skin over it red and adherent. It finally opens and discharges a thick yellow pus. The opening tends to heal and to break out again. Permanent healing seldom takes place till the glands are wholly removed. The enlargements grow more rapidly after such children's diseases as measles, whooping cough, and scarlet fever.

Causes

These swellings are now known to be caused by the tubercular bacilli which find their way into the glands from the mouth. The bacilli are carried to the mouth through the food and the most common food infected with tubercular bacilli is cow's milk.

Dr. A. P. Mitchell, of the Sick Children's Hospital in Edinburgh, has recently been investigating the milk of that city which is sold from the shops for human consumption. He brought 406 samples of milk, one from each shop, and had them all tested by care-

ful methods for the tubercle bacillus. He found that there were 82 of the 406 samples of milk which were infected with this bacillus. This milk is daily fed to the children of Edinburgh in its raw state, and being filled with these dangerous germs the children easily become infected. The conclusions one draws from this investigation is that no milk should be fed to children in an unsterilized condition. The warning is timely, considering the number of tubercular cows still being milked and the milk sold.

By sterilizing milk is meant to bring it to a temperature of 150°—170° Fabr. for twenty minutes. This can be done most conveniently in the home by using a double boiler, the outer pot to contain boiling water and the inner one the milk. This is kept boiling for twenty minutes. Do not boil the milk.

Dr. Mitchell further says that of 72 cases of swollen glands in children which have been removed, 68 were distinctly caused by infected milk. He was enabled to trace the cows from which the milk had been used and found them to be tubercular. He mentioned a number of cases in which the source of the milk supply was examined and tubercular cows were found still being milked by the owners. There is no longer any doubt that most of the chronic swellings in children's necks are caused by using as food, cow's milk which is infected by the bovine strain of the tubercular bacillus.

Treatment

These swellings in most instances are curable. Knowing the causes preventative measures can be employed. All cow's milk should be sterilized before being used as

food. The child should be kept in the open air; in fact, live in the open air. It should have plenty of good, plain, wholesome food. Hot fomentations can be applied daily to the swellings; it will cause them to subside.

Operation for removal, however, is indicated in many instances, and is the most satisfactory treatment. When once removed thoroughly they will not reappear and further complications are avoided.

CURRENT COMMENT

"DOES GOD FIX THE DEATH-RATE?"

A broad-minded clergyman in his Tuberculosis Day sermon propounded this question and reached a conclusion decidedly negative. "God does not fix the death-rate." Who does then? We all do.

Those theologians aid high death-rates who ignore the demonstrated facts of preventable disease and seek to perpetuate the medieval superstition that infections are the Almighty's merited scourge. Laymen who flout the scientific proof that tuberculosis is curable and can be eliminated from human experience, or who disparage a tuberculosis propaganda as of no personal concern to them, help to raise the death rate from consumption. Councils and legislatures which will not appropriate funds sufficient for the fight which health boards would wage against the Great White Plague are largely responsible for the death of ten thousand a year, twenty-seven deaths every day, in one city alone. Those who disregard anti-spitting ordinances and the like help to send the death-rate upward. Housewives whose culinary efforts produce dyspeptics directly and drunkards indirectly give far more impetus to the upward trend of the death-rate than most of us imagine. Venders of "patent medicines" and consumption cures who fleece their victims until the latter have passed far beyond the incipient stage in which physicians could have helped them—such nostrum-fakers have a full share of responsibility for the thousands on thousands of deaths from tuberculosis throughout the country. Those who draw profit from feeding the poor on adulterated food, "rots and spots," and fowls dead in storage several years back, have a similar responsibility for a high death-rate.

A "League for medical freedom" organized to prevent the wise centralization and co-ordination of health activities and to oppose the

inspection of schools and school-children likewise helps to keep the death-rate high. Those who overwork women and children in factories have a heavy share of responsibility for holding the death-rate at a high level; so also do those employers who require men to work at dangerous trades under intolerable conditions, such as those which in some trades hold the consumption-rate above 80 per cent. House-owners who provide dark, insanitary, pest-ridden tenements have no little part in increasing the death rate. The Christian Scientists and other faith "healers" who close their eyes to the possibilities of material aid, that may often so potently be added to the psychotherapy they are employing, swell the death-rate. Well-meaning mothers, who believe that they are able to bring up their children in defiance of the new-fangled notions of hygiene spread by physicians and visiting nurses, help to keep the death-rate high. Most important of all, incompetent and careless doctors swell the death-rate. For these we as a profession are directly responsible, whether they are untrained men turned out by low-grade medical schools, or members of the profession who failed to keep up with scientific progress and who have become incompetent through inertia and laziness. All these, by their carelessness, indifference and ignorance, jointly increase the death-rate, which competent and conscientious physicians, sanitarians and reformers are fighting to lower.

We have not the right to blame a cruel deity for deaths which are actually due to crass stubborn ignorance, inhumanity and the refusal to exercise the "common sense which is also an inspiration from the Almighty." A weeping mother told a famous physician that it had pleased Providence to take her baby from her. "Providence had nothing to do with the matter," replied the physician; "it was bad

milk that killed your baby." We cannot escape some share of the joint responsibility of fixing the death-rate, but we can choose to be on the side of the forces that are bringing it down instead of those that are sending it up.—*Journal of the American Medical Association.*

TUBERCULOUS INFECTION IN BOOKS

Experiments were carried out by Kenwood and Dove to test the risks of transmission of the disease by books. The following conclusions appear to be warranted: 1. There is probably no material risk involved in the reissue of books recently read by consumptives unless the books are obviously soiled. Even then the risks are slight. 2. Nevertheless, it is desirable to provide against a possible risk, however slight. This will be secured if dirty books recently received from houses in which there is a consumptive reader are not reissued until such books have been either disinfected or placed "in quarantine" in a separate room for the period of a month. It will be desirable to disinfect such a room from time to time. When such books are very dirty they should be withdrawn from circulation. The loss involved would be much reduced in time if the borrower could be temporarily deprived of his right to borrow when a book is brought back in a badly soiled condition. 3. It would be well to demand (on a printed and gummed slip) the following precautions of all readers: (a) not to cough into a book; always to cough in a handkerchief; (b) not to moisten the fingers when reading; the hands should always be dry and clean; (c) always to keep the book closed when it is not being read. 4 Moist heat is a simple means of destroying the infection of tuberculosis on those library books which are not likely to be injured by such a method. For this purpose it is not necessary that the temperature should reach 100 C., although it should approximate to that; nor that the exposure should exceed thirty minutes. It is proposed to extend these experiments with the object of learning if hot moist air can be efficiently employed for the disinfecting purposes without causing injury to well-bound books.—*Jour. E. M. A.*

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."

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WATER IN MAINTAINING HEALTH

(Concluded from Page 11)
Making a Simple Filter

A simple filter may be made of a half barrel by boring several holes in the bottom, and putting into it a good layer of coarse stones, with perhaps some charcoal over these, and eight or ten inches of fine sand on top. If the water is passed through this, it comes out looking much better; but perhaps there are some typhoid fever germs or other disease producing organisms still in the water. We may boil it, and thus make it perfectly safe; but this gives it an undesirable and peculiar taste. The more satisfactory method is the use of chlorinated lime. * To one pint of water, add one teaspoonful of chlorinated lime; and of this solution, put one teaspoonful in each two gallons of water, allowing it to stand for at least one half hour before use. Thus our previously undesirable and dangerous water is made quite safe for use.

*The method may be safe in temperate climates, but the more satisfactory process in India is boiling.

THE ROLE INSECTS PLAY IN THE SPREAD OF DISEASE

(Concluded from Page 13)

ing out of these suggestions will go far toward mitigating the insect evil, and as a consequence, the prevention of disease.

There are other insects that we have not mentioned as we cannot as yet prove absolutely that they are specifically responsible for the carrying of some particular diseases, but by their habits we know they must play their part. In this respect we might mention the ubiquitous ant. There is hardly a square foot of India's terra firma that does not contain dozens of these little energy-consuming pests. If they are not carefully guarded against they are found running all over the food, and their habits fit into what we have just mentioned about the relation of insects

to disease. The wise man has told us, "Go to the ant, thou sluggard; consider her ways and be wise," but the sanitarian of the future says, "Steer clear of the ant or you shorten your days."

Another insect that has touched an answering chord in the heart of the poets is the honey bee. The song of the little busy bee in our days of childhood still jingles in our ears, and its soft hum in flitting from blossom to blossom is our fond recollection of it, but if he is carefully watched, at times, he will be found to shun those habits that appeal to the esthetic mind, and will be found wallowing in filth which he smears on the honey, a food which appeals to the appetite of most all.

Then again there is the cricket and the cockroach, probably two of the filthiest insects in existence. They are found everywhere, among your clothes, in your bread, sugar, flour, in fact all eatables. Their excreta, which is very abundant and often found to be infected with disease germs, is deposited everywhere. The cockroach is known to feed on tuberculous sputum, the bacillus of which passes through the insect unharmed and ready to do its mischief to the next convenient victim.

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