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SIMPLE REMEDIES FOR NEURASTHENIA SYMPTOMS

THE DESCRIPTION OF THE SYMPTOMS OF "TOXIC" NEURASTHENIA which we gave in the June Good Health proved a popular feature with many of our readers, and requests have been made for suggestions for practical home remedies in the treatment of the more general symptoms of the disorder. Such conditions as insomnia, drowsiness, the blues, worry, headaches, etc., very often arise from a toxemia due to poisonous processes associated directly with the elementary tract. But this is not always the sole cause. In worry, for instance, financial losses are often an active cause and the methods of relief in such case include measures which go beyond combating the mere generation of poisons.

ACCORDINGLY we have aimed in the present article to suggest remedies for the more common phases of neurasthenia that can be applied by the sufferer in his own home. They are simple, but no less effective on that account. In hundreds of severe

cases of neurasthenia they have been applied with the utmost success. Moreover, they are not merely palliative: they are curative in no small degree. Physiologic remedies afford relief by mitigating or removing causes, and so by repetition become effective as curative measures.

The Relief of Insomnia

INABILITY TO SLEEP is one of the most disconcerting symptoms from which the neurasthenic suffers. Long, restless nights exhaust still further his weakened nerve centers, and so aggravate all his sufferings. The temptation to resort to the use of some sleep producing drug becomes almost irresistible. There may be instances in which the temporary use of a hypnotic is advisable, but the chances are ten to one that the dose of the drug will very soon have to be increased and that later on it will lose its effect and the insomnia will be found to be aggravated.

Fortunately, drugs are not necessary to produce sleep, except when general anesthesia is required for surgical purposes. Every case of insomnia may be relieved without the use of sleep producing drugs. This has been demonstrated a thousand times in the great insane asylums of this and other countries in which are found in cases of acute mania the most difficult and obstinate forms of insomnia.

Drowsiness

THE NEURASTHENIC WHO CANNOT SLEEP AT NIGHT is often afflicted with an almost irresistible drowsiness during the day, especially after meals. Inability to keep awake in church or at a lecture is not an uncommon symptom. This symptom is especially common in visceral neurasthenics, who

often suffer from drowsiness when sitting or standing, but become wide awake on assuming the horizontal position. These persons suffer from lack of vasomotor regulation, and so are at the mercy of gravitation. When upright, blood-pressure is raised and the action of the lungs, skin and kidneys is increased, and so the disturbing poisons are destroyed and eliminated. If the patient yields to the disposition to sleep after meals he falls into a heavy slumber from which he awakens feeling weary, full, and in no way benefitted. Deep breathing exercises, light calisthenics, the vibrating chair, abdominal kneading and percussion are useful measures.

For temporary relief, bathing the face and neck with very hot or cold water, or with hot and cold water in alternation, are most efficient measures. Drinking half a glassful of hot water and lying upon the face over a pillow for a few minutes, avoiding sleep, are simple measures which often afford prompt if temporary relief.

Mental Depression—the "Blues"

WHILE ALL NEURASTHENICS ARE NOT SUBJECT TO THE "BLUES," or spells of depression, it is perhaps safe to say that persons who suffer much and often from the blues are always chronic neurasthenics. The mental depression is one of the many toxic effects from which these patients suffer. The foul breath, coated tongue, and loathsome stools noted in these cases are abundant evidence of the toxic origin of the blues. The adoption of thoroughgoing measures for changing the intestinal flora, and thus suppressing the development and absorption of toxins, is quickly followed by a change in the mental state, which is a delicate indicator of the degree of intensity of the intestinal toxemia.

TONIC BATHS, CHEERFUL SOCIETY AND THE CULTIVATION OF AN OPTIMISTIC ATTITUDE OF MIND are necessary aids to recovery which must not be neglected. It is especially important that the patient shall recognize the fact that his mental state is simply a reflection of a physical condition. He must thoroughly understand and appreciate the fact that the "blue devils" which stare him in the face and threaten him with every possible calamity are really nothing more than ghosts and hobgoblins bred by the putrefaction processes active in his colon.

Fully convinced of this important pathological truth he will cease to encourage the morbid mental state by dwelling upon his melancholy vaporings, and much less will he talk of his despondency except briefly to his physician.

The best mental remedy for the blues is to turn the face resolutely toward better things and wait for the poison wave to pass over, just as one holds his breath in the surf until the foaming crest has passed on.

A fit of the blues is as much an intoxication as a drunken spree, and a bad attack may disqualify a person for wise and efficient action as thoroughly as alcoholic intoxication. A person subject to the "blues" should in his most lucid and optimistic moments resolve to make no important decisions, and to set a special guard over his conduct, while under the influence of the flood of poisons to which the condition is due. The real cure for the blues lies in prevention by removing causes.

Worry

WORRY, like hate, anger, envy, and all other depressing emotions, is a poison. It is a short circuit which burns out the mental batteries and destroys the power for useful activity.

It is of little use, however, to tell the neurasthenic not to worry. He suffers from worry just as he suffers from headaches, cold hands and feet, and other miseries. The neurasthenic worries, not because he wishes to, but because his mind operates in this disordered fashion in spite of his desires to the contrary. He can no more help worrying by voluntary effort than he can stop the smarting of a burn or the itching of a mosquito bite by a mental effort. Nevertheless, the patient can do much to help himself out of the worry habit, by an effort to cultivate an optimistic view of life in general and in each particular situation that presents itself.

Worry, like the blues, is generally due to chronic poisoning, the cure of which changes the color of the mental sky, and lifts the patient into a sunny and peaceful atmosphere.

It cannot be denied, however, that worrying is often merely the result of a vicious habit, the origin of which may have been a neurasthenic state which has passed away. It has left the individual's character with a morbid bias which makes him apprehensive when he should be happy, and leads him to worry when he should be of good cheer. It is the duty of such a person to take himself in hand and by severe discipline correct the worry habit which often renders miserable not only the patient himself, but many others who are compelled to associate with him.

Numbness and Other Paresthesias

MANY NEURASTHENICS SUFFER GREATLY FROM NUMB SENSATIONS in the extremities, which give the impression of impending paralysis, and so become a source of incessant apprehension and worry. Hot flashes, cold sensations, prickling, smarting, "electric thrills," and a great variety of other perversions of sensation are experienced by certain classes of neu-

rasthenics. While all these symptoms are sometimes experienced by those suffering from organic diseases, their occurrence in neurasthenia has no other significance than a disturbed circulation of the nerve trunks.

Most paresthesias may be relieved, temporarily at least, by very simple measures that any patient can himself apply. One of the most effective means is sponging with very hot water. The temperature of the water should be as hot as can be born in order to get the best effects. Massage, the neutral bath, a short electric light bath followed by cold towel rub or a salt glow are very highly effective measures. Electricity, especially the high frequency current, is marvelously effective in some cases. A radical cure of these distressing symptoms is only to be found in a thorough-going eradication of the fundamental causes of the disease which may be present in any individual case.

Headache

THE HEADACHE OF NEURASTHENIA is usually toxic in character. Attacks of migraine, which are common in neurasthenics, when once begun cannot be stopped, although the patient's suffering may be greatly mitigated and the attack may be abbreviated. The time to cure an attack of migraine is before it begins, and this is true of headache in general. A thorough bowel movement three times a day, a careful adherence to an anti-toxic diet, excluding both milk and eggs, as well as meat, are most effective measures for combating so-called sick headache. In these cases the most important of all measures is change of the intestinal flora. Temporary relief from some forms of headache may be generally obtained by alternating hot and cold applications to the back of the neck, or application of heat to the back of the neck and cold to the

forehead or vertex. When the face is flushed, cold applications are indicated. The same measures are also effective means of relieving neckache and vertex headache, from which many neurasthenics suffer.

Backache

BACKACHE IS USUALLY INTERPRETED TO MEAN SOME AFFECTION OF THE SPINE, but this is rarely true. The worst forms of spinal disease are not characterized by pain in the back. The same is true of Bright's disease. Only acute inflammatory disease of the kidneys or their surroundings and calculi are likely to give rise to pain in the back. There are many forms of backache, some of which are the result of inflammation or other diseased condition in the pelvis. Neurasthenic backache may be due to strain upon the sympathetic nerves resulting from prolapse of the viscera, but in a great majority of cases the pain in the lower part of the back is due to colitis, an exceedingly common condition in neurasthenics. Backache is often due to constipation.

Neurasthenic backaches are generally associated with a sensitive condition of the sympathetic ganglia, as shown by tenderness of the epigastrium when pressure is made with the fingers; or great sensitiveness is developed by pressure on either side of the umbilicus. It must be remembered also that neurasthenics are likely to suffer from rheumatism in some of its forms. Backache may be due to a rheumatic condition of the joint between the sacrum and hip joint on one or both sides, the so-called "sacro-iliac synchondrosis," or the seat of the rheumatism may be the lumbar vertebræ. The true neurasthenic backache is a reflex pain due to visceral irritation. In such cases the pain often extends to the hips, and is not infrequently felt in the legs,

which in such cases are also subject to numb sensations. In these cases colitis is usually present. The pain is most common in the left side, because the descending colon is the most common seat of colitis.

How to Relieve Backache

THE BACKACHE OF NEURASTHENIA is generally very promptly relieved by a hot fomentation, or by alternating hot and cold applications to the back. The application of light by means of the photophore or the rays of the ark lamp generally afford very prompt relief. This relief is at first temporary. Daily or tri-daily applications, continued for a few days or weeks, effect a cure by relieving the visceral irritation to which the pain is due.

A hot bath, judicious massage of the back muscles, and local electric applications, especially the application of the high-frequency current, are often effective means of relief.

One of the most useful of all measures for relief of backache in neurasthenics is the abdominal supporter. This is especially effective in splanchnic neurasthenics, who suffer most when on their feet. Ordinary abdominal bandages are of little use. A supporter to be effective must raise the lower abdomen, as may be done with the hands. For this purpose it is necessary that the supporter should be held in place with springs, which operate like those of a spring truss. When properly constructed and accurately adjusted, the relief afforded by such a supporter is usually very great.

Cramps

CRAMPS IN THE CALVES OF THE LEGS and other muscular groups, to which many neurasthenics are subject, may be relieved by hot applications and massage. The spasm may be

generally interrupted by grasping the limb between the hands and making firm pressure upon the knotted muscle.

Cold Hands and Feet

MANY NEURASTHENICS SUFFER ALMOST CONSTANTLY from coldness and often clamminess of the hands and feet. This symptom is most likely to appear soon after eating. It may also be induced by mental or nervous excitement. The cause is spasm of the blood-vessels of the extremities due to irritation of the vasomotor centers of the spine. Temporary relief may be obtained by rubbing or by alternating hot and cold applications to the spine. The abdominal supporter sometimes affords complete relief by supporting the abdominal viscera and thus preventing the reflex irritation of the vasomotor centers. The abdominal bandage should be worn at night. Fomentations and other hot applications to the abdomen lessen the irritability of the sympathetic centers and are thus serviceable in overcoming this unpleasant symptom.

Heaviness, Pain and Gastric Discomforts After Meals

THESE SYMPTOMS, very frequent in neurasthenics, are best relieved by rest of half an hour or an hour in a horizontal resting position after eating. When the pain is intense, a bag filled with hot water should be applied over the stomach. Deep breathing with a sand bag resting on the abdomen is also useful. Some patients find relief by lying upon the face over a pillow for half an hour after meals, taking frequent deep breaths in the meantime.

A RECENT NUMBER of the London humorous weekly, *Tit-Bits*, contains a remarkable collection of "howlers," one of which has it that "the principle vegetable and mineral products in America are tinned meat and borking strictors"—a statement which, it is gratifying to know, while perfectly true at one time as to the tinned meats, is becoming less so every year.

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What Metabolism is, and Why

HUMAN NUTRITION is a new science, scarcely a century having passed since men began a serious study of the processes by which the human body and its functions are maintained. For a much longer time something has been known about the digestion of foods; but modern studies have undertaken to follow the food principles into the remote recesses of the body and to solve the mystery of the marvelous transformations and transimulations by which the simple foodstuffs are converted into the delicate structures of brain, blood, bone and muscle, and made to evolve thought, action and body heat. This great number of interesting and important facts which this modern study has developed is comprized under the general term "metabolism," a word that is now new and strange, but which must soon become as common a household word as "digestion" or "respiration."

IN A STRICT SENSE there is no real distinction between metabolism and digestion. The food that reaches the cell for digestion is exceedingly complex. Starch, for instance, is a molecule of starch made up of smaller molecules, known as "saccharids," which are to the starch molecule as the brick is to the house. An example of a single saccharid we have in what is

known as glucose, dextrose, or grape sugar. Two saccharids combined make a different kind of sugar known as cane sugar or malt sugar or milk sugar. These are known as di-saccharids. Many saccharids together (often there are thirty or forty, perhaps several times that number) form what are known as poly-saccharids, and a poly-saccharid is starch. It seems a wonderful thing that there should be such a remarkable difference between sugar and starch, yet the only difference is that in starch we have a large number of saccharids combined.

NOW THE CONVERSION OF STARCH into sugar consists merely in pulling the poly-saccharids apart and reducing them to individual saccharids, in which case they become sugar.

THE SAME THING IS SEEN IN THE FATS. Fat consists of a fatty acid, oleic, palmitic, or stearic acid, combined with glycerine. Take an alkali and add to it a fat and the alkali takes the place of the glycerine, the result being that the fatty acid is combined with the alkali and gives us oleate, for example, which makes soft soap or oleate of potash, or hard soap. In the process of digestion these are separated.

LIKEWISE IN PROTEIN, we have building stones known as amino-acids. The protein molecule has more than a thousand atoms in it, with a molecular weight of three to twenty thousand, yet this entire structure is built up of these units or building stones, amino-acids. The digestion of protein, is, like the digestion of starch and fat, a process of separation—separation of the large molecule of protein into the amino-acids. Digestion, though seemingly a simple process, is really of profound importance. The body can not absorb and utilize starch. If we put starch into blood it will be treated as a foreign body:

the body can make no use of it at all, for it is a "colloid," and can not be absorbed. Protein is likewise a colloid and can not be absorbed by healthy mucous membrane, and if injected into the blood, it serves as a poison. It must first be separated into amino-acids to be digested and prepared for absorption.

After these substances have been absorbed they are reconstructed. The fat and the glycerin having been absorbed, are again put together—a most interesting process. The fat of mutton contains stearic acid combined with glycerin. Stearic acid melts at a very high temperature, so tallow is naturally very hard. When we eat tallow fat it is of course broken up into stearic acid and glycerin, which after being absorbed is then recombined in the blood and the tissues into fat again—and the curious thing about it is that it becomes stearin, just as it was before. In eating oil like olive oil one takes the oleate of glycerin and breaks it up into oleic acid and glycerin. When this is absorbed into the blood it is reconverted and we have olive oil in the blood and in the tissues. A dog has very soft fat, while an ox has very hard fat; a sheep likewise has quite hard fat. If a dog be fed for a time upon mutton tallow, then in place of his natural soft fat the dog will very soon have an accumulation of mutton fat and grow very solid. Such a dog is known as a "mutton dog." Likewise, if the dog feeds upon tallow he is a tallow dog. This experiment is often made in physiologic laboratories. Now what is true of the dog is just as true of man. If a man lives largely upon mutton chops he becomes a mutton man, and if the fat he supplies his body is suet or ox fat he becomes an ox man.

A VERY INTERESTING FACT in this conection is that the fats which are found in vegetables are like human fats, while the fats that are found in animals are unlike human fats. The

fats found in fishes are so unlike human fats that they are never naturally found in our bodies—they are entirely foreign to us, and consequently do not fit the human body at all.

It is not so essential that these foreign fats be used, for fortunately the body manufactures fat out of starch, a fat that is peculiar to itself. No matter what the kind of starch is, when it has been converted into fat in the body, it is human fat, of just the right kind. When a sheep eats grass it eats little starch. The carbohydrate found in the grass upon which the sheep lives is not starch, but "pentose"—a different chemical compound. So the sheep out of that pentose makes a different kind of fat—it makes sheep fat; the human body out of the carbohydrates which it eats makes human fat.

Now, when we eat the fat of an animal, we simply transport that fat into our own bodies without changing it at all, so that if we eat pig, we actually incorporate a part of that pig into ourselves. When a man has been eating pork freely he is part pork, and a man who has been eating of mutton is part sheep. The actual fat of sheep is there in his body, and in exactly the same condition as when it was in the sheep's body.

SO, AFTER ALL, THERE MAY BE SOME FOUNDATION for the philosophy of Dr. Bronson Alcott, of Brook Farm fame. "When a man eats pig," said Doctor Alcott, in arguing against meat eating, "he becomes pigified, and when a man eats ox, he becomes oxified."

THE PROTEIN WE EAT IN OUR FOOD after being broken up by digestion into amino-acids is made over into two proteins (blood albumin and blood globulin), and these the blood carries to the tissues. Each little cell appropriates whatever it needs and redigests it, tearing it all down again to the original amino-

acids and then recombining them into the particular kind of protein required for that individual cell.

This building over process is called "constructive" metabolism, while there is also a "destructive" metabolism akin to the breaking up process of digestion. This consists of burning or combining the protein, the fat or the sugar that is taken into the body with oxygen and gradually reducing it down to simple substances which can be easily eliminated from the body. The principal part of this process consists in the oxidation of sugar and of fat. Most fat, however, is stored up by the body.

Too, when starch after having been eaten is converted into sugar, that sugar must be stored for a time in order that the body may have a supply on hand to use in the intervals between meals. Some of it is stored up in the liver and in the muscles in the form of "glycogen," a kind of animal starch; the mono-sacharrid becomes a poly-sacharrid again in the liver and is stored up in that way, but if there is any excess, more than is needed for this kind of storage, it is deposited under the skin in the muscle in the form of fat, the greater part of it in connection with the connective tissue of the body, the connective tissue cells having the power to take the sugar of the blood and convert it into fat. If the body gets entirely out of sugar then it burns its fat, which accounts for the fact that we lose flesh when we stop eating. Sugar thus is the fuel of the body.

PROTEIN, HOWEVER, IS NOT A STORAGE FOOD. Only so much of it is required as is needed for body-building and repairs. How much that is has long been a mooted question. We have learned of an experiment as old as the human race that sheds much light upon the subject—an experiment, that has been made by the whole human race, an experiment that has been repeated with every baby born that is nourished by

mother's milk. If it can be found out how much protein there is in normal mother's milk we shall know exactly how much protein is necessary for a baby. For a body is being built; a human machine is being constructed that needs the largest proportion of protein it ever will need in its life. It is just as it is with a locomotive—more metal is required in building a locomotive than to keep it in repair; when a locomotive has been built in a shop, in the course of six months or six weeks metal has been put in very rapidly. So here is a baby, growing so fast that it doubles its weight every few months—some animals double their weight in just a few weeks, and the more rapidly the animal grows, the larger the amount of protein in the milk supplied to the animal. Cow's milk contains twice as much protein as mother's milk, because a calf grows more than twice as fast as a baby does. A baby doubles its weight in nine or ten months, so it must have an abundance of protein. Doctor Taylor, of the University of Pennsylvania, has worked this problem out and finds that the normal baby requires one and one-tenth calorie per pound of its body weight. If a baby weighs nine pounds, it requires ten calories a day of protein, so that if a man weighs 150 pounds, he requires not more than 165 calories of protein a day—if he takes a high-protein diet such as the baby has. It is hardly to be supposed that an adult requires more protein than one calorie per pound of body weight, for if a baby can build a normal body on that proportion of protein, certainly an adult can keep his body in repair, since the amount required to keep the body in repair is very much less than the amount needed to build the body.

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MANY MEN EXPEND MORE ENERGY in eliminating the nicotine inhaled from black cigars than in conducting business.

IN the May GOOD HEALTH we quoted from an address by Senator Tillman, in which he excoriated the custom which permitted smoking in the Senate chamber and took occasion to deliver a blow at the use of tobacco and other unhealthful habits. The newspaper paragraphers have made the most of their opportunity and commented freely, as witness the Washington *Herald*: "Senator Tillman used to keep other people in hot water; now he spends most of his time drinking it."

Overcoming Hot Weather Effects by Cool Bathing

COLD IS A UNIVERSAL ANTIDOTE FOR HEAT, as heat is for cold. We use water to put out fire, and fire to warm cold water. There are no disorders or morbid conditions which so readily respond to the use of water, and which are so radically and readily benefited by hydriatic applications, as those especially incident to hot weather. The public generally has found this out, and hence it is a custom in many countries, even in lands where the remedial use of water is not well understood, to make a summer trip to the seaside to get the benefit of the hydrotherapy of the sea.

Sea bathing, which from the most ancient times has been considered a great health promotor, is wonderfully beneficial to thousands. And what is true of sea bathing, is also true of lake bathing, river bathing, and bathing in natural sources of water of all kinds. We must remember, however, that what is good for one person is not always good for another, and many are injured by sea bathing through ignorance.

VERY FREQUENTLY PEOPLE ARE MADE ILL at the seashore by too long bathing. Some spend hours in the surf, and become completely exhausted. If one is unaccustomed to sea

bathing, the duration of the bath should at first be not longer than two or three minutes; the next time it may be a little longer, and may gradually be lengthened to ten or fifteen minutes. If the water is rather cold, one should not remain in more than five or ten minutes; if it is very cold, not more than three or four seconds,—just long enough to get the impression of cold upon the skin. Fleshy people can remain in the water longer than thin people, and adults longer than the very young.

THE BENEFIT TO BE DERIVED FROM SEA BATHING IS DUE first of all to the low temperature of the water, the temperature of sea water seldom being above 70° or 75° F. Water at this temperature very rapidly extracts heat from the body, with the result that if a person remains in bathing for a very great length of time, he loses considerable heat. Indeed, so large an amount of heat may be carried off in this manner that one will suffer from shock, and the next day he may feel great depression as the result. Fresh water is usually warmer than salt water; but in salt water, reaction occurs more quickly than in fresh water, so that one may remain in it a little longer. The reaction after a cold bath should always be prompt and complete.

COLD HAS THE MARVELOUS PROPERTY OF INCREASING VITAL FUNCTIONING of all kinds. When cold water is applied to the skin, impulses are sent inward that awaken every organ of the body. When a person dashes into cold water, the first thing he does is to draw a deep breath; the lungs swell out, a deep inspiration is taken, and the heart begins to beat with wonderfully increased vigor and strength. This deep breathing is purely involuntary, just as is the jerking of the leg when the bottom of the foot is titillated; it is one of the organic functions carried on by the bodily forces entirely independent of the will.

This deep breathing increases lung activity, thus brings in more oxygen; it increases heart activity, so that the blood is circulated with greater force; hence we have more blood and purer blood carried into every tissue of the body. The result is a stirring up of the bodily forces, and a distribution throughout the system of a larger amount of highly vitalized and oxygenated blood. The blood-making powers of the body are increased by cold water applications.

ANOTHER VERY IMPORTANT ACTIVITY which is increased by the application of cold or by cold bathing is the digestive function, by which the food is absorbed and taken into the blood. The application of cold water to the skin has the effect to stimulate the secretion of gastric juice. Every one knows the effect of taking a walk on a cool morning, or a cold plunge—of the appetite it gives. Digestion, as well as appetite, is wonderfully stimulated by cold. That is why the Eskimo can live on blubber and other food, the digestion of which would be quite impossible to the ordinary stomach in our climate.

All the functions of the body are stimulated by a general application of cold water or cold air.

THE KANSAS STATE BOARD OF HEALTH has been telling the people of the Sunflower State how to reach old age. "To attain old age," says a bulletin, which it issued recently, "we have to relieve ourselves from worry, strains and anxieties, withdraw periodically from the whirl of effortful existence, modify our diet, omit the use of stimulants and narcotics, and spend reasonably long periods of the time under pleasant conditions in practical retirement. Above all, amusement should be simplified and accepted rather than sought after. Only vegetable and semi-animal foods should be eaten."

DR. JOHN LOVETT MORSE, of Harvard University Medical School, had a word to say in a recent lecture about that foe of healthy childhood, the doting grandmother. "One of the greatest obstacles to the proper feeding of young children," said the Doctor, "is the opposition and interference of grandmothers. It is a strange fact that the majority of women, although they have been good mothers and have brought up their own children sensibly, show no reason whatever in matters relating to their grandchildren. They are willing to give them anything and everything to eat, and will, in fact, go out of their way to do so. The most probable explanation of this curious anomaly is they are not responsible for the care of the children when they are sick. They had to take care of their own children when they were sick, and consequently took good care that they did not get sick. They do not have to take care of their grandchildren, and consequently are not so careful."

To Keep the Baby Comfortable in Hot Weather—

GIVE HIM COOL SPONGE BATHS or cool neutral baths. The child a year or more of age may be allowed short periods of play in the bath tub in water at a temperature of 94° Play things that float, dishes with which he can dip water, etc., will make the time pass all too rapidly.

Vary the amount and kind of his clothing to suit the temperature.

Give him plenty of fresh air night and day. However, don't compel him to get all he needs lying "bunched up" in his cab among fluffy feather pillows. Provide him a comfortable mattress in some cool place where he can lie straight and stretch and kick at will.

Protect him at all times from flies, mosquitoes and other tormenting insects.

Give him often a drink of cool water, from a source known to be pure or of water which has been boiled, cooled and kept in a stoppered bottle.

Have stated times for feeding and feed regularly, not whenever the baby cries. Avoid over-feeding, especially in hot weather.

If not breast-fed, feed by schedule or quantity according to age, as directed by some competent authority.

Use only certified or pasteurized milk and exercise the greatest care as to cleanliness in every particular, and especially screen the food from dust and flies.

Discard pacifiers; they are always a source of injury to the little one.

Don't use soothing syrups, or any patent nostrums.

If the baby is ailing, call a trained nurse or physician to direct its care. E. E. K.

ONE OF THE SUREST SIGNS of lessening race vitality is a lowering birth-rate. Almost without exception the civilized countries of today find themselves confronted with the problems of their own continuance. The general situation is reflected by statistics for Scotland, recently available, which give a birth-rate for 1913 of 25.5 per 1,000, the lowest ever recorded. Some idea of the change which has taken place is seen in the fact that this is twenty-eight per cent lower than the figures for 1876. There were 47,476 more births than deaths in 1913, or 4,487 below the average of the increases for the preceding twenty-five years, and 6,799 below that for the previous ten years.

THERE is no use talking about personal liberty in the matter of alcoholism until mental defectives, the weak willed, people with deficient education in the matter of alcoholism and its effects, and even people of sound judgment but who must react constantly twenty-four hours of the day and seven days a week to the depressing effects of poverty—until all these classes of people shall have opportunity equally with their more fortunate brothers to exercise freedom of an enlightened and emancipated will. If the strongly individualistic defenders of alcohol want to see ushered in that glorious day when men can drink their fill with none to say them nay, they should get into the fight for race betterment through the elimination of poverty, bad housing, evil conditions of labor, long hours, and the application of eugenics—and the chances are that under more ideal living conditions, neither they nor the class of people they have helped to rise will longer have any appetite for degrading drink of any kind.

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Helping the Milk Man

NOW THAT THE TYPHOID DAYS are upon us, the problem of pure milk again confronts us, insistent in its demands that it be regarded seriously as a factor in the immunity of infants not only to typhoid, but to other ravages which flourish in hot weather. And the reader will perhaps permit us here a prefatorial suggestion: are we not marking time when we confine our clean-milk agitation to berating the milk dealer? The distribution of milk is one of the few fields in which we have made little progress, so far as a working understanding between dealer and consumer is concerned. Long ago (as measured in terms of the pure-food crusade) we put the matter up squarely

to the grocer. We told him he was to furnish clean groceries or he was to sell none at all. But—and here is the point—we gave him to understand that we were willing to pay for cleanliness and purity. This we have never done with the milkman, except largely in the case of hospitals and other consumers where absolute purity is imperative. We have allowed ourselves to drift into the habit of scolding him because his milk was dirty, without at the same time holding ourselves ready to pay him for the extra equipment and labor necessary to produce the desired quality. The cost of production must vary greatly, but it is safe to say that in most communities the dealer cannot put in an adequate plant and deliver certified milk to the consumer at an advance of one cent or even two cents a quart: the chances are he will add fifty per cent, and, where labor is high, seventy-five per cent.

BY CERTIFIED MILK is meant milk that has been produced by a trustworthy dairyman—we quote from a definition prepared by Dr. M. J. Rosenau and Professor R. A. Pearson for the Certified Milk Producers' Association of America—and "prescribed by a medical milk commission. The dairyman shall enter into a legal contract with the commission, in which he shall agree to comply with all its requirements.

"Certified milk shall be obtained from healthy, tuberculin-tested cows under veterinary inspection; all persons who directly or indirectly come in contact with the milk shall be under medical supervision; and the milk itself shall be subjected to periodical bacteriological, chemical, and other tests.

"Certified milk should be free from harmful germs and shall contain relatively few of the common bacteria. It should not contain more than 10,000 bacteria per cubic centimetre, and shall not contain on an average more than 10,000 bacteria per

cubic centimetre—this average shall be based upon bacteriological examinations covering a period of ninety days, and the counts shall be made at least once a week during this time.

"Certified milk must be bottled at the point of production, rapidly chilled, kept cold, and delivered promptly to the consumer. After it is once chilled, the temperature of certified milk should at no time go above 45° F., but never below 32° F.

"Certified milk shall be normal milk; that is, neither heated, frozen nor altered in any way except strained and cooled.

"Certified milk shall be of uniform quality and contain not less than 3.8 per centum nor more than 4.2 per centum of fat, unless it is labeled otherwise, in which case it shall not vary more than 0.2 per centum from the amount stated on the label.

"Certified milk shall not be subjected to the action of heat; shall not be subjected to the action of any preservative whatever, except cold; shall not be subjected to the action of light, electricity, pressure, or any special force or agency of any kind for any purpose; no substance of any kind shall be added to the milk for any purpose; and no part of the milk shall be removed."

IT IS PERFECTLY APPARENT that when all milk is produced under certified or equivalent conditions there will be no summer-milk problem, except so far as concerns the care of milk after it reaches the consumer.

PASTEURIZED MILK is milk that has been submitted to a temperature of 150° F. for the purpose of destroying any germs that may be present. There is this objection to pasteurization, that it has a tendency to coagulate the albumin, while it also does not remove inorganic filth. But at the present day, when most people must accept whatever milk is

brought to them, milk for the infant should be pasteurized, a simple process being as follows: set the bottle of milk in a vessel containing water and heat the water until the milk reaches a temperature of 150°, then remove from the stove and allow to stand twenty to twenty-five minutes in the water. Next put the milk in a sterilized bottle, and keep cool until used. This does not wholly free the milk from bacteria, and does not at all affect the filth with which it may be filled, but it destroys many of the more dangerous germs, and is far more wholesome than sterilization.

MILK IS STERILIZED BY HEATING IT TO A TEMPERATURE of 250° F. for fifteen minutes, or boiling it for half an hour on three successive days. Sterilization, however, so changes the chemical constitution of the milk and imparts so unpleasing a flavor that it is not to be recommended. So far as the ordinary householder is concerned, then, the problem is, after getting the best grade of milk to be found in his market, in case the milk is not certified to render it as sterile as possible in the most hygienic manner, and once the milk is in the house to take precautions that will keep the germs from multiplying. Pasteurization accomplishes the first object, and attention to a few rules the latter.

AS SOON AS POSSIBLE AFTER THE MILK REACHES THE DOOR place it on ice without removing the cap. In this way the milk will take on neither bacteria nor dirt, nor the flavors which are apt to be found in the ice box. If the milk sours do not blame the iceman without at first investigating the ice box. A thermometer will show whether the temperature is below 50°; if it is above this point be pretty certain the trouble is not necessarily with the dairyman.

BY ALL MEANS DO NOT EMPTY THE BOTTLE into a pitcher for containing purposes. On the other hand, however, do not pour back into the bottle milk that may be left from the table serving or that has been otherwise exposed to the air. The bottle should be kept constantly capped. There are on the market several types of metal caps that convert the milk bottle into a pitcher, and at the same time remove the danger of contamination of any germs that may linger about the paper cap. In using them, however, care should be taken that they are carefully sterilized after each use.

THE PAPER CAP, indeed, may be a real source of danger. In the journey from the farm to consumer it is likely to catch contamination of various kinds—from melted dirty ice, from dust, from unclean hands, etc. Before removing the milk from the bottle, clean the top of the cap, and particularly around the edge where it fits into the neck of the bottle. Above all, do not use the thumb or finger for removing the cap, but insert a fork or other utensil that is perfectly clean.

ONE'S DUTIES do not cease as soon as the bottle is emptied, however. Every empty bottle should be rinsed in cold water until the glass is clear and placed bottom-side up to drain. Use it for no other purpose than as a milk container. Under no condition should it be returned dirty, for unless the cleansing process at the dairy is unusually effective, or the attendants unusually conscientious the bottle may be returned to you (or to some other consumer whose babies need clean milk) in a filthy condition that makes the rapid growth of germs inevitable.

ATTENTION TO THE ICE BOX or refrigerator will be a great help. It should be kept sweet and clean by being thoroughly inspected at least once a week. Flush the drain pipe

carefully with the ammonia water, and scald the pan, where a pan is used, once a day. A collecting tank located in the cellar and connected with the ice-chest by a long drain pipe, has this drawback, that being in the cellar it is more difficult to cleanse than a pan, and is apt to be overlooked. The ideal drain is one which is fed by a short pipe into the sink. The shortness of the pipe adds to the thoroughness with which the flushing is done—and as the sink is frequently scalded anyhow, the labor in connection with the drain is reduced to a minimum. This arrangement is possible in many built-in sinks, and in new houses may be especially provided for in the plans. Give the food compartments a weekly scalding with a solution of sal-soda.

THE SAME CARE SHOULD BE GIVEN, again, to the milk from the time it leaves the ice-box until it is eaten. All dishes in which it is handled or served should be thoroughly cleaned. This applies especially to nursing bottles for infants. Avoid the old style bottle with long rubber tubes and nipples, which make effective catchers of filth and germs and cannot be easily cleansed. The bottle should be thoroughly sterilized after each feeding.

THE ABOVE SUGGESTIONS WILL, if put into effect, solve the milk problem for the consumer, so far as the home end of the traffic is concerned. It does not, of course, take into consideration the desirability of milk as a food for the human-being, above all for infants. Every woman should know that no animal can serve as a wet nurse to the mother. Charts compiled in Paris to demonstrate the relative infant mortality of breast-fed and bottle-fed babies from gastro-intestinal diseases under one year of age, show that in certain of the summer

months the ratio of the latter to the former in some cases is as seventy-five is to eight; and one week it was reported as fifty-two is to two. In not every case, however, is it possible for the mother to nurse her child, and where this is true modified milk comes to her aid. Modified milk is ordinary cow's milk prepared after certain formulæ to regulate the amount of casein contained or to eliminate it entirely.

IN CERTAIN OF OUR LARGE CITIES milk stations have been opened at which modified or "percentage" milk may be obtained: but most mothers will remain at the tender mercies of the milk which is left at the door-step, until we go to the root of the problem and carry to success a crusade of education—conducted not by learned societies or by a campaign of vilification, but by informing the producer in as gentle a manner as possible—strenuous if necessary—that we will accept nothing but clean milk with a low germ-count; and furthermore, that we are prepared to pay more for it just as we are paying more for clean groceries.

NAPE, a South American drug, has been suggested as a possible substitute for tea, but it is merely a case of tweedle-dee and tweedle-dum. Nape and tea are one and the same thing, for napé, like tea, contains a considerable proportion of caffein. A traveler in South America wrote a few years ago an account of the napé habit among the natives of South America, and showed that the victims all exhibited symptoms similar to those of tea and coffee poisoning—consequently the leaf of the napé plant cannot be less harmful than the leaf of the tea and the berry of the coffee plant.

THE TANGO IS PROVING TO BE THE FRIEND OF THE FOOT. Feminine devotees of this and other of the new dances have discovered that the tight shoes which they have inherited from the dark ages have crippled their feet to the extent that they are unfitted for one-steps because of weakened in-steps. If the discovery is accompanied by grim resolutions to begin a reform in footwear, the popularity of the tango, the maxixe, *et al.*, will not have been in vain.

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Intemperateness in Athletics

IN VIEW OF THE FACT that "intemperance" has become associated in the popular mind with intemperateness in the use of alcoholic veberages, attention cannot be too often called to the fact that there are other forms of intemperance—inordinate indulgence in athletics, for example. Doctors Schumaker and Middleton, of the University of Wisconsin, contribute to a recent number of the *Journal of the American Medical Association* a study of various groups of college athletes with reference to the effect of immoderate exercise upon the heart, and arrive at this conclusion:

"Athletic training leads at first to physiologic hypertrophy of the heart; but when prolonged and marked by severer athletic contests it usually leads to hypertrophy plus dilation of a variable degree, frequently marked by valvular insufficiency.

"FUNCTIONALLY the hypertrophied heart, even when dilated and giving distinct evidence of valvular insufficiency, may prove more fitted to carry a man through a severe athletic contest than a normal heart would be. On the other hand, acute

cardiac dilation occurs more frequently in athletes and men used to severe muscular strain than in normal men, and the ultimate effects are more prolonged and severe. There is reason to believe that for normal human activities an 'athletic' heart is distinctly disadvantageous."

THIS IS NOT TO BE REGARDED IN ANY WAY as an attack upon exercise—not even on college athletics; but merely a protest against that one-sided form of competitive athletics which exalts personal prowess and victory, and wholly loses sight of the real aim of physical training: a sound body as the habition of a sound mind.

A WRITER in the *Medical Record*, Dr. G. F. Boehme, says that a number of dancers have consulted him for pain in the front of the foot, and that in every instance he has discovered the cause to be—the modern dance! "The patient generally awakes in the morning with a slight pain in the outer anterior aspect of the leg in its lower third. At first it is regarded as a slight bruise or a 'little rheumatism.' During the next few days the pain becomes more marked and a stiffness in flexion and extension of the foot is noted. Going up and downstairs is painful, especially the latter. . . . The latter day dances, especially the tango and maxixe, and to some extent the complicated figures of the hesitation waltz, call for great flexibility of the ankle, with much movement at this point throughout the various intricate steps." We shall probably witness a struggle between the popularity of the modern dance and the popularity of the old, deforming shoe—and may the shoe lose!

IT WAS EPOCH-MAKING—the discovery by employing interests, that it paid them dollars-and-centswise to take an interest in the health of their employees. It is now time for the fact to become generally known that it also pays the community at large to take an equal interest in the health of one another as a community. For it is true, as Lugaro put it in a recent work, "Problems in Psychiatry," that "the conviction has not yet penetrated that the decadence of the physical strength of the worker, the diminution of the capacity for work, the premature deaths, the degeneration of the race, the chronic diseases which require long periods of treatment in hospitals and asylums, cost the general economy of the country more than the expense which would be incurred in stamping out the evil."

Drugs Dispensed With in Treating Malaria

MALARIA IS CAUSED by the bite of the anopheles mosquito. The anopheles in biting a malaria infected animal takes into its blood the germs of this disease. The germs multiply rapidly and their spores enter the mosquito's salivary glands. When he bites, the mosquito bores a little hole, into which he injects a bit of this malaria-infected saliva. In the bitten victim these germs begin to multiply very rapidly, until they reach the point where they produce the disease called malarial fever, with its chills and fever.

MALARIA CAN BE GOT OUT OF THE SYSTEM VERY QUICKLY by the use of quinine: but quinine—and this cannot be said too emphatically—does not cure of itself. The

only way in which malaria can be cured is by the white-cells of the blood eating up the malaria germs. This is not an easy matter, for the germs are very shy, some of them. They seem to be aware of the fact that the white-cells are out after them, so as soon as they come into existence they hide away in the blood, getting into the red cells and hiding there, continuing to grow until they get so large that they burst open the cells. Then they disintegrate and form spores, throwing off at the same time a poison which they generate; and it is this poison that causes chills and the fever that follows the chill.

NOW, ALL THAT QUININE DOES is to weaken these parasites so that they cannot escape from the white-cells so readily. If, however, it is continued day in and day out, it weakens the white-cells to the point where they become so damaged that a dose of the drug brings on a chill, which accounts for what is known as the "quinine chill." In other words, quinine has weakened the blood-cells more than have the malaria germs, with the result that the parasites improve their opportunity and set up the chills.

THE BEST OF ALL REMEDIES is to get out into the country where there are no mosquitoes, to get out into the open air and store up strength and vital resistance. One of the best means to this end is the cold bath. A physician traveling in Mexico a few years ago came down one day with a chill which he recognized as malaria. When the next chill was due he took a hot shower bath, chancing to be at a mission station where there were facilities for water treatments. He took the bath as hot as he could bear it, until the skin, as he put it, was almost parboiled, and then sprang out and had a large pail of ice water poured over him. He was then wrapped up in a Turkish sheet

and blankets and tucked very tight in bed. In a few minutes he was perspiring very freely—and there was no more malaria.

THE PHILOSOPHY OF THIS is simple: this application of heat followed by cold brings into the blood an increased number of white-cells, which are able to destroy the malaria germs, and so break up the fever.

Raw Cabbage is Easily Digested

IT IS AN INTERESTING FACT THAT RAW CABBAGE IS MORE EASILY DIGESTED THAN COOKED CABBAGE, chiefly for the reason that it contains very little starch. It has the further advantage, too, of being easily affected by the digestive fluids, provided it is thoroughly chewed. On the other hand, it is not readily attacked by bacteria, with the result that many people can eat it who cannot eat cooked cabbage.

THE WRITER, several years ago, made an experiment with a given amount of raw cabbage and of cooked cabbage. Both were inoculated with a certain number of bacteria, put away in an incubator for three days, and then examined. In the cooked cabbage the bacteria had multiplied enormously, while in the raw cabbage the bacteria had actually diminished, showing that the raw cabbage really possessed the power of resisting the attack of bacteria. On this account, not only cabbage, but lettuce, spinach, turnips and similar foods may be eaten raw to very good advantage, provided one likes them in this form.

Starling, an English physician, discovered that the digestive juices are not active unless they are first acted upon by some other substance. That is to say, they require an activator. For instance, the lower part of the pylorus produces a substance known as "gastrin," which stimulates the gastric juice and renders it active. Likewise, the pancreatin does not act by itself, but is activated by "kinase," a substance found in the intestine below the stomach and set free by the hydrochloric acid of the gastric juice.

THE SAME PRINCIPLE IS FOUND AT WORK IN MOTHER'S MILK, which contains activating substances that reinforce the feeble digestive juices of the infant and enable it to flourish and digest its food, whereas on another diet it does not do so well. An illustration is seen in the case of babies who become emaciated and rickety on sterilized cow's milk, the activating substance being destroyed in the process of sterilization. Raw vegetables, too, contain substances that activate the digestive juices of the body and thus stimulate nutritional processes in a remarkable manner.

A EUROPEAN PHYSIOLOGIST reported before the International Congress of Hygiene, held in Washington, the results of some interesting experiments, in which he found that lentils contained activating substances in very large proportion, as also potatoes; in the case of beans boiled at ordinary temperature, activating substances were present, while if the beans were cooked at a temperature of 240°—a temperature used in canning baked beans—these activating principles were destroyed, which undoubtedly explains why sailors get scurvy, even though they carry to sea a supply of tinned vegetable foods.

IT IS WELL AT EACH MEAL TO EAT SOME UNCOOKED FOOD —a handful of lettuce, say, or a cucumber. We do not take them as a luxury, as was formerly thought, but in response to a natural demand of the system.

What We Know About Rum

THE READERS OF *Everybody's* will find in the June number of that excellent journal a unique editorial feature entitled, "What we Know about Rum," an open forum of discussion, pro and con, of the subject of alcohol from a physiologic, economic and sociologic standpoint. One of the writers, Dr. Rock Sleyster, presents some remarkable evidence taken from the lives of 592 inmates of a hospital for the criminal insane, of which he was at one time superintendent. The figures given by the writer are as follows:

Of this number 217, or 36.8, were the sons of drunken fathers.

Of this number 239, or 40.0, were addicted to the use of alcohol before reaching the age of fifteen.

Of this number 311, or 52.5, habitually drank to excess.

Of this number but 57, or 9.6, were abstainers.

Of this number 384, or 64.9, spent their evenings in saloons, at cheap shows, or on the streets. Of these three attractions the saloon was the best drawing card.

And yet, in the face of this damaging testimony, evidence which can be duplicated in every part of the country, a man who is financially interested in the liquor traffic has the face to come forward in the discussion and defend the drug on the ground that it is not the use but the abuse of alcohol that renders it harmful!

WHEN TEA WAS FIRST BROUGHT TO ENGLAND, about the year 1665, it was served experimentally for eating from a bowl, like spinach. Evidently the experiment did not meet with favor, since for a long time after that it was regarded as a deadly drug and people who sold it were in disrepute.

Life Insurance Company Urges Non-Meat Diet

IT IS A PRETTY GOOD SIGN of the times that life insurance companies are coming to see a relation between health and efficiency of living on the one hand and the eating of meat on the other. When a great company talks about health to a policy holder, be sure its aim is naturally to lengthen his life, and therefore to make him a better risk. In other words, it pays a life insurance company to help its risks to be healthy—and, we ask, by the same token should it not pay the risk himself as well?

THIS NEW ATTITUDE towards eating is illustrated by a recent number of the "Health Bulletin" published by the Postal Life Insurance Company, which gives some most sensible and practicable hints on diet. About nine-tenths of the calories or heat-units furnished by our food, says the Bulletin should be of the fuel-class, namely, butter, cream, fats, oils, three-tenths potatoes, breads, cereals, fruits and vegetables, six-tenths. "Only about one-tenth of the heat-units or calories in our food should come from protein, and if there is much expenditure of energy and a large amount of fuel-food is taken, the proportion should be less.

"Even during growth but little protein is needed—only about seven per cent of the food-value as shown by analysis of human milk. As protein from other sources is less readily utilized, about ten per cent is required during adult life.

"FOR MAINTENANCE AND REPAIR AFTER MATURITY, the protein requirement is less than during the growing period, the need decreasing with advancing years. With this qualification as to age it may be stated that the protein requirement is practically stationary; that is, no matter what the degree of activity or the amount of muscular work performed, the body requires the same amount of protein daily, about seventy to seventy-five grams (2.2 to 2.4 oz.) for a man of average weight—(70 kilos) 155 pounds. With increased muscular work, the energy- or fuel-foods should be increased. Neither muscular growth nor muscular endurance can be increased by meat-eating or forced protein-feeding.

"So the human furnace needs chiefly coal, not bricks or mortar.

"For warmth and power and work, eat the starches, sugar and fats rather than the high-protein foods, and eat what you can most readily digest.

"THERE ARE ENOUGH HEAT-UNITS in a pound of lard to supply the average man with energy for thirty-six hours, but only an Esquimo could successfully cope with such a ration.

"Bread, cereals, potatoes, starchy vegetables, etc., thoroughly chewed and tasted, afford the most valuable sources of energy.

"Of course a moderate amount of protein-foods and repair-foods is needed, but do not rely solely upon meat, eggs,

fish or fowl. There are many cheaper sources of protein. Cheese and nuts are rich in protein, also peas, beans and lentils. Bread, cereals and milk also contain a substantial proportion of protein.

"IT IS EVIDENT, therefore, that an ordinary mixed diet that contains any considerable quantity of meat or flesh-food must necessarily contain an excess of protein."

THERE RECENTLY DIED in Sparkill, New York, Charles Weiner, 104 years of age. His longevity he attributed to the fact that his diet consisted almost wholly of vegetables and that he never smoked.

Her Stomach Flopped—A Mind Cure Experience

THE INFLUENCE OF THE MIND OVER THE BODY is well illustrated by the case of a woman who had a very bad dyspepsia. She had tried various remedies, but with little benefit. Finally she learned of a Christian Scientist in a city a few hundred miles distant who cured people by the absent treatment method. She engaged him to give her daily treatments. The duty of the Christian Scientist for the money paid him was to sit in his office at three o'clock every afternoon and think of this woman's case, the stomach to be healed by this process. At the end of three or four weeks the patient reported herself as wonderfully improved. "I know it is helping me," she said, "because every afternoon when I sit for the treatment, exactly at three o'clock I can feel something flop in my stomach."

Now the interesting fact about the cure was that the Scientist did not begin to think about her case until twenty minutes later than she did. They had forgotten to make the proper arrangement for the difference in time.

Brief Review of the Fly Problem

REMEMBER always that with flies as with all other evils prevention counts for more than any remedy.

Keep your premises so clean that flies will find no place to breed. If you have neighbors interest them in keeping clean too. Use outdoor fly traps. Screen the windows and doors.

IF FLIES GET INSIDE destroy them. Swatters are cheap and a good inexpensive poison for flies can be made by adding two tablespoonfuls of formalin to a mixture of one cup of milk and one cup of water. Partially fill a saucer with this, adding a few tiny islands of bread for the flies to rest on while they drink, and leave where they are most apt to congregate. No other liquid or water should be available, else the fly will prefer something else to the poison.

PURCHASE YOUR FOOD SUPPLIES of dealers who tolerate no flies; nevertheless, do not fail to wash thoroughly all fruits and greens before using. Flies may have come in contact with them somewhere along the route. Leave no invitations out in the form of uncovered foods. Screen the baby in his carriage and crib from flies. Plan to keep the insects entirely away from the helpers, the feeble and invalid.

New Medical Discoveries

of Interest to Lay Readers

Alternating Hot and Cold Baths for Blood-Pressure

TWO DISTINGUISHED FRENCH PHYSICIANS, Dausset and Hanriot, report the employment of the alternating hot and cold bath in a case of blood-pressure with decided success. The blood-pressure was taken in a warm bath and then again in a hot bath at 107.6 to 120° F. After one or two minutes of this, cold water was added until the temperature was lowered to cold. The vascular system is exercised to a remarkable extent by these temperature changes in the twenty-minute bath, though the changes are so gradual that there is no sudden shock. They report that oxidation processes are promoted, heat production is regulated, and sluggish elimination whipped up, while the reflexes are brought back into physiologic limits.

Physiological Dietetics

W. STERNBERG, A GERMAN PHYSICIAN, writing in a Berlin medical journal says that the physiology of dietetics is monopolizing popular interest to the undue exclusion of attention to the psychology of the subject. He insists that our senses of smell and taste recognize chemical changes more sensitive than can be detected with chemical tests. Warmed-over dishes are not relished as at first, some chemical change having

occurred in them that has rendered them less wholesome because less palatable. Loss of appetite, disgust, nausea, vomiting, and finally some dietary deficiency disease, form the sequence, and loss of relish should warn that we have entered on the downward slope. Sternberg emphasizes anew that the science of cooking embraces far more than merely applied chemistry and physics and the employment of heat. It is rather applied physiology of the sense, applied esthetics and applied psychology. It is a matter of taste in the widest sense of the term.

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Relation of Protein to Pernicious Anemia

ACCORDING TO DR. A. CEDERBERD, in the *Berliner klinische Wochenschrift*, pernicious anemia is the results of the introduction into the blood through a constitutionally weak intestinal wall of products which result from the metabolism of protein. A conclusive bit of evidence which proves this view is the fact that when the intestinal wall is rendered permeable by certain substances anemia results, the case recovering when these substances are removed. Doctor Cederberg urges the restriction to the lowest possible amount of the intake of protein substances.

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English Physician Advocates Sensible Treatment of Intestinal Toxemia

DR. D. C. WATSON, an eminent British physician, discusses the subject of intestinal toxemia in a recent number of the *Edinburgh Medical Journal*, and takes a very enlightened view of the dietetic treatment of these cases. The diet, he says,

should comprise bread and milk, farinaceous food, green vegetables, and fruits. Patients who are especially prone to intestinal auto-intoxication have a relatively weak digestive power. Their diet must therefore be a simple one. All foods that are difficult to digest should be excluded from the dietary, and the various "extras" which can be indulged in with impunity by healthy subjects must be rigorously withheld.

Hot Applications in Eye Troubles

SOME THIRTY YEARS AGO AN EMINENT NEW YORK SURGEON was told by his oculist that cataract was forming upon his eyes. It occurred to him that possibly bathing his eyes in hot water might do some good, and he tried it. He applied hot water to his eyes three times a day, with the result that he succeeded in preventing the growth of cataract, and his eyes are now in such fine condition that he is able at the age of ninety to read coarse print without glasses. There is a wonderful power in hot water, and while it must not be supposed that hot water will cure every man's cataract, it is certainly one of the most sovereign remedies for almost every sort of eye trouble.

Nephritis Benefited by Low-Protein Diet

DR. H. D. ARNOLD, of Boston, in the *Boston Medical and Surgical Journal* discusses among other problems in nephritis the question of diet. Nephritic patients, he claims, "do better on a low-protein diet, which requires less functional activity on the part of the kidneys. The degree to which the protein

should be cut down depends on the degree of impairment of renal functions. A rough estimate can be made on the basis of allowing ninety grams of protein in the lightest cases and about forty grams in the severe or advanced cases. Intermediate grades should have an amount of protein between these extremes, varying according to the severity of the disease."

The Effects of Tobacco Poisoning

FAVARGER, in a recent German medical journal, reports twenty-one cases of disturbances of the heart due to the use of tobacco. The first symptom is palpitation, continued use bringing arhythmia and intermittent or abnormally slow or fast pulse, with sensations of oppression, precordial distress, weakness and insufficiency of the myocardium, dyspnea, cardial asthma, cyanosis and finally fatal paralysis of the heart. Types of all these are included in the cases he reports, six with fatal paralysis of the heart. It is his impression that abuse of cigar smoking has the most deadening influence, sense and memory becoming less acute and the heart suffering more than from excessive cigarette smoking. With the latter the symptoms of abnormal excitability of the nervous system predominate. The dependence of certain gastro-intestinal disturbances on nicotin poisoning has been confirmed innumerable times, he says, by their appearance and disappearance parallel to abuse and abstention from smoking. They range from common lack of appetite, diarrhea or constipation to extreme emaciation and gastric ulcer; the latter may be the direct result of defective blood-supply from vascular spasm or weak heart action, these factors being possibly supplemented by swallowing the smoke and particles of tobacco.

Hydrotherapy Found Useful in Nervous Diseases

DR. W. WEYGANDT, an eminent German physician, recently reported his experience with the effect of water treatments in cases of mental and nervous diseases. The continuous tepid bath has not only a tranquilizing action, he says, but it aids in the healing of skin affections. In the thousands of cases in which he has applied it he has rarely noted any by-effects. The continuous bath is particularly useful in warding off decubitus in elderly paretics, which so often hastens the fatal outcome in progressive paralysis. He asserts that in his experience the continuous bath has had particularly beneficial effects on the metabolism, and that several of his patients have improved to such an extent that they could return to business, while in numerous other cases it has prolonged life for years. He found the continuous bath an important aid for neurasthenics; the effect is more dependable than mere bed rest, as he found by personal experience during a nervous brakdown from over-work.

The Conservation of Birds

HENRY W. HENSHAW, Chief of the Biological Survey, United States Department of Agriculture, in a recent communication to the National Geographic Society, presents an argument for the conservation of birds, which, while not entirely new, is yet too seldom given the weight which it deserves. "The value of birds to the farmer is plain enough," says Mr. Henshaw, "but we do not usually think of birds as having any direct relation to the public health. To prove that they do, however, it is only necessary to state that 500 mosquitoes have

been found in the stomach of a single night-hawk; that in a killdeer's stomach hundreds of the larvæ of the salt-marsh mosquito have been found, and that many shore birds greedily devour mosquito larvæ. As mosquitoes are known to carry the germs of such serious diseases as typhoid, malaria and dengue fever, it is evident that by destroying such germs the birds are conferring a distinct benefit on man. It may be added that not infrequently ticks are eaten by birds and that the tick where it is responsible for the spread of Texas fever among cattle has been frequently found in the stomach of a bobwhite."

It Lacked Meat

THE ADVOCATES OF MEAT-EATING tell with gusto a story about Carlyle, who was a chronic dyspeptic, a victim of hyperacidity, and who once tried vegetarianism apparently without success, since after a trial of three months he reported he was obliged to destroy everything he had written during this period, finding that it "lacked meat."

IT IS ENTIRELY POSSIBLE that Carlyle had some reason for thinking his vegetarian experiment not a success. Persons suffering from hyperacidity are usually more comfortable on meat food than on a farinaceous diet, for the reason that the meat absorbs the acid of the gastric juice and chemically neutralizes it, as would soda. Nevertheless, it is also true that meat acts as a stimulant to the stomach and really aggravates the disorder from which it, for the moment, gives relief. The difficulty is easily remedied by the addition of an extra amount of fat to the diet and avoidance of salt, but this Carlyle did not know,

and so doubtless found his acid dyspepsia aggravated by the disuse of meat.

IT IS NOT FAIR TO QUOTE CARLYLE as an authority on the subject of diet, for he was not a physiologist and made no scientific experiments. That he was not a competent judge in medical matters is well shown by a story told of him by Thomas Bodley Scott in an essay on "Old Age." Carlyle's old friend, Sir Henry Taylor, was very ill, so Carlyle rode over on his old white horse to inquire for him. He sent for Miss Taylor to come to the door; there was Carlyle sitting on his horse, and he said: "I am very sorry, my dear, to hear your father has been so ill; I don't know what is the matter with him, but I have brought you over a bottle of medicine which has done Mrs. Carlyle a great deal of good."

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Eating for Pleasure

OLD DOCTOR KITCHINER, a famous English physician who, a century ago, wrote an interesting book, "Peptic Precepts," condemned in vigorous terms those second courses "which (served up more to pamper the pride of the Host, than to gratify the appetite of the Guests) overcome the Stomach, paralyze Digestion, and seduce 'Children of larger growth' to sacrifice the health and comfort of several days—for the Baby-pleasure of tickling their tongues for a few minutes with Champagne, Custards, and Trifles, etc.!!"

EATING FOR PLEASURE IS STILL IN FASHION with multitudes, who store up misery for themselves and make business for doctors by pampering their palates.

JANE EDDINGTON, a popular writer on dietetics, calls attention to the need of care in the use of bran, which happily is coming more and more into use. "Wheat bran does not keep well," says Miss Eddington. "Little black and more or less sleepy residents are altogether too likely to be found in it. If we do not use our bag or package of this the day and hour it comes into the house we cannot tell whether these residents were present when the package was purchasd or whether it hatched out later. The bugs are closely related to those found in other meals, but may not be the same. Watch out for these when we buy our bran, and exercise thought in caring for it, making prompt use of it, for it has its perishable qualities, like eggs or milk." The best plan is to use only bran that has been thoroughly sterilized, in which form it is perfectly wholesome.

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Tuberculosis From Tuberculous Cows

THE INVESTIGATION STARTED BY THE ANNOUNCEMENT OF KOCH at the Tuberculosis Congress in London in 1892, that bovine tuberculosis does not produce serious infection in man, resulted in the demonstration that bovine tuberculosis is a very important factor in the production of tuberculosis disease, especially in children.

ROSENBERG, of New York, has recently called attention to the fact that too little consideration has been given to this source of tubercular infection. Hess, after a careful study of the New York milk supply, found fifteen per cent of the samples of milk obtained on the market capable of producing tuberculosis in guinea pigs. The same observer found among eighteen chil-

dren fed on cow's milk five suffering from tuberculosis. Behring has demonstrated that among young children in cities twenty-four out of twenty-five are suffering from tuberculosis in some form. Other observers have found as high as twenty-five per cent of cases of tuberculosis in children due to bovine infection. It is estimated by Rosenberg that not less than 500 children die every year from bovine tuberculosis in New York City alone.

INVESTIGATIONS MADE IN WASHINGTON, ROCHESTER AND NEW HAVEN have shown the presence of tuberculosis germs in milk to the extent of twenty per cent of all specimens obtained. The Health Department of Boston found that twenty to twenty-five per cent of the animals furnishing milk to the city were infected with tuberculosis. Of five thousand cows brought to the city abattoirs for slaughter every year, fully one thousand were found to be so badly diseased as to be unfit for food, yet these same cows a short time before they were turned over to the butcher were supplying milk to the city of Boston and surrounding towns. It has been demonstrated that tubercle germs are not only found in milk but survive in butter and cheese.

DOCTOR ROSENBERG proposes as the only remedy for this source of infection the treatment of cows which furnish milk, by means of a specially prepared serum through which they may be rendered immune to tuberculosis. He claims to have proved that the milk from a cow which has been thus rendered immune to tuberculosis possesses the property of immunizing animals or human beings when it is used as food, and suggests that the state and national governments should undertake to secure the immunization of all cattle and by this means not only destroy this source of infection but aid in the protection of milk users.

JOHN ARDENE, a surgeon of the fourteenth century, and one of the most important figures in medical affairs of his time, left among other writings a delightful treatise on the dietetic care of nephritis. The middle English is so quaint that we cannot forbear quoting from it the following passage: "Nefretykes," he says, "must putte awey ire, highly and moche besheese & almanere thynge that longeth to the soule saff only joye. . . . They schulle forbere almanere metys that ben to grete of substanuse & vicsious, as olde beeff that is myghtyly pooudryd & enharded with sale and also fressch porke but yf it lye in salt iiii days afore." "Eschywe almaner mete made of paast" (pasties), he says, "& all bred that is dowgh bakene & all fatnesse." Ardene was a firm believer in the simple life in the treatment of these cases, especially rest and an early retiring hour—so much so that if one pass a bad night he "mowe sleepe be the morne unto IX on the clokke." Ardene's therapeutics are as sound as his Chaucerian English is charming—so advanced are they, indeed, that twentieth century science has little to add thereto.

The Carnivorous Fish

A FACT WHICH MOST EATERS OF FISH DO NOT REMEMBER, is this, that a fish is a fish eater. A dog eats rats and mice, and on account of these carnivorous habits one would not for a moment think of eating him, any more than he would eat a cat for the same reason. It is always herbivorous animals that are used by mankind as food.

FISH ARE NOT HERBIVOROUS. The small fish eat the minnows, and in turn are eaten by the larger fish; the larger fish are eaten again by still larger ones, until we reach the large

game fish, which are able to eat most anything that comes their way. This fact accounts for the peculiar fishy flavor which characterizes fish, for it comes of double-distilled extract of fish. It may account, too, for the fact that fish decomposes more readily than any other kind of animal food.

The Maggot Trap to Aid the Anti-Fly Campaign

THE MAGGOT TRAP is the latest idea in the fight against the housefly; with it officials of the United States Department of Agriculture having succeeded in destroying from seventy to ninety-nine per cent of the maggots in a pile of manure. This method of attack differs from those which have been generally used. Fly poisons have been made to tempt the appetite of the adult fly, or fly-tight receptacles have been used to keep the adult female from laying her eggs in manure. The newer method is based on the knowledge of certain habits of the undeveloped fly maggot.

The maggots of the typhoid fly, it has been discovered, have a habit of migrating from their breeding places into drier portions of the manure heap. This seems a distinct move on their part to permit the adult fly to issue from the refuse in the easiest and quickest manner. The efficiency of the new trap is based on the regularity of this deep-seated habit.

A LARGE GALVANIZED IRON PAN, five by three feet, with sides four inches high, was made. In this stood a container on legs eight inches high. This container measured four by two by two feet. The sides and bottom were of heavy wire, one-quarter inch mesh, supported by a light wooden framework.

Twelve cubic feet of manure, well infested with eggs and larvæ, were placed in this container and sprinkled with water. Water was also poured into the pan below to the depth of about one inch. Surrounding and covering both pan and container was a fly-tight enclosure made of a large cage, six by six feet. This prevented further infestation of the manure, and an arrangement of traps at the top of the cage made it possible to capture and keep a record of any flies that might emerge. At the time for the emergence of flies the sides of the cage were darkened with black cloth in order to drive the flies into the traps at the top. Each day the maggots were collected from the pan and counted, and each day the manure in the container was sprinkled thoroughly with water and the pan was washed out and again partly filled with water to drown the larvæ which fell into it.

SOME EXPERIMENTS are yet necessary to adapt the trap to all conditions, but these are being made, and it is probable that within a short time the principle will be developed to the point where it can be applied by every householder.

The Trend Toward Lessened Flesh Eating

THEY NO LONGER TALK ABOUT VEGETARIANISM AS THE FAD OF A FEW or the food of fanatics. Rather is it coming to be spoken of as a phenomenon in the development of all modern civilized peoples. Health, esthetics, humanitarianism, religion, quest of personal beauty, mental and more recently physical efficiency—these are some of the reasons that are given by observers for the extraordinary progress of the move-

ment; and just because these ideals are universal, the new diet is bound to be universally adopted.

A recent number of the Chicago *Record-Herald* gives an interesting list of men and women of world-wide fame that shows how true this is. Heading the list is George Bernard Shaw, the great English dramatist, who, we read, is "tall, robust and healthy, with a ruddy color, clear eyes and elastic gait. His diet consists of fruits, nuts, vegetables and cereals. He often makes what he regards as a hearty meal on four bananas, and when he is traveling he does not have the trouble that most people do, for he can carry in his grip a supply of nuts, and with the fruit and vegetables and grains that he can buy he can manage beautifully." Another English author is Marie Corelli, in the case of whom we learn that "meat is not at all necessary to an appearance of roundness and perfect health, for Miss Corelli is as plump and rosy as a child." The Countess of Warwick, famous as a Socialist propagandist, is also a vegetarian.

CROSSING THE ENGLISH CHANNEL we find that three of the greatest of French actresses are strict vegetarians—Bernhardt, Rejane, and de Merode: in each case the object sought was the "preservation of beauty." Another great actress to adopt vegetarianism was Georgette Leblanc, better known to the present generation as Mme. Maeterlinck. "Mme. Maeterlinck found that her thoughts were more lofty and her mind more keen and active when she lived on vegetarian foods. She, like her husband, has long been a mystic and this at first influenced her. Then from experience she learned that her intellect was far more nimble and clean when not beclogged with flesh food."

Three other European women of world-wide renown have adopted a non-meat diet—Princess George, of Greece, the

Grand Duchess Serge, of Russia, and Mme. Dieulafoy, the eminent archaeologist.

IN OUR OWN COUNTRY the writer of the article names a long list of eminent vegetarians: Dr. Russell H. Chittenden, of Yale University; Horace Fletcher; Professor Herschel Parker, of Columbia University; Ella Wheeler Wilcox; Grace MacGowan Cooke; Upton Sinclair; Edwin Markham; Mrs. Robert A. Van Wyck; Senator La Follette, and Michael Williams.

The Campaign for Clean Food

IN THE DAYS GONE BY, when each household was in a great measure its own producer, the matter of clean food was chiefly one to be determined by each family for itself. With our present-day complex methods of doing things there are innumerable ways by which foods may become contaminated between the point of production and the place of consumption.

IN A CONSIDERABLE MEASURE this is recognized, and many agencies are at work for the bettering of food conditions. The sale of milk and some other food commodities is safeguarded by law; pure food legislation has prohibited the use of injurious substances; and public opinion and investigations carried on by the woman's municipal leagues, civic societies and boards of health are slowly correcting conditions which have long existed in groceries and markets.

THIS IS ONLY A GOOD BEGINNING. There remains still much to cope with before we can feel assured that the food we consume has a certified bill of cleanness.

(*Continued on page 18, Advertising Section*)

Book Review

Lecture on Dietetics

THE lectures which compose the present volume were delivered before his classes by Dr. Max Einhorn, Professor of Medicine at the New York Post-Graduate Medical School and Hospital and Visiting Physician to the German Hospital, New York. The subjects which are discussed cover the principles of diet and nutrition, the digestibility of foods in health and in acute diseases, diet in acute diseases of prolonged duration and in chronic diseases, diet in chronic disorders of the digestive tract, the dietetic treatment of chronic diarrhoes, the dietetic treatment of diabetes mellitus, and diet regimes. The volume contains some very sensible advice, and we are particularly glad to see the author take a position against a diabetes diet from which carbohydrates are eliminated.

"Lectures on Dietetics." By Max Einhorn, M.D., Professor of Medicine at the New York Post-Graduate Medical School and Hospital, Visiting Physician to the German Hospital, New York. $1.00 net. New York: Paul B. Hoeber.

The Social Emergency

DURING the year 1913 Reed College, Portland, Oregon, conducted an extension course on the subject of social hygiene, which embraced the civil, social, economic, and educational problems connected with the growth of the social evil. The present volume contains the lectures delivered in the course as follows: "The Social Emergency: Materials, and Ideals," by William Trufant Foster, Ph.D.; "Physiological Aspects," by William House, M.D.; "Medical Phases," by Andrew C. Smith, M.D.; "Economic Phases," by Arthur Evans Wood, A.B.; "Recreational Phases," by Lebert Howard Weir, A.B.; "Educational Phases," by Edward Octavious Sisson; "Teaching Phases: for Children," by Wm. S. Elliott, Jr., A.B.; "Teaching Phases: for Boys," by Harry H. Moore; "Teaching Phases: for Girls," by Bertha Stuart, M.D.; "Moral and Religious Phases," by Norman Frank Coleman, A.M. The volume con-

tains in a valuable introduction by Dr. Charles W. Eliot. The book voices a powerful protest against the "conspiracy of silence" which has been allowed to grow up about the subject; and presents medical evidence to show how unnecessary commercialized vice is, so far as the physiology of man is concerned; and gives statistics which show that economically the whole system belongs rather to the dark ages than to enlightened times.

"The Social Emergency: Studies in Hygiene and Morals." Edited by William Trufant Foster, President of Reed College, President Pacific Coast Federation for Sex Hygiene. Introduction by Chas. W. Eliot, Pres. and Emeritus of Harvard University. $1.35 net. Boston: Houghton Mifflin Company.

The Club Woman's Handybook

IN this valuable little hand-book may be found lists of topics for programs or discussions; outlines of papers; fully developed programs on live topics; parliamentary rules; book lists on scores of topics; instruction in the use of libraries; how to get in touch with people and material connected with the social and cultural movements of the day, etc.

"The Club Woman's Handybook of Programs and Club Management." By Kate Louise Roberts. 75 cents net. New York: Funk and Wagnalls Company.

Nutrition and Diet

TEACHERS of domestic science, particularly those confining themselves to dietetics, will gladly welcome the present volume. As the author says, while a number of really good books have been used for college class work, nothing has been published that is suitable for secondary school work, with the result that high school teachers have been obliged to quote her college notes, adapted in some form to her pupils. This method is satisfactory neither to the teacher nor to the student, and the author's purpose has been to put the matter that lay scattered in roughly-taken notes into the form of a convenient text. She has attempted to supplement the practical and experimental work and to unify the whole so that the students will understand the relation of foods to health, strength, efficiency, and to have at their command important facts concerning relative food values, and digestibility. The volume is profusely illustrated with

charts, drawings and photographs. We shall be much mistaken, however, if the volume does not have a wider appeal than for mere school-room purposes, for the information which it contains is so practical and put in so simple form as to make it quite as useful to housewives as to students.

"Nutrition and Diet: a Text Book for Secondary Schools." By Emma Conley, Director of Domestic Science, The Normal School, Oshkosh, Wisconsin. New York: American Book Company.

The Water Supply of Country Houses

FOR a small, practical treatise on the house water supply where city water service is not available, Doctor Gerhard's small booklet of fifty pages is of great value. It considers the health phase of the question and discusses sources, types of wells, pumps, engines and pressure systems in a most satisfactory manner.

"The Water Supply of Country Houses." By Wm. Paul Gerhard, C.E., Twenty-five cents net. Published by the author. 30 E. 42d Street, New York City.

Success with Hens

RAISE chickens and thereby reduce the cost of living, and have a lot of fun doing it, is the advice of Robert Joos in the present volume. "Success With Hens" is a complete guide to poultry raising, covering thoroughly the subject by an expert. It is clear, practical and up-to-date. The fifty-five chapters give full directions for the hatching and brooding of chickens, incubation, feeding and housing, increasing the egg supply, cure of diseases, the marketing of eggs and fowls and everything pertaining to the care of hens.

"Success with Hens." By Robert Joos. $1.00. Chicago: Forbes and Company.

Ten Sex Talks to Girls

THE subjects which compose this volume were originally delivered by Doctor Steinhardt before the Florence Memorial Aid Society and other audiences, and later published in the *New York Medical Journal*,

the excellent reception everywhere given them leading to their publication in book form. The author covers every phase of the physiology and hygiene of sex, preparation for motherhood, and the care of the infant. Particularly commendable is the counsel on dress, diet and drink, because it shows how intimate is the relation between our daily habits and sexual appetite. The book contains an interesting introduction by Dr. Rachelle S. Yarrows, M.D., Chairman of School Hygiene of General Federation of Women's Clubs, in which she says, "The teaching of anatomy and physiology in school and at home has been sadly neglected in the past, while any teaching upon the matter of reproduction and sex hygiene has been frowned upon in the name of modesty and morality. But we are beginning to see at last that it is an insult to commonsense and to real morality to assume that there is anything shameful or indecent in learning to understand our instincts and the functions of our bodies"—a statement that has a splendid argument in the delicate and chaste, though perfectly frank, manner in which Doctor Steinhardt deals with the subject.

"Ten Sex Talks to Girls 14 years and older." By Dr. I. D. Steinhardt, M.D., Instructor in Clinical Surgery and Assistant Surgeon, Cornell University Medical School. Introduction by Rachelle S. Yarrows, M.D., Chairman of Social Hygiene of General Federation of Women's Clubs. $1.00 net. Philadelphia: J. B. Lippincott Company.

Books Received

"Epidemiology of the Outbreak of Poliomyelitus in Buffalo, New York, 1912." By Wade H. Frost, Passed Assistant Surgeon, and James P. Leake, Assistant Surgeon, United States Public Health Service. 24 pages. Issued by the New York State Department of Health, Division of Publicity and Education, Albany, New York.

"Chronic Intestinal Stasis." By William Seaman Bainbridge, A.M., M.D., Professor of Surgery, New York Polyclinic Medical School and Hospital; Surgeon, New York Skin and Cancer Hospital.

"Remarks on Chronic Intestinal Stasis, with Reference to Conditions Found at Operation and the Mortality." By William Seaman Bainbridge, M.D., Professor of Surgery, New York Polyclinic Medical School and Hospital; Surgeon, New York Skin and Cancer Hospital.