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GOOD HEALTH

A Journal of Hygiene

VOL. XXXVII SEPTEMBER, 1902 NO. 9

WHAT IS APPENDICITIS? ITS CAUSE AND CURE.

BY J. H. KELLOGG, M. D.

THE increasing prevalence of and fatality from this disease in recent times is a matter which has attracted public attention as well as the attention of medical men; hence it is a question of public interest. The name of this disease and its gravity have recently been very forcibly brought to the notice of the whole civilized world by the postponement of the coronation of the King of England, necessitated by an attack of appendicitis, which compelled His Majesty to undergo an operation two days before the date appointed for the coronation formalities, for which the most prodigious preparations had been made, involving the gathering of scores of warships of all nations, princes, rulers, and governmental representatives from all parts of the world, and most elaborate preparations on a scale of magnificence such as was, perhaps, never equaled in the history of the world.

It is true of appendicitis, as of most other maladies, that the best opportunity for successful treatment is afforded before the disease begins. Every person who becomes sick is unwell before he gets sick; that is, there are conditions of the body which favor the taking on of the special form of illness which asserts itself. Disease, like every other enemy, makes its attack in the weakest spot. A besieging army would not be so unwise as to attack a strong tower when the citadel gate was wide open; or at least, if the attack was made simultaneously upon the whole circumference of the citadel, the successful entrance would be made through an open gate, or through some gap in the wall if such existed. So it is with the enemies which assail the citadel of life. Those parts which are in full health are strong enough to resist the attacks of germs and nearly all other enemies of life.

Appendicitis is a germ disease, but it is entirely powerless to attack any one who has not been prepared for the assault by a weakening of the part of the body in which this malady has its seat.

What Is the Appendix?

The appendix is a small pouch about the size of the little finger of a lady's glove, and is attached to the lower end of the colon, the dilated portion known as the cecum. (See cut, next page.) The small intestine joins the cecum at a point a little above the appendix. This is also shown in the cut. It is thus to be seen that the appendix is a little pouch placed at the bottom of a bowl-shaped cavity, into which is poured the residue of the substances taken into the stomach, a portion of which has been digested and absorbed while passing through the small intestine. One might easily conclude from this fact that the appendix would readily become filled

with seeds of raspberries, strawberries, currants, and other seedy fruits, with cherry pits which are sometimes swallowed, and with other small, indigestible portions of food; but this is not the case. The mouth of the appendix is carefully guarded by an arrangement which allows exit from the pouch, but permits nothing to enter it. The examination of the appendix of thousands of cases has shown that as long as it remains in a state of health, that is, as long as it is not the subject of inflammation or catarrhal disease, it contains nothing but mucus. Cherry pits, seeds, and concretions are never found in it except when it is in a state of disease, and even then the presence of these foreign substances is comparatively rare. The diseased appendix very seldom contains anything else than mucus, serum, blood, or pus, except, of course, the multitudes of microscopic germs, which are the direct cause of the mischief.

What Is the Use of the Appendix?

Study of the real function of the appendix led to the advancement some years ago of the theory that it is a sort of vestige or relic representing a large pouch, a sort of third stomach, such as is possessed by the beaver, muskrat, and other animals of allied species, the supposition being that man, in some past age when in a lower state of being, had, in place of this little pouch, a large organ possessed of important functions, the appendix being simply the useless rudimentary remains of a once important organ. The conclusion was drawn from this theory that the present use of the appendix is chiefly to make business for doctors and surgeons.

Some American surgeons have even proposed that the appendix should be removed whenever opportunity offered, whether diseased or not. The absurdity of these notions appeared when Dr. Andrews, an eminent Chicago surgeon, pointed out somewhat recently the fact that the appendix performs a highly important function. Dr. Andrews has shown that the appendix is really a glandular structure, and that it forms and pours out in great quantities into the colon a glairy mucus which serves to protect the mucous membrane, not only by its lubricating properties which facilitate the passage of the food substances along the intestine, thus preventing impaction in the colon, but also protecting the mucous membrane from erosion through the action of the indigestible food residues which for many hours a day are pouring from the small intestine and falling upon this circumscribed area of tissue. This mucus also possesses germicide properties; that is, it is capable of destroying germs, as recently pointed out by an eminent French bacteriologist. This function of the appendix is a highly important one, since there is constantly present in the colon an enormous quantity of germs, which are only prevented from invading the body and giving rise to inflammations, abscesses, and various disorders, by the defensive action of the living cells, aided to a most important

a, appendix; *c*, small intestine; *d*, valve between small intestine and large intestine; *e*, colon; *f*, rectum.

degree by this germ-destroying mucus.

The Cause of Appendicitis.

It is evident from the above that the portion of the bowel to which the appendix is attached is more exposed than almost any other to injury from irritating and unwholesome substances which may be taken in with the food. A simple experiment will enable one to appreciate this. If very hot water is poured continuously for a few seconds upon a small surface, as, for example, the back of the hand, great pain will be experienced; but if the surface upon which the water is falling is constantly changed by a continual movement of the limb, no pain may be felt, and no injury will be done, even though the water may be hot enough to blister if allowed to fall uninterruptedly upon the same surface. The exact portion of the bowel to which the appendix is attached receives a constant stream of matters from the small intestine; hence, whatever irritating or otherwise injurious property may be possessed by the intestinal contents, will be more intensely manifested at this point than at any other. If the chylous contents of the intestine contain a large amount of foreign substances, almost every single particle will be brought in contact with the mouth of the appendix. If the chyle contains mustard, pepper, spices of various sorts, fragments of pickles, horseradish, and chile sauce, such hot and irritating substances as Worcestershire sauce, curry, and other substances capable of producing a blister upon the skin or irritating sensitive surfaces, these substances will produce irritation about the mouth of the appendix. The basin-like lower end of the colon acts, in fact, as a sort of catch-all for coarse particles and all indigestible, irritating fragments of the food, thus in a special manner tending to produce inflammation in this portion of the alimentary canal.

Another point at which a similar deposit occurs is the sigmoid flexure of the colon, located just above the rectum, and also the rectum, the lower end of the colon. Ulceration of the rectum, hemorrhoids, chronic irritation, fissures, and catarrh of the entire colon, manifested by the presence of mucus in the fecal discharges, are common results of the action of the irritants referred to; but the cecum, or first part of the colon to which the appendix is attached, is, more than all other portions of the colon, subject to chronic irritation and inflammation, for the reasons above pointed out.

Another cause of irritation of the colon, and especially that portion of the colon to which the appendix is attached, is the use of laxatives, mineral waters, and purgatives of all sorts, especially the frequent use of calomel, blue mass, and other mercurial laxatives. It has been suggested with a reasonable show of probability that particles of calomel or blue mass, lodging in the lower end of the colon about the mouth of the appendix, may be converted, through the action of common salt, into corrosive sublimate, an extremely irritating substance which may readily poison the tissues so as to make them subject to the action of germs, and thus incapable of defending themselves against the action of the germs which are always swarming in the contents of the colon. It will readily appear that the various causes above mentioned, to which might be added the large use of flesh food, fish, oysters, the hasty eating of coarse vegetable substances, including unripe fruit, hastily swallowed hard fruits, as cherries, and various other

dietetic digressions, may readily become the cause of appendicitis. The excessive use of flesh foods, and particularly of fish, shellfish, and cheese, lead to appendicitis by encouraging the growth of germs in the colon. On a diet of fruit, or fruits and nuts, or of fruits, grains, and milk, or a pure milk diet, few germs are found in the colon, while on a diet of cheese or meats, and especially when fish and shellfish are freely used, germs are present in enormous quantities, their growth being encouraged by the presence in the colon of portions of undigested flesh, in which the growth of germs is greatly encouraged by the warmth of the body, and other favorable conditions afforded in the colon.

Alcoholic liquors of all sorts, whisky, gin, brandy, wine, and beer, are powerful agencies for producing that weakened condition of the alimentary canal which predisposes to appendicitis. The use of tea and coffee tends in the same direction, by interfering with the stomach digestion, and thus disturbing the whole alimentary canal. The use of tobacco lowers the general vital resistance to a remarkable degree, and thus predisposes to appendicitis as well as other internal inflammations. It is a notable fact that women are comparatively little subject to appendicitis. Cases of appendicitis in women are almost as rare as cases of hysteria in men. This exemption of women may be well attributed, in large part at least, to the fact that women are, as a class, much less addicted to the use of liquor and tobacco than men.

It is thus very evident that the portion of the intestine to which the appendix is attached is, perhaps, more liable to congestion, inflammation, and catarrh than any other portion of the alimentary canal. The parts are first irritated from the various causes named, thus being brought into the condition of wounded or paralyzed soldiers; and are incapable of defense against the swarms of germs which invade the tissues, thus getting inside the citadel of life, where they set up various morbid processes, causing swelling, inflammation, catarrh, and other changes. These changes gradually creep down into the appendix, so that this organ becomes secondarily diseased.

Probably appendicitis really begins in the colon, at least in the great majority of cases. If one, then, does not desire to suffer from appendicitis, he has only to regulate his diet in harmony with natural and sensible rules. He must avoid overeating, too frequent eating — three times a day is certainly sufficient, and many do better with two full meals a day, taking, perhaps, a little fruit at night instead of anything more hearty; he will take great care to avoid entirely the use of irritating foods, fried foods, rich sauces, which render the food indigestible, pickled olives, pickled walnuts, cucumbers, and other indigestibles, together with spices and irritating condiments of all sorts. He will feed himself in a rational way, for it is evident that appendicitis really begins at the table. Regularity of the bowels should be maintained by the free use of fruits, whole-meal bread, and nuts at mealtime, taking pains that the nuts are thoroughly masticated before swallowing, so that they may not become a source of irritation. The habitual use of all kinds of nostrums must be avoided, and drugs of every sort which are commended for the cure of constipation; for however useful a drug may be, at times, as a means of temporarily exciting intestinal activity, the habitual use of drugs, whether under their natural form or under the guise of mineral waters, is highly injurious, certainly aggravating

the very condition which they are expected to relieve.

The Proper Treatment of Appendicitis.

Experience has shown that about ninety-five per cent of all cases of appendicitis can be cured by proper treatment without surgical intervention; but surgery is certainly required in a certain proportion of cases, and hence a competent surgeon should be called in every case, so that any indication for surgical interference may be recognized at the proper moment. But there are certain things which may be done by any intelligent person, which are of great service in combating the fatal tendency of this disease, and which are capable of effecting a cure in the great majority of cases. These measures are essentially the following: —

1. Absolute rest in bed at the occurrence of the first symptoms of the disease. These symptoms, in a mild case, may be nothing more than pain just above the right groin, accompanied by a chill and fever. In a chronic case the chill may be absent. In a very acute case the pain will be very severe, and vomiting will also be present. As the case advances, the symptoms become more serious as the inflammation extends to the neighboring tissues. Swelling may appear in the right and lower abdominal region, with great tenderness. There may be symptoms of intestinal obstruction, peritonitis, and grave collapse, and finally discharge of pus through the bowels or even externally; but prompt action should be taken before the appearance of the symptoms named. If a surgeon is in attendance, radical measures will be employed before the most serious symptoms mentioned have had time to develop. Rest in bed prevents aggravation of the symptoms, and affords opportunity for the operation of natural processes of healing which are active in every case of disease; for the body heals rather than the physician or the remedies applied.

2. All solid food should be withheld for a day or two, at least, so as to give the bowels a rest. The only food which is really suitable is fruit juice. Freshly extracted fruit juice without sugar is best. Fruit soup, a common article of food among the Germans, is also excellent.

3. The bowels should be thoroughly emptied by a large, hot enema, temperature 100° to 105°.

4. A large fomentation should be applied for fifteen or twenty minutes every two hours. The fomentation consists of a large flannel cloth — half a woolen sheet is about the right size — folded lengthwise, and the central portion dipped in very hot water, and quickly wrung out by twisting the ends. This should be applied to the body in such a way as to cover the lower abdomen, extending around the right side as far as the spine. The dry ends should be so disposed as to well cover the moistened portion, so as to retain the heat. It is a good plan to apply a dry flannel over the skin before applying the fomentation, as a precaution against burning the skin while also permitting the application of a fomentation at a higher temperature, thus maintaining the effect for a longer time. When the fomentation is removed at the end of twenty minutes, or a little longer if necessary to relieve the pain, a heating compress should be applied. This is easily managed in the following way: Take a small towel, and wring as dry as possible out of cold water at the temperature at which it flows from the pipes. Apply this over the whole surface which has been reddened by the fomentation. Over it place several thicknesses of flannel, suffi-

cient to prevent cooling by evaporation. At the end of fifteen or twenty minutes, when the towel has become thoroughly warmed, renew it in the same way, taking care to keep the parts covered while the towel is being cooled and wrung out.

If this treatment is beneficial, as it is almost certain to be, the fact will be evidenced by a considerable relief of pain, and by continuing the treatment the pain will gradually subside until it disappears, and only soreness is left behind. The treatment should be continued assidiously, the fomentation for fifteen or twenty minutes every three hours or even every two hours, if necessary, and the heating compresses renewed every fifteen or twenty minutes during the intervals. If the fomentation does not relieve the pain, a larger one may be employed. A whole blanket may be wrung out of hot water, and wrapped about the hips and legs. The application should be as hot as the patient can bear, so as to cause the whole surface of the limbs to become very red. This will draw the blood into the legs, and lessen the congestion of the affected parts. After the hot application, the heating compress should be applied to the legs, so as to retain the heat. The best plan is to apply a large wet towel, wrung out of cold water, to each limb, wrapping snugly, and then covering each leg closely with a woolen blanket. It is a good plan to apply mackintosh or oiled muslin outside the towel before applying the woolen blanket, so as to be sure to promote thorough heating of the limb. The object is to secure the effect of a poultice upon both legs, and thus maintain the diversion of blood into the limbs.

A still more vigorous treatment is the application of an ice bag over the seat of pain while the hot blanket pack is applied to the hips and legs. The application of the ice bag may be continued after the pack, which should be repeated every two or three hours. The legs should be kept thoroughly warm during the interval by the measures above described, or by means of hot-water bags, hot bricks, or jugs or bottles full of hot water. When the ice bag is employed, it should be removed every twenty or thirty minutes, and a hot fomentation applied for five minutes, so as to avoid benumbing the nerves of the skin.

The above-named measures will succeed in the great majority of cases, affording prompt relief of the pain, and rapid subsidence of the inflammation. When it is found that the fomentation increases the pain, this is an evidence that suppuration is taking place, and this constitutes an important guide to the surgeon as to the necessity for operation and the time when operative interference is required.

There is much more to be said about appendicitis. The writer has not undertaken to treat the subject exhaustively or in a professional way, but only to offer a few suggestions which may be of service to the lay reader. It is desired to emphasize two points especially: First, the necessity for so regulating the dietary as to prevent the occurrence of this disease by avoiding its principal cause; and, second, the importance of employing a competent physician at the first indication of the malady, and be able to second the efforts of the wise physician by knowing how to employ these simple measures, which are far more effective than drugs of any sort in combating the morbid processes present in this as well as in other forms of local inflammation.

In conclusion, the writer desires to impress upon the mind of the reader that his appendix is not a useless relic which he should consider himself unfortunate in possessing.

SOME PECULIAR FOODS EATEN BY THE SANDWICH ISLANDER.

BY L. S. CLEVELAND, M. D.

THE robust and stalwart Sandwich Islanders impress one as being an exceedingly well-fed people. Their happy countenances do not suggest dyspepsia, nervous prostration, or any of the kindred ills so familiar to the American nation.

Ask one of them what he eats and how he lives to make himself such a fine physical specimen, and he will probably answer, "Principally poi and bananas."

Entering his modest little home, we find the family are already seated on their mats around the afternoon meal, which is the only substantial repast of the day.

After all the "aloahas" have been said, you are introduced to a bowl of poi, the staple native food, which you have to learn to eat with your fingers,—an accomplishment which is quite an art. This poi, which has the appearance of cooked starch, is made from the root of the taro, a plant of the lily family. It is boiled, then crushed and kneaded with the hands and poi pounder. Then it is pressed into casks, after which it is

PAPAIA TREE.

allowed to ferment several days, so that the acid taste is quite pronounced, when it is eaten with all kinds of foods, especially meat.

The fish is baked in the leaves of the ti plant; this adds a specially delicious flavor, which the American chef might do well to imitate.

The fish, heads uncooked, are considered a delicacy, though their appearance on the table is not well calculated to increase the appetite of the visiting stranger.

MANGOES.

Until comparatively recent years the natives subsisted almost entirely on this taro (cooking the tops and root) and fish, which are so abundant in these waters, including the octopus, or devil fish. Even now you may see the natives hunting with spears in low tide under the rocks for this many-armed squid. These, when boiled, are considered very palatable.

The kukui nut, which was also a common article of diet, furnished the natives with oil for illuminating purposes. In addition to the above, sea mosses, sweet potatoes, bananas, papaias, and the guava formed the diet of the primitive Hawaiian.

These people were then a much larger and stronger people physically. Their deterioration started with the advent of the white man and the introduction of gin, beer, and other intoxicants, together with many of the worst evils of civilization. As a matter of fact, unless the present native death rate materially decreases, the Hawaiian race will soon become extinct.

With the influx of foreigners to the Islands, introducing other foods, the markets became replete with edible fruits and vegetables — native and foreign.

The Honolulu fish market is one of the largest of its kind in the world. Over four hundred species of fish are brought to this market from the surrounding waters. From the deep sea come the brilliant-colored fish, while the "pond" fish are of more subdued colors. The most of these are edible. Tons of these residents of the Pacific are weekly sacrificed, much more fish being eaten than other animal food.

The luan, or feast, is one of the ancient customs which is still kept up. Friends far and wide are invited to the dinner. All work is suspended. An enormous fat hog is prepared, filled with hot stones, and wrapped in banana leaves. It is then buried in a large pit in which a great fire has been started. Numerous chickens and fish wrapped in ti leaves are placed beside the pig to roast. Here they also bake sweet potatoes, bread fruit, taro, and cocoanut pudding, made of grated cocoanut and sweet potato mixed. These are allowed to remain in the pit for many hours, after which the mats are spread

on the wide porches or in the garden. These are decorated with ti leaves, ferns, and flowers in the unique and beautiful style peculiar to the Hawaiian flower artist. Each guest wears a wreath of flowers about his head and neck.

To the stranger no sight that he meets is more impressive than this ancient native banquet, with its steaming pit, and its flower-decked guests seated upon their mats.

Each guest has his wooden calabash of poi, and his salt and pepper in a small dish by his side. The two latter he takes, not in his food, but with each mouthful. Roast pig *à la* banana, roast chicken and fish *à la* ti leaf, are all served in the leaves on the individual plate. There are also many forms of dried fish, both fried and boiled octopus, and raw fish prepared in salt water. All the vegetables roasted in this manner are far superior to those cooked by the ordinary methods.

Bread Fruit.

Original relishes follow. Sea mosses, prepared in great variety, preserved kukui nuts, mixtures of salt and red pepper, and pungent sauces of unknown composition. For the benefit of any timid American friends, Island fruits, cakes, and confections are added. Soda water for the temperate, gin and beer for the tippler, flow freely.

At one side are the musicians, who sing and play soft, enchanting music for the feasters. The hula, or Hawaiian dancers, are also present. It is not long before all are dancing and eating, for all care is thrown aside. Yesterday is gone, and the injunction, "Take no heed for to-morrow," is well borne in mind. Feasting and dancing go on for many hours, and sometimes for several days.

To be rich in adipose tissue was once the Hawaiian's pride; for the more fat he had the more prosperous was he considered to be.

The markets abound the whole year with nearly all our American vegetables and fruits, which are grown in the valleys and on the mountain sides up to an elevation of four thousand feet.

The distinctly tropical fruits are very palatable. Among the best of these are the mango, papaia, banana, purple fig, alligator or arocado pear, kona orange, lemon, sour sop, vi, water lemon, pineapple, lemon guava, and purple grapes. There are a host of others especially valued by the Chinese. Berries and peaches are not yet successfully grown.

Large tracts of land have been given to the study of the more successful culture of vegetables and fruits, but insects and parasites are proving serious hindrances.

THE REQUISITES OF CLOTHING.

BY LILLIAN ESHLEMAN, M. D.

HEALTH has been defined as perfect circulation in a sound organism. The blood, besides being the great healer which constantly bathes every cell of the body, bringing nutrition and oxygen and gathering up the waste products to be eliminated, fulfills another important function as a distributor of heat. No matter what the temperature of the external world, the human body must be kept at a uniform temperature of about 98.4 degrees. This is accomplished *first,* by the stimulation of nerves ending in the skin, which carry the impression to nerve centers when more heat is needed; *second,* by impressions sent from the nerve centers to the tissues to increase oxidation and the generation of heat; *third,* by the elimination of surplus heat through the skin by means of perspiration and evaporation; *fourth,* by means of the blood the heat is carried from the thermogenic, or heat-producing, tissues to the external surface. In health, the external temperature of the body is ten or twelve degrees below that of the internal organs, and as the blood makes the circuit of the body twice every minute it has much to do with maintaining the balance of the heat produced by the oxidation of the nutritious substances and the elimination of heat by evaporation from the skin.

In the mild tropical countries, the body is capable of maintaining the normal temperature without the aid of clothing, and it is among the savage tribes that we find the most perfectly developed physiques. The children of the frigid zone carefully conserve the heat, normally thrown off by the skin, by muffling themselves in impervious hides. In the temperate zone, that great belt of civilization, clothing is a necessity which should be thoughtfully and intelligently selected, that being chosen which will best permit and promote the vital processes of the organism with the least incumbrances and inconveniences of the vital economy, a department of the subject of dress to which fashion and custom have long failed to give prominence, but which is of vital importance to those who wish to maintain health, especially during the cold season.

The primary factor in the study of the requisites of clothing is the needs of the body; this includes several considerations.

The Capacity of the Body for Heat Production and Heat Elimination.—The smaller the body, the greater is the proportion of eliminating surface as compared to the amount of heat-producing tissue, hence the smaller the individual, the proportionately warmer should be the clothing. Nature makes this provision in the finer and closer feathers and furs with which she clothes the smaller animals. Those who are ill, whose vital forces are weakened, and the aged have not as large a capacity for heat production as those in health or middle age, and hence cannot bear as long-continued exposure to cold. The occupation, active or sedentary, also influences the amount of heat elimination and heat production. A man of sedentary habits needs to dress more carefully than an active laborer.

The Functions of the Skin.—Such materials should be selected as will least interfere with the normal function of the skin. Evaporation of the insensible perspiration must be favored, and not enough clothing worn to induce sensible

perspiration; the material should be porous and of light weight. A thin mesh of linen, silk, or cotton worn next to the body allows evaporation, and is easily washed and renewed daily; over this may be worn soft flannel of sufficient weight to maintain warmth.

The Distribution of the Blood Supply. — The extremities, being remote from the vital organs, and having a large blood supply with a large eliminating surface, need to be clothed even more warmly than the trunk of the body in order that an undue amount of heat may not be lost, or that the blood vessels of the extremities being contracted by reason of the cold do not offer such an amount of resistance as to throw undue labor upon the heart. The feet are one of the most important reflex areas of the body. They are connected and intimately related by reflex nerve routes with various portions of the sympathetic nervous system which influence the brain, the throat, lungs, kidneys, stomach, bowels, and other abdominal organs. If the feet feel the impression of cold and dampness through thin-soled shoes sufficiently to contract the blood vessels supplying them, the same impression is carried to the organs reflexly related to them. Their blood vessels, especially the arterioles, contract, and if the exposure to cold is long continued, venous blood collects in the part until a state of passive congestion results, hindering the function of the organ, and if many times repeated, becoming a chronic condition. Thus colds, indigestion, "kidney troubles," and the like, are fostered.

Absolute Freedom of Every Organ Must cBe Insured. — If the feet are cramped and irritated by ill-fitting shoes or boots, the whole body suffers through the reflex irritation of the sympathetic nervous system.

Hot, high, tight, stiff collars are destroying the beautiful curves of the neck for our whole civilized race, and are also contributing largely to the cause of husky voices.

If we would but turn an anatomist's eye upon a corseted figure, or even upon one who likes to feel a snug adjustment of her clothing, we would see visions of floating kidneys suspended by delicate nerves and blood vessels, seeking a resting place; a liver indented and misshapen, sometimes a portion nearly constricted off from the rest; a stomach from two to seven inches below its normal position; a transverse colon sagging and relaxed, the small bowel crowded down; the chest walls contracted, the breath of life excluded from the lower part of the lungs, the whole internal anatomy distorted, displaced, deformed. The picture is not overdrawn, for we can find it all and more in the "beautifully formed" (?) figure so smoothly incased in its silken draperies which seek to cover a multitude of evils.

Unless an organ has absolute freedom, its vital activities are lessened, its blood supply hindered, its displacement assured, and its function impaired.

Perfect health depends upon perfect circulation in a sound organism. The requisites of clothing demand an observance of natural law in the life of the organism. Think first of this. Right dressing is an art, but every true art is founded upon science.

THE PHYSICAL SIDE OF CHILD TRAINING.

BY JOHN WILSON.

FIG. 1.

CHILD training, considered in the truest sense, makes development of the body of equal importance with the education of the mind and morals. We hear a great deal said about what to give the boys and girls to read, how to feed them, and how much they should sleep. These questions are all of the greatest importance, and yet of no less consequence is the problem, "Can I make my child grow up with a better heart, better lungs, better digestion, better body, by giving him systematic exercise or daily training?"

This question can be answered unhesitatingly in the affirmative. The youngest babies generally kick, roll, and tumble around enough to furnish them all the work they need. But when they are two or three months old, a few bendings and stretchings of the arms and legs, and easy twistings of the body will make the circulation better, help them to breathe more freely, and digest their food more easily. Some fathers have practiced letting baby hang by its hands from the father's hands. This widens the little chest, and gives more room for the vital machinery of the body to work.

But the main thing to be taught to a growing child is to sit, stand, and walk correctly. Nine hundred and ninety-nine in one thousand of the "grown-up folks" live in a bad position — one which is in itself mainly responsible for the most of their bodily troubles. Most people are carrying with them either weak abdominal muscles, flat chest, round shoulders, drooping head, or some other defect which might have been prevented if the education had been begun in chilhood.

FIG. 6.

The child readily grasps the idea of working for a stronger body, and soon takes pride in his development. And if he is taught, while he is young, to sit, stand, and walk for health, he will not forget it. Most children stand

FIG. 7.

FIG. 3.

as in Fig. 1, or perhaps with the shoulders rounder, and the hips farther forward. This position flattens the chest, and instead of breathing deep and full, as he should, shallow inspirations are taken. So the blood is not purified in the lungs as it should be, but goes back through the body laden with many of the impurities which it brought to the lungs to be thrown off.

The work of the heart is restricted if the chest is cramped, while if the breast is held arched and full, this wonderful little pump can work unhampered, carrying out to the full all the demands of the body upon it. This arched position of the chest is best seen in Fig. 3. Here our boy is standing with his head and hips back, and his chin in; his shoulders are square and free, and his body is nicely balanced on the balls of the feet.

To get this position he stands as in Fig. 1, with his heels, hips, and shoulders firmly against the wall, or side of the doorway. The wall must be straight from the floor up; a mop board throws the body that much back of the heels. From this position let him bend his head backward as in Fig. 2, until the top of his head touches the wall; however, he must keep his hips placed as they were. This brings the shoulders and chest about a hand's breadth in front of the hips, and throws the weight forward. The abdomen is drawn in, the viscera are lifted, and held in their proper places.

Now if he raises his head, while keeping the chest this distance in front of the hips, his body will be in perfect position, one to which he will readily become accustomed. If the child is patiently and wisely educated to live his muscular life thus correctly, he will soon esteem it a pleasure to sit, stand, and walk erect.

FIG. 2.

Some children have been trained so long in the wrong positions that their bodies are slightly deformed. They have small chests, badly developed arms and legs; their waists are small in proportion to their bodies, or the abdomen may be too large, indicating weak muscles. Such should have special exercise to strengthen these weak muscles and to make them able to hold the body in correct shape, without becoming so readily tired.

For round shoulders the military "setting up" exercise is good. To take it, stand as shown in Fig. 3, but with the arms extended sidewise shoulder high, the fingers extended and the palms down. Make

FIG. 8.

FIG. 5.

small shoulder circles forward, upward, backward, and downward, perhaps ten or fifteen times. Then change and take the same number of movements in the opposite directions. Another exercise for the shoulders and legs is shown in Figs. 4 and 6. Extend the arms forward, shoulder high, palms facing. With deep knee bending, fling the arms sidewise. Bring the arms back to the reach position front, and extend the knees; or, with the arms bent as in Fig. 5, take a long step forward with the right foot, bending the right knee well. In this position take arms flinging sidewise. Figs. 7 and 8 show excellent exercises for developing the trunk muscles. The exercise shown in Fig. 7 may be taken by twos, one little fellow taking a deep breath, while the other one sits up and lies down. Then the other child sits up and lies down, while the one who has been working empties his lungs, and refills them. This sitting up should be done with a well-arched chest and the head held well back. The arm of the reclining child serves as a support for the one who executes the trunk raising. Fig. 8 is a thorough exercise for strengthening the back, neck, and shoulders, but must be commenced with easy work, and the progression must be made very gradually.

These are all excellent as a means of development; but it must be borne in mind that we are not only filling the present needs of the child, but we are forming in him habits which, as he grows older, will bring him a strength of body and mind that will prove a defense against disease, moral as well as physical.

FIG. 4.

THE PARENTS' EQUIPMENT.

BY MRS. E. E. KELLOGG.

A BABE in the home is a bundle of wondrous possibilities to be unfolded and shaped; a new problem for parents to solve; a fresh volume of life to be interpreted and studied. Each new being with form and features peculiarly its own is also fitted with distinctive mental and moral powers, so that no two little ones are quite alike, and no rule or method of training will apply to all children in common. Each must be considered singly and separately, and each individual nature carefully studied and trained according to its own especial needs.

Something more than goodness of heart and a love for children is necessary to deal intelligently with these undeveloped men and women. The natural instinct of motherhood alone will not suffice. The fact that a child has been born unto parents does not, in itself, constitute a fitness for their God-given work.

No one would think of undertaking an expedition to some unknown land without a most careful study of the route and the country, as far as obtainable, from the knowledge and experience gained by other explorers. Neither would he start on the journey without a full outfit of all necessary supplies and furnishings. Yet many parents assume the far more comprehensive charge of giving direction and trend of character to a human life, of caring for and training its threefold organization, with little or no knowledge of the way to accomplish the task, and with often no thought of the need to learn. As far as regards the physical necessities of the child, he is not often neglected, except among the poverty stricken parents; that is, he is clothed, fed, put to sleep, and regularly taken out for an airing, and in these days of advanced knowledge, this is done after a fairly rational manner; but with the needs of his inner nature, parents seem not to be conversant. As has been aptly said, "They grope blindly among the complex mind and heart machinery under their charge, touching a spring here and a spring there with careless and uncertain hand, finding, often too late, that they have undertaken to control the most powerful of created forces, the human will, passions, and propensities, without having the secret of power. Love they have; but love without enlightenment is a mighty force working at random, marring where it would make, destroying where it would save."

Far more thought is being given to the demands of childhood than formerly; but still there are many who seem to have the idea that their whole parental duty is summed up, as another has said, in "providing a shelter from the storm, a proper amount of rations, and an irregular and spasmodic administration of discipline, chiefly regulated by the nervous susceptibility of the parent rather than the deserts of the child."

The parents' obligation extends far beyond the child's body. Its whole being is intrusted to them, that they may draw forth the latent beauty and power infolded within the embryo man or woman, and develop in it all its possibilities for efficiency and service in life. Such a calling is no mere sinecure. It requires the best of human ability, coupled with grace and wisdom from above. Says Miss Harrison, "Correctly understood, it demands of woman her highest endeavor, the broadest culture, the most

complete command of herself, and the understanding of her resources and environments." Another has said, "All science, all art, all religion, all experience of life, all knowledge of men, will help her. Could she attain the utmost of knowledge, could she have all possible human genius, it would be none too much."

We may well lay aside the distinction, and consider the qualifications mentioned as needed alike by both parents. The very best which they, with the aid of divine help, can attain is none too much for this God-given work.

A constant discipline of self on the part of parents is a necessary requisite for effective work in character shaping. They must learn to become good models, for what they are will teach the child far more than what they say.

All parents should in their lives so represent Christ that their children, imitating them, shall be ever following him and becoming more like him.

In addition to love and tenderness, with which all children should be dowered by their parents from birth, there are other personal qualifications that tend to successful parenthood.

Patience. — Parents, like all who in any way must deal with other lives, need an abundant measure of patience. Most parents find it easy enough to wait in patience for the physical development of their children. Much leniency is shown toward the little one's crude attempts to talk and walk, but for their moral frailties, much less sufferance is exhibited. Patience is needed with the little thoughts and deeds as well as with the little hands and feet,— patience when the children are out of sorts and fretful; patience when we are ourselves tired; patience when they are making special demands upon our time and strength; patience when they are full of fun and frolic and noise; patience at all times under the manifold exigencies inseparably connected with child life in the home.

Impatience in parents begets impatience in the child, and often results in great loss for both. The good the parent would do is nullified by the effect of his impatience upon the child. Christ said, "In your patience ye shall win your souls" (Luke 21 : 19, R. V.), and patience is just as surely the key to success in winning the lives of your children.

Parents need not become discouraged because having once given the child directions, he fails to follow the right course; because, having endeavored to sow good seed in the heart, there appear no indications of fruit. God taught the Israelites by "precept upon precept, line upon line;" and as our wise Heavenly Father deals with his children, so we should learn to deal with those in our care. We must in patience teach the same lessons over and over, and as patiently await the result. As another has well said, "Be as patient and persistent in training the little ones as the cultivator is in bringing forth his fruits and flowers. It is God's child that you are training; reverence it, and never lose your faith in it, no matter how wayward it seems."

Self-control.—Akin to that of patience is the necessity of self-control, which every parent who aims for success in training his child must exercise over his own feelings, words, and actions. One cannot teach self-control without first possessing it. If we lose control of self, and become vexed with those we are seeking to help, we hinder and mar, if not wholly spoil, the results we are striving to produce in their lives.

Health.— Good health is of paramount importance for parents. Without health, other requisites, like self-control and

patience, will be difficult of attainment. The nervousness and ill feeling incident upon poor health makes it easy for one to yield to fretfulness, to speak cross and sharp. Little things which ought to pass unnoticed, irritate and worry an invalid. No business in life can be successfully maintained with poor health, and least of all the work of co-operating with God in the development of a human being.

Truth.—Another requisite furnishing for parenthood is truth. Parents must be a living embodiment of truth and loyalty to every principle they would instill into the lives of their children. To "teach their children integrity, they must be it, live it."

Keep your word with the children. All promises made and forgotten, or intentionally broken, are lessons in untruth. It is related of the Earl of Chatham that he once gave his son a promise that he might be present when a certain wall about his estate was torn down. Through some inadvertence the wall was demolished and the child was not present. The Earl felt so deeply the sacredness of a promise, that he had the wall rebuilt so that his son might witness its demolition, in order that his faith in his father's word might be unshaken.

Stability.— The lack of stability is very often the shoal upon which many parents wreck their hopes and the child's well-being. The susceptible mind of the child very soon discerns if parents are swayed by impulse, and is quick to take advantage to secure, by importunity and teasing, favors which he fails to secure by other means. Says Dr. Trumbull:—

"No parent can have the truest respect of a child while the child knows that he can tease that parent into compliance with his request, contrary to the parent's real or supposed conviction."

"When a child asks a favor of a parent, the parent must not reply hastily or thoughtlessly or without a full understanding of the case in all its involvings. He must consider carefully what his final answer ought to be before he gives an answer that the child is to accept as final; and when the parent gives that answer, it ought to be with such kindly firmness that the child will not think of pressing his suit by teasing."

Not infrequently parents' variability in matters of consent and discipline is the result of forgetfulness. Absorbed in other things or pursuits, they are too preoccupied to keep in mind the details of the child's daily life, and forget to enforce a law they have laid down, or to follow up a matter needing attention. But whatever the cause, the result is equally disastrous. Children are very quick to recognize their advantage and to make use of every unhedged way that leads to the desired end. The successful home government is one of evenness and steadiness, at the same time considerate and rational.

Sympathy.— Between every child and its parents (and by this we mean both father and mother) there should exist the bond of true sympathy, that companionable relation which makes it possible for parents to see things as the child sees them, from his point of view rather than from their grown-up altitude, and to judge him as viewed from his own standpoint, and then to treat him according to the Golden Rule. When parents themselves recognize that both they and the child are God's children (the parents having the advantage only of being a little older and more experienced), both amenable to the same laws; both sustaining exactly the same relation to the Heavenly Parent; that both the little child and the grown-up child must obtain grace and strength and pardon

from the same Source, and struggle against temptations placed in their way by the same evil one, the bond of sympathetic fellowship is more easily assumed.

Insight.—A great, special need of parenthood is that of *knowing* their children,— of studying to understand their real inward life, their tastes and tendencies, their aspirations and weaknesses, just as they seek to know their bodily necessities. Only through such an insight into child nature and its needs, can they well fulfill their rôle of parenthood, and perpetuate right relationships toward their children. Parents often ask, How can such an insight be obtained? — There is only one way, the path by which all knowledge is attainable, that of seeking for it both from all available earthly sources and from the divine Fount of knowledge. "If any of you lack wisdom, let him ask of God, that giveth to all men liberally, . . . and it shall be given him." James 1:5. God never requires of parents what he will not give them ability to perform if they recognize their need, and make the efforts required on their part. If there is a willingness to learn, there are manifold helps in these days in the line of magazines and books on child training, and organizations for the study of child culture. A thorough acquaintance with the child's body and his physical powers, obtained through a careful study of physiology, and a knowledge of mental and moral science as applied to his development, are fundamental steps toward a right understanding of the child.

Growth.—All parents need to grow intellectually and spiritually, that they may provide proper food for the expanding mind of the child. As does the body, so does the mind, derive its vigor from the food received. It is broadened and uplifted or narrowed and dwarfed by that which it feeds upon. The child's first spontaneous questions about things which appeal to his sense-perceptions, lead often into the field of physics, science, and natural history, and are as often met with the reply from his parents, "I don't know," or the injunction not to "bother." It is the parents' place to know enough, and their duty to take time enough, to give a reasonable answer to childish questions. If they are not willing to take this trouble, they need not be surprised some day to find that the child's mind is being fed on adulterated food supplied from some foreign source.

A mother who would consider no sacrifice too great to attend properly to the physical wants of her child,— to clothe and feed his body,— will leave the finer part of his nature to starve till food is picked up wherever it can be found, oftentimes from the moral gutter.

The mother who has a high ideal of her privilege will make of her children's questioning a progressional education. The bread she molds will serve as a text for a tale of the wheatfield and mill. The thread she uses, the frost on the pane, the wood on the fire, will prove resourceful for talk and story. She will have her mind so filled with the truths of the gospel and the evidence of God in his handiwork that as she walks abroad with the child, she can lead him from nature up to nature's God. Her memory, stored with facts concerning the good and great, will offer him an inspiration to follow examples of right living and doing.

A lifetime of study and growth is all too short for this work of culturing children for this world and the next.

A QUEST FOR THE FRINGED GENTIAN.

BY H. S. WARREN.

TO those who know nothing of the charm of nature study, the following chronicle of a rural ramble will seem but a hollow dream; but those who have experienced the fascination and the healthful recreation to be derived from collecting specimens in various branches of natural history, will appreciate what little of interest we found in our search for this rare and beautiful plant.

Blooming on the verge of winter's desolation, the early flowers of spring are conspicuous, and there is greater interest shown for them than for those of equal beauty which may follow at any other season of the year. The little rose-colored flowers of claytonia, the spring beauty, would be lost in late summer among the purple and gold of wild asters, golden-rods, and masses of polygonums and lobelias. We lose interest in things we see every day, and thus it is that many a beautiful autumn flower is disregarded, or, to many, entirely unknown. The florist knows that late summer and early fall are his dullest seasons, for then Nature is generous with her floral gifts, and every meadow and roadside is a blooming bed of beauty. If any one of a dozen September flowers bloomed in May, it would be the unanimous choice as the national flower.

So many of the autumn flowers are coarse and without fragrance, that an exception is usually a pleasing surprise, and foremost among such are the closed and the fringed gentians. Both these species are comparatively rare, and may not be found during a whole day's jaunt. To an enthusiastic botanist a search for a rare plant is as heavily fraught with sport as is the hunt of the gory gunner; and especially is this true in the bright, cool days of autumn, the golden days of all the year, when the pumpkins turn yellow just to be in style, and when the gentians present their upright cups a beautiful, silent plea to the dry moon of Indian summer.

When the ornithologist sets out to find the nesting place of the cedar waxwing, he will

GENTIANA CRINITA, FRINGED GENTIAN. ½ NATURAL SIZE.

ASTER PATENS NATURAL SIZE.

probably run across that of the alder fly-catcher or the long-tailed chat, and when we enter the low ground where we know we ought to find the gentians, we may find instead the more rare and showy water marigold *(Bidens Beckii)*; thus we conclude that nature never yields the possibility of a miscalculation in our own judgment. Occasionally, our search will be successful, and thus were we able to obtain the accompanying photographs of *Gentiana crinitae* and *Andrewsii*.

Having in view a certain low piece of woods, we set out across the intervening fields. Golden-rod in numerous varieties was in conspicuous predominance, but wild asters in profusion and in as great variety lent a rich variance to the general gold and brown of the fields and thickets. Of the golden-rods one of the most beautiful varieties is *Solidago nemoralis*, with graceful panicled heads of the brightest yellow; and of the numerous asters, *patens*, having large purple heads with yellow centers, seemed to predominate. The dainty pinkish-white heads of *Aster diffusus, var. thysoideus*, were also abundant on the low-branching plants. *Aster patens* is quite variable, blossoms showing numerous shades of deep, bluish purple, lavender, and sometimes a reddish tinge.

A long, bushy swamp that we had found knee deep in June was now dry, and here we found the black alder *(Ilicineae verticillata)*, which belongs to the holly family. Its bright-red berries and semi-evergreen foliage, together with its

ASTER NOVÆ ANGLIÆ, ⅔ NATURAL SIZE.

general resemblance to the European holly, distinguish it from anything else in our autumn flora. It was in the dried bed of this swamp that I found the tallest and handsomest specimen of golden-rod that I ever saw in all my rambles. The species was *Solidago speciosa*, and although the breeze kept it swaying I was enabled to get a fair photograph of it full length. It stood perfectly erect, five feet ten inches in height, and was topped with a beautiful golden, pyramidal inflorescence of unusual symmetry. Here also in the rich swamp soil was a beautiful specimen of

FIG. 3.
ASTER DIFFUSUS, VAR. THYSOIDEUS, ¼ NATURAL SIZE.

aster *(Novae-Angliae)* with large rose-lavender blossoms that bore the dense panicled branches down nearly to the ground.

The brilliantly and variously tinted ligules in the flowers of the asters are in no way directly vital to the plants, and are apparently placed there as a signal to the bees. Bees depend upon sight in hunting for flowers, as evinced by the frequence with which they attack artificial blossoms. In photographing wild flowers, one will incidentally make some interesting observations on the habits of bees and butterflies. Some of these tiny insects seem more intelligent than many of the higher animals. In taking the photograph of the asters shown on this page, I focused ready for the exposure and then waited for an insect to give a little "high life" to the picture. In less than a minute along came a yellow-jacket, and started in after pollen as though it was his last day out before frost. He wrestled with every mature blossom on that plant once, and only once, and the accuracy with which he kept track of his blossoms showed an intelligence higher than instinct. All

SOLIDAGO SPECIOSA, $\frac{1}{13}$ NATURAL SIZE.

bees keep to the old adage, "stick to your bush;" and when not overloaded, and when the blossoms are to their liking, they invariably visit every flower on a branch, and often every one on a large plant before passing on. Butterflies are quite different. They flit about erratically from plant to plant, and it is usually mere luck when one comes within range of the camera.

Three species of thoroughwort were in bloom on the margin of the swamp and adjacent meadows. The Joe Pye weed *(Eupatorium purpureum)* with flesh-colored flowers, the white-flowered snake root *(E. ageratoides)*, and the common boneset *(E. perfoliatum)*. The genus is dedicated to Eupator Mithridates, who is said to have employed a species of it for medicinal uses.

Passing from the swamp over a sandy elevation, overgrown with briers, we found a group of blazing star *(Liatris scariosa)*, some of the stout stems standing five feet high. This is another genus of the large composite family which furnishes so many of our autumn-blooming plants. The large, flat heads of scariosa are composed of thirty or forty closely panicled, rose-purple flowers, and the combined effect is very pleasing. A number of belated oxeyes *(Heliopsis laevis)* and dwarfed dandelions we also found here, the yellow blossoms not appearing so much out of season beside the golden autumn flora.

GENTIANA ANDREWSII. ⅔ NATURAL SIZE.

Crossing over the ridge we descended to the low border of the woods, where thickets of white poplar saplings were interspersed with raspberry and blueberry bushes and large, coarse ferns. Here we found our first fringed gentian. It was just in its prime, the delicate, bell-shaped tubes of the bright, blue corollas standing wide open. In a very few days the finely fringed margins of the petals close over the ovaries, and the colors change from delicate blue to bright purple. Underneath the lobes of the corolla tubes is a very delicate glaucous tint of pale green, and when the lobes close, they twist regularly to the left, overlapping each other, the blue and green tints and delicate fringe presenting a beautiful feathery appearance. The stems grow vertically, sometimes to a height of two feet, and the corolla tubes attain a length of two inches. From the twentieth to the twenty-fifth of September, in the lake region, the blossoms are in their prime, and later than that the capsules protrude, and they lose their delicacy.

The closed gentians grow on the lowest ground that is not actually submerged, and their reclining habit makes them difficult to find, as they lie beneath the coarse grass and withering weeds. The foliage and colors of the flowers have a general resemblance to the fringed gentians, but the corolla usually has more of the lavender and reddish

shades, especially in the older blossoms, and their habit of growth is quite different. The blossoms are in terminal, and often axillary, clusters of from three to nine, and have white ribs or plaits, giving a striped appearance to the oblong corollas, which never open.

In the autumn there is more of interest to the botanist in the marshes and low meadows than in the woods, where at best are but a withered lot of ferns, with an occasional amaranth and knotweed in bloom. The woods, though, with their variegated colors, from the pale yellow of the silver maple to the deep crimson of the staghorn sumac, form an indispensable background in the autumn landscape, where Nature lays the colors on with a boldness born of a long progression of experiments.

RECIPES.

BY LULU TEACHOUT BURDEN.

Nut Croquettes. — Chop one cupful of walnut meats, and add one cupful each of mashed potatoes and fresh bread crumbs; moisten with one fourth of a cupful of the water in which the potatoes boiled, and season with salt. Beat until light the yolks of three eggs, and add them to the mixture with the whisked white of one. Mix thoroughly, form into small croquettes, egg and crumb them, and bake in a moderate oven until a golden brown. Serve hot.

Sunshine Toast. — Select good, ripe yellow tomatoes. Heat thoroughly, and sift through a fine colander to remove the skins and seeds. To one pint of sifted tomato add one tablespoonful of white flour, a pinch of salt, and a little nut butter if desired. Cook a few minutes, and serve hot over zwieback which has been slightly moistened.

Porcupine Apples. — Melt one half cupful of sugar in one cupful of hot water, and put six large, solid apples, pared and cored, into the syrup. Cover, and steam until the apples are tender, turning several times in the process. Remove the apples to a platter, and cook the syrup down until it thickens slightly. Fill the core cavities with chopped almonds, and stick the sides of the apples full of almonds which have been blanched and cut in thin strips. Pour the syrup over the apples to glaze them. The strips of almonds give the apple the appearance of porcupine needles. A little red fruit juice of some kind may be put in the syrup in which the apples were cooked, to give a pink hue. Serve cold.

Protose Relish. — Cut a half pound can of protose into halves lengthwise, and place in an oiled baking dish, with the rounding side up. Press young onions, thinly sliced into the sides of the protose, and drop a few in the dish. (Celery may be used in place of the onion if preferred.) Surround and cover this with one pint of strained tomato which has been seasoned to taste with a little salt. Bake in a moderate oven until the tomato juice thickens. Serve in slices, and garnish each with a spoonful of the tomato and a sprig of parsley.

Corn Custard. — To one cupful of grated corn pulp add three beaten eggs, a half teaspoonful of salt, a cupful of milk, a teaspoonful of finely chopped parsley, and a teaspoonful of grated onion. Mix thoroughly, and cook in an oiled mold, standing in hot water in the oven. The custard may be cooked in one large mold or in several smaller ones. Turn out of the mold before serving with cream sauce.

THE WISE WOMAN AND THE FOOLISH WOMAN.

BY INA WRIGHT HANSON.

THE wise woman springs out of bed in her well-ventilated room, and takes a cold plunge and a few exercises. As she dresses, she reviews the duties of the day before her. "So many pleasant things to be done," she says, while her eyes sparkle, and her cheeks glow with perfect health.

The foolish woman, hollow eyed and sallow skinned, crawls out of bed. Her windows have been closed all night, for "night air is poisonous, you know." She bathes her face and hands in warm water,— she never takes a cold bath, for her system couldn't stand the shock, — and as she dresses, she sighs, "Oh, the weary round of household cares."

The wise woman, if she happens not to be hungry, eats no breakfast, even though she prepares it for her family.

The foolish woman is not hungry, and a disagreeable taste in her mouth ought to warn her that her stomach is not ready for food; but she "must eat to keep up her strength," and what she half masticates, is washed down with strong, hot coffee.

The wise woman goes about her work with a song in her heart, and the household machinery moves smoothly. She laughs as she sits down to the noon meal. "'Hunger is the best sauce.' I don't have to tempt my appetite with delicacies." Then she proceeds to eat slowly, and drink — nothing.

The foolish woman was hungry when she began dinner, but "the smell of the cooking took away her appetite." She wishes she could have a change of air, maybe it would make her feel better. Baby has been so cross, and "she is that nervous that she is ready to fly away with herself," and all the time she is eating, eating, drinking, drinking.

When the wise woman's husband comes home at night, he is greeted by a cheerful wife. She has no tales to tell of annoyances, although she may have experienced some. Her mind dwells upon pleasant things, that she may attract to herself good and not evil. The children bubble over with good nature and fun. They are encouraged to talk of the day's happiness, while their attention is deftly drawn away from unpleasant occurrences.

The foolish woman's husband comes home to racked nerves, scowls, complainings, perhaps tears. The children have caught the mother's spirit, and they relate the partiality of the teacher, the impossibility of their tasks, and the misbehavior of their schoolmates.

The heart of the wise woman's husband "doth safely trust in her. Strength and honor are her clothing;" and she shall not only "rejoice in time to come," but her joy is ever present.

The foolish woman is small comfort to herself, or to those around her.

But there is light ahead. The former class are receiving daily reinforcements. Women all over this broad land are learning how to live; are choosing between beauty and ugliness, health and sickness, and are choosing wisely. Dumb bells and cold baths are replacing drugs and potions. Shall we not all be wise, and not foolish?

PINEAPPLES AS AN AID TO DIGESTION.

FRESH pineapple juice contains a remarkably active digestive principle similar to pepsin. This principle has been termed "bromelin," and so powerful is its action upon proteids, says *The Lancet* (London, June 7), that it will digest as much as one thousand times its weight within a few hours. The same journal enlarges on the subject as follows: —

"With the coagulated albumen of eggs the digestive process is slow, while with the albumen of meat its action seems first to produce a pulpy, gelatinous mass which, however, completely dissolves after a short time. When a slice of fresh pineapple is placed upon a raw beefsteak, the surface of the steak becomes gradually gelatinous, owing to the digestive action of the enzyme of the juice. Of course it is well known that digestive agents exist also in other fruits, but when it is considered that an average-sized pineapple will yield nearly one pint of juice, it will be seen that the digestive action of the whole fruit must be enormous. The activity of this peculiar digestive agent is destroyed in the cooked pineapple, but unless the pineapple is preserved by heat there is no reason why the tinned fruit should not retain the digestive power. The active digestive principle may be obtained from the juice by dissolving a large quantity of common salt in it, when a precipitate is obtained possessing the remarkable digestive powers just described. Unlike pepsin, the digestive principle of the pineapple will operate in acid, neutral, or even alkaline medium, according to the kind of proteid to which it is presented. It may therefore be assumed that the pineapple enzyme would not only aid the work of digestion in the stomach, but would continue that action in the intestinal tract. Pineapple, it may be added, contains much indigestible matter of the nature of woody fiber, but it is quite possible that the decidedly digestive properties of the juice compensate for this fact." — *The Literary Digest.*

I WOULDN'T BE CROSS.

I WOULDN'T be cross, dear, it's never worth while;
Disarm the vexation by wearing a smile;
Let hap a disaster, a trouble, a loss,
Just meet the thing boldly, and never be cross.
I wouldn't be cross, dear, with people at home;
They love you so fondly; whatever may come,
You may count on the kinsfolk around you to stand,
Oh, loyally true in a brotherly band!
So, since the fine gold far exceedeth the dross,
I wouldn't be cross with a stranger, ah, no!
To the pilgrims we meet on the life path, we owe
This kindness, to give them good cheer as they pass,
To clear out the flint stones and plant the soft grass;
No, dear, with a stranger in trial or loss,
I perchance might be silent, I wouldn't be cross.
No bitterness sweetens, no sharpness may heal
The wound which the soul is too proud to reveal.
No envy hath peace; by a fret and a jar
The beautiful work of our hands we may mar
Let happen what may, dear, of trouble and loss,
I wouldn't be cross, dear, I wouldn't be cross.

— *Margaret E. Sangster.*

GENERAL TOPICS.

HELPS AND HINTS FROM OUR EXCHANGES.

We extract the following from an article by T. D. Crothers, M. D., in the *Virginia Medical Semi-Monthly* of July 11, 1902: —

"There are reasons for believing that physicians are responsible for much indiscriminate use of narcotics. Relief of pain is the highest ambition of a class who lack a proper conception of the dangers of careless prescribing of morphia, due, very likely, to faulty training or teaching. Authorities laud morphia as a most valuable agent, but say little of its dangers and contraindications. As a result, the young, inexperienced physician goes forth with a clouded and limited understanding of the proper use of morphia, and doubtless is responsible for many habitués who have given way through the impulse to obtain relief.

One prominent physician writes: 'The mania for morphia by the needle is more of a moral lapse than a physiological one.' Another writer lays stress on moral treatment. It is urged by some writers that in all conditions of pain it is justifiable to use morphia by the needle. Some physicians prescribe it in obscure cases as an aid to diagnosis, believing it creates confidence, and is followed by more successful results. Often in chronic cases a physician will instruct the patient in the use of the needle. Instances are not uncommon where the physician has administered the drug daily for several consecutive weeks; finally the patient, realizing his condition, discharges his physician, but continues the drug. An effort to conceal the use of morphia is usually discovered by the succeeding physician. Many excellent physicians have thoughtlessly given morphia until the patient was unable to bear its withdrawal. One class of medical men who promote the use of narcotics are spirit and drug takers. They believe in the moderate use of alcohol as a food for domestic and social purposes, and as an invigorator for the overworked. To them there is no thought of evil effects; addictions are ascribed to other causes.

"In one instance, a physician of this class was known to have caused morphinism in six different persons. Another class who are active in promoting narco-manias are druggists and manufacturers of proprietary medicines. The former discover the magic effects of the drug and profits accruing from its sale, while the latter teach the use of the needle.

"When first taken, morphia produces a degree of happiness and peace with all things that is difficult to overcome. Cases experiencing its pleasurable effect are sure to become fiends upon the slightest provocation. In one instance a physician found two members of one family peculiarly susceptible to the effect of morphia when administered by the needle."

GRACE CHURCH GARDEN.

Hint of a verdant peace that lies
  Far from the great town's noise and heat,
Far from the vision of tired eyes,
  And the din of hurrying feet.

Sweet suggestion of quiet ways,
  With a wide sky bending overhead,
Where shadows linger and sunshine plays,
  And the earth is soft to the tread.

Bit of vivid and cheerful green,
  In the midst of tumult, yet apart,
Fair and peaceful, resting serene,
  On the city's turbulent heart.

— *Frances A. Schneider.*

Domestic Work and Brains.

The women of New Zealand have discovered why the mill and shop are so generally preferred to domestic service by young women. It is because "more brains are required in domestic work than behind a counter or at a machine."

To this novel theory, which was propounded at the recent convention of the National Council of New Zealand Women, additional testimony comes from a nearer source. One of the most successful stenographers in New York inquired the other day of an applicant for work if she knew how to do housework. The surprised girl replied that she did, but begged to know what that had to do with her application.

"I have found," was the reply, "that a homely bringing-up makes a woman more thorough in everything, as it does a man. The most competent business women know how to do all kinds of housework."

Others than the young lady so kindly addressed will, upon reflection, perceive the force of the head stenographer's statement, as well as the underlying truth in the New Zealand women's seeming paradox. In the Pittsburg public schools, where cooking classes are a prominent feature, the examinations of last June included such questions as these: —

"Why does a fire smoke, and what can be done to prevent it?

"What elements do strength-giving foods contain? Name a food containing albumin, one containing gluten, and one casein.

"Why do fried articles soak grease?

"In what order should dishes be washed?"

Who can doubt that it requires less brains to wind silk on a factory bobbin than to apply the knowledge implied in these domestic problems?

The poor girl who leaves honorable, well-paid household service for the shop or factory on starvation wages, the well-to-do girl who scorns to master the intricacies of domestic problems that she may have more leisure for amusements or literary pursuits, deserts cells filled with honey for combs, machine made and empty. The light in which we look at things is made by all of us; and some girls and women may be helped to gild their leaden goddess of household work if they take to heart the New Zealand women's intimation that to do it well requires a high order of intelligence.— *The Youth's Companion.*

Sir Henry Thompson on Diet.

Sir Henry Thompson has just published a remarkable book on "Diet in Relation to Health," in which his personal experience is a striking object lesson. Thirty years ago, at the age of fifty-two, he gave up alcohol. For the sake of experiment, five or six years back, he tried the effect of a claret glass of good wine at dinner every day for two months. Then the sick headaches and pains in the joints, from which he had suffered in early life, came back, and remained until he abstained again. Moreover, "after abandoning alcohol, the joints gradually lost their stiffness, and ultimately became as supple and mobile as they were in youth, and continue absolutely so to this day." He adds: "It may be fairly said that one example does not prove a case. But it is not a single example, and really designates a very large class of active men possessing a more or less similar temperament of which a type is here described."

Half our bodily ills are due, he believes, to improper feeding. The necessity for diminishing the amount of nourishment taken as one grows older is not appreciated. "The extra glass of cordial, the superlatively strong extract of meat," are mistakes. Sir Henry draws an alarming picture of the head of the family sinking to decay because his affectionate spouse plies him with dainties he cannot digest — the egg whipped up with sherry, the insidious calves'-foot jelly, the inopportune cup of cocoa. She urges him to try patent foods, which are so "nutritious" that his stomach cannot stand them, and she imagines that even his drinks must have nutriment, forgetting that the primary object of drink is to satisfy thirst, and that to take milk, for example, with meat is one of the greatest dietetic blunders that can be perpetrated.

Even the dentist shares in his condemnation. He gives the patient a set of masticators as efficacious as the originals, but does not warn the patient that the body needs less food than in the heyday of life.

Though not a vegetarian, Sir Henry maintains that three fourths of our food should be vegetable. This insures a lighter and more active brain. The light feeder, after his meal, has fresher wit and more cheerful temper. He does not snore in the armchair. Dyspepsia is unknown to him.— *The Sanitarian.*

The Eyes.

Looking into the fire is very injurious to the eyes, particularly if it is a coal fire, The stimulus of light and heat united soon injures the eyes. Looking at molten iron will soon destroy the sight. Reading in the twilight, or reading while lying down, is very injurious to the eyes, as they are obliged to make great exertions. Reading or sewing with a side light injures the eyes, as both eyes should be exposed to an equal degree of light. The reason is that the sympathy between the eyes is so great that if the pupil of one is dilated by being kept partially in the shade, the one that is most exposed cannot contract itself sufficiently for protection, and will ultimately be injured. Those who wish to preserve their sight should preserve their general health by correct habits of living, and should give their eyes just work enough, with a due degree of light.

Recent investigations by a German doctor showed that only one person in fifteen has both eyes in good condition, and that in seven cases out of ten, one eye, generally the right, is stronger than the other. It is also true that just as people are right or left-handed, so are they right or left sighted; that is to say, while they are apparently looking with both eyes, they often really use only one, and out of twenty persons whose eyes were tested, two only were found to be left sighted.

The reason of the greater strength possessed by the right eye is not clearly known, but it is suggested that the greater use of the right side of the body, which seems a natural tendency, has something to do with it. In using weapons, for instance, mankind has been taught for ages to assume attitudes in which the right hand and side are called most into play — a discipline which has, without any doubt, had its effect on the eye itself.

Gunsmiths now carefully allow for right or left sightedness in making firearms to order. Old sea captains, after long use of the telescope and other instruments used in making calculations at sea, often find that their right eye is very much stronger than the left — the direct

effect, evidently, of exercise drawing the sight, as it were, into the eye most used.— *The Dietetic and Hygienic Gazette, March, 1902.*

Cholera a Preventable Scourge.

The *Brooklyn Eagle* says: "Cholera is needless. The individual living in the stricken district cannot always save himself, but the district can save itself, if it takes the proper measures, and takes them in time. Cholera results from filth. The regions that suffer worst are those in which the water supply is scant and turbid, and is used only for drinking. In civilized parts of civilized towns, where there are bath tubs, and where those tubs are not used for coal storage, where dirt is not allowed to accumulate in the rooms, there is no danger."

MOSQUITOES have been eradicated from Havana by drainage of damp places, removal of receptacles for standing water, and by freely pouring kerosene oil upon any water that otherwise might be a breeding place for the pest. Adult mosquitoes in rooms or buildings were destroyed by formaldehyde, or by the fumes of burning sulphur or burning pyrethrum powder. This warfare has destroyed all kinds of mosquitoes, especially the stegomyia mosquito, that is the sole agent by which yellow fever is transmitted. In consequence, this dread disease has also been stamped out, Havana not having had a case of yellow fever since September last. Since it has been demonstrated that another kind of mosquito, very common in this country, transmits malaria, and that other diseases may be carried by these pests, it behooves every one to join in a grand war of extermination against the mosquito by the simple means that have accomplished such wonders at Havana. In many places in this country, such a campaign was waged last year, with an astonishing decrease of the mosquito pest.— *Good Housekeeping.*

Carrying the Baby.

The accompanying suggestions and illustrations, for which we are indebted to *Leonard's Illustrated Medical Journal,* are worthy of attention: —

"The child should always be lifted with both hands, held lightly but firmly,

CORRECT METHOD OF CARRYING BABY.

the entire length of the back and the head being carefully supported. One of the most common and dangerous errors

INCORRECT METHOD OF CARRYING BABY.

is leaving the back or the head unsupported. When this is done, the movements of the body of the mother or nurse

in walking, or indeed, the sudden lurching of the baby itself, may seriously affect the head and spine."

The Alcohol Problem in the Public Schools.

The question of the food value of alcohol has come quite prominently into discussion lately, in connection with the teaching of alcoholic physiology in the public schools. Professor Atwater, of Wesleyan University, has been especially emphatic in upholding his well-known theory on this subject, and in denouncing the "officially approved" text-books on physiology used in many schools. At a recent meeting of the New York State Science Teachers' Association, he declared that "unfortunately for science, pedagogy, and morality, a considerable part of the teaching of these text-books is not in accordance with the views of the specialists or the result of the latest scientific investigation." From the tenor of his remarks, as reported in the newspapers, it seems as if the Professor were really opposed to the whole idea of temperance instruction in the public schools. He claims to have demonstrated by strictly scientific methods, that alcohol is a food, and he reasons that it must therefore be wrong, both scientifically and morally, to teach young people that it is their duty to abstain from it.

This argument is easily shown to be unsound, because based on a one-sided presentation of the facts. From an examination of the latest experiments it is difficult to deny the albumin-saving property of alcohol, and consequently that it is a true food. But, on the other hand, to quote from a recent editorial in the *Medical Press*, "It must be clearly understood that although alcohol has an alimentary rôle, it must not be recommended for use as such, because it is always a poison when taken in what in ordinary language is termed, moderate quantities." This, of course, is the same as saying that the nutritive property of alcohol, when weighed against its toxic action, is not merely unworthy of consideration, but is capable of becoming, practically, a most injuriously misleading factor. And yet here is a reputed scientist who would have us believe that the training up of our youth to shun and to discourage the use of alcohol as a beverage, on physiological grounds, is little short of a crime!

A food, Professor Atwater, that "in moderate quantities," is also — and much more assuredly — a poison, has no food value whatever; hence the very name of your pet theory and the text of your public addresses are "a mockery, a delusion, and a snare."

My Chromatic-Nosed Friend.

For a good, common-sense temperance sermon, brought right down to practical, everyday experience, there could be nothing better than the following from the pen of Bob Burdette. What he says of liquor drinking may be applied with equal force to all other expensive habits that seem but small items when counted singly, but which, when figured up as a whole, amount to enough to build a home in a few years, or to start a man in business. He says: —

"My homeless friend with the chromatic nose, while you are stirring up the sugar in a ten-cent glass of gin, let me give you a fact to wash down with it. For some years you have been drinking a good improved farm at the rate of one hundred square feet at the gulp. If you doubt this statement, figure it out for yourself. An acre contains 43,560 square feet. Estimating, for convenience, the land at $43.56 an acre, you will see it brings the land to just one mill per

square foot. Now pour down the dose, and imagine you are swallowing down a strawberry patch. Call in your friends, and have them help you swallow that five-hundred-foot garden. Get on a prolonged spree, and see how long it will take you to swallow enough pasture land for a cow. There is dirt in it — three hundred feet of good, rich dirt worth $43.56 per acre.

"Now is a good time to look the matter square in the face, and cut off the expensive and useless custom of throwing money — five, ten, twenty, or thirty cents at a time — into the beer and whisky till, and save it instead, as the beginning of a fund to buy a farm or home. There is one thing sure as truth, and that is, that you can't give your earnings to somebody else, and also keep them for yourself. The men you give them to will neither buy you a farm nor build you a home. They may build homes with the money you give them, but the homes will be for themselves, and the farms they buy will be for themselves. Wherever you plant it, there it will grow. If you drop it on another's soil, he will harvest the crop; if you plant it for yourself, you may reap the fruitful increase, and gather the golden grain into your own granary, where by every God-given right it belongs."— *American Homes.*

CARES AND FEARS.

"The little cares that fretted me,
I lost them yesterday
Among the fields above the sea,
Among the winds at play,
Among the lowing of the herds,
Among the singing of the birds,
The humming of the bees.

"The foolish fears of what might pass,
I cast them all away
Among the clover-scented hay,
Among the hushing of the corn
Where drowsy poppies nod,
Where ill thoughts die and good are born —
Out in the fields with God."

— *Selected.*

Three Principles Regarding Summer Clothes.

From a hygienic standpoint such questions as what form and quality of clothing will maintain the proper body temperature, protect from changes of temperature, and absorb the sweat and other excretory products contained in it, are of main interest.

Our own hot season comes on with great suddenness, and is subject to such frequent and violent change as to be more trying to the person improperly clad than the hotter and more even summer of States farther to the south. More than this, we have not yet learned the art of adapting the clothing to a hot temperature. The same heavy coats, high stiff collars, and starched shirts that we wear in the winter are common.

The summer clothing is too heavy, keeping the body overwarm, with the skin most of the time covered with moisture, so that it is easily affected by changes in temperature, and likely to become suddenly chilled.

Notwithstanding all the theories of faddists of various kinds, the great weight of medical opinion inclines toward woolen as the best material next the skin. But this woolen fabric should be characterized by three things: First, it should be light in weight; second, light in color; and third, very porous.

This latter characteristic is difficult to obtain in woolen fabrics. The tendency of the ordinary woolen undergarment is to shrink with successive washings until it becomes practically impervious to the air. There are, however, certain woolen fabrics with loose meshes and light weight, which allow the free circulation of the air, and yet protect the body with that evenness which only woolen exerts.

There is evident reason for the statement that summer clothing should be

light in weight, but most people will wonder why it should be light in color. The simple reply is that a light-colored suit or hat does not receive and concentrate heat rays to such a degree as does dark-colored clothing of the same weight and texture. An experiment with light and dark hats on a hot summer day very easily demonstrates the practical bearing of this.— *The Healthy Home.*

PROF. W. W. RILEY, chief of the bureau of chemistry of the national department of agriculture, makes the comforting observation that "meat eating is not essential to human life," and that "man can be nourished, and well nourished, without resorting to a flesh diet." He also asserts that it is the cereal foods that most largely supply energy; that "men who are nourished extensively on cereals are capable of the hardest and most enduring manual labor." This, in connection with the present drain of a meat diet upon the pocketbook, ought to make many converts to vegetarianism.— *The Farmer.*

Brotherly Kindness.

We do not know to whom the credit belongs for the following excellent thoughts, but we send them on with the assurance that some one will be better and happier for having read them.

"So many Gods, so many creeds,
So many paths that wind and wind,
When just the art of being kind
Is all this old world needs."

"Some verses have a way of singing themselves most insistently, and the one above quoted has been the undertone of our daily thought, since we saw it a few days ago, upon a beautiful scroll of burnt leather in the home of a friend. It is a charming sentiment, and a very true one, but, like many other truths, it is capable of such half presentations as to become almost, if not quite, a falsehood.

"'Just the art of being kind is all this old world needs.' Granted, if one may be allowed to interpret kindness after a broader ideal than that which the word is usually understood to represent. Kindness is more than gentleness, more than longsuffering, more than patience; it is infinitely more than the honeyed sweetness which masquerades under its name in too many of the homes and the churches of our land. In the home, kindness is not always synonymous with allowing the child to have its own way, regardless of consequences to himself or to others. It must sometimes go with stern rebuke, with sharp chastisement, with much that seems to the recipient the very opposite of kindness.

"The art of being kind presupposes several things, but most clearly it is based upon the assumption that there is a possibility of being kind. That possibility, to those under certain social conditions, does not exist. To be kind in the truest, highest sense of the term, presupposes care and thought for the individual's deepest life. It presupposes a care for all that enters into the making of character, of all that tends to growth and truest development. Does it not also presuppose the effort to remove from the way all that would hinder the growth of character, all that would prevent a man or woman from arriving at his or her best? Just here is the fine dividing line at which kindness is often mistaken for unkindness, because kindness must sometimes wear a severe aspect, that it may be truly kind. It can never be mere good-natured indolence. It must be active, often aggressive, helpfulness. It seeks to remove from society as a whole, the evils which make real kindness impossible. It seeks to bring in the day when 'instead of the thorn

shall spring up the fir tree;' but it realizes that before that day can come, the thorns themselves must be rooted up. It does not suppose that in the moral, any more than in the physical, realm, two bodies can occupy the same place at the same time, and it seeks very definitely and practically to overcome evil by doing good.

"The art of being kind — should it not rather be the 'science of being kind?' Is not kindness capable of reduction to the terms of an exact science? Must there not be first the desire to be kind, and then the knowledge of what constitutes kindness? After that, must there not come a definite knowledge of whatever hinders the full development, the free transmission, of kindness? Shall we not, some day, come to study life from the plane of the greatest kindness to the greatest number? And when that standard is reached, will it not mean that we shall have learned to substitute justice for charity, helpfulness for sentiment, and righteousness for mere religiousness?

"And what again is that but the divine science through which, ultimately, light is to take the place of darkness; joy, of sorrow; righteousness, of unrighteousness; until all life shall be redeemed, and humanity shall rise to its normal plane.

"So many Gods, so many creeds,
So many paths that wind and wind,
When just the art of being kind
Is all this old world needs."

"GOD makes our features, but we make our own countenances by our inward mental habits."

"IT is never wise to turn a blessing over to see if there is a curse on the other side of it."

LANGUID sauntering is not exercise for the man or woman in ordinary health.

A Prisoner in His Own Home.

We instinctively shudder at the thought of the prison experience that the great army of criminals in this country must submit to, but we rarely stop to consider that there are half a million business men and a million housewives who are serving out sentences which, from a physiological standpoint, are just as truly imprisonments as if they were behind prison bars.

The man who is confined during his waking hours behind a desk in a poorly ventilated office oftens suffers as a result, as keenly physically as does the prisoner who spends an equal length of time behind iron gates.

The woman who compels herself to live the major portion of her time in an overheated kitchen, preparing dainty but useless dishes, is ruining her nervous system and undermining her health just as surely as her unfortunate sister who is compelled to carry out a similar program in a kitchen which is within prison walls.— *David Paulson, M. D.*

Kitchen Weights and Measures.

Four teaspoonfuls of liquid make one tablespoonful.

Four tablespoonfuls of liquid, one gill or a quarter of a cup.

A tablespoonful of liquid, half an ounce.

A pint of liquid weighs a pound.

A quart of sifted flour, one pound.

Four kitchen cupfuls of cornmeal, one pound.

One cup of butter, half a pound.

A solid pint of chopped meat, one pound.

Ten eggs, one pound.

A pint of brown sugar, thirteen ounces.

—*Selected.*

The Physical Care of Children.

We extract the following from a paper read by Dr. Maurice Hunt before the Parents' and Teachers' Meeting, Delaware, Ohio, and published in the *Mother's Journal.*

"The child is susceptible, absorbing both good and bad. Give him the opportunity, and he will find the means. Some one must care for him, and with wisdom.

"There must be discipline. It is impossible to do without this. There must be some one to govern, to regulate, the child. This must begin very early. If there is no one to assume this authority, the result is a spoiled child.

"When the child cries, the mother can soon distinguish between the cry of spunk and that of pain. She must be firm. She must not vacillate. The child soon knows 'Yes' and 'No,' and learns to regard them.

"It is better that fruit should be eaten at the mealtime. Pastry, cakes, and candy are unnecessary. They are sources of much evil and increased doctor's bills. The poison works slowly and insidiously for several days, the cause being often overlooked. Green apples make the child very sick almost immediately; but candy works more slowly, often leaving nothing on which to base a diagnosis of the trouble. If candy be given at all, homemade candy is the least harmful; but it should be dealt out in small quantities and at long intervals.

"Strength should be developed. The child naturally will run, jump, kick, squirm, and will not stay in one position unless he is asleep. It is well for the child that this is so. If he were too still, there would be danger of curvature of the spine. Instinct keeps him in motion. You must not expect a child to know more than the baby elephant who is never still unless lying down, but keeps walking and swaying to keep the weight of his body off his legs.

"A healthy child travels miles in a day,—plays cars with the chairs in the dining room, playing conductor, taking tickets, riding his broomstick horse. He will look at pictures or blocks, but all the while he is squirming, rolling, or kicking. He must not be restrained. Give him plenty of room and freedom of movement. Thus he will digest his food and will thrive as a child should.

"If he is kept still, then begin sick spells. He must not feel that he is hampered. He must know, however, that some one is in authority, ready to enter into fun with him or to put a brake on when advisable. The child is to be pitied who has not the strong arm of authority to lean upon.

"The eyes are extremely delicate, and the greatest care must be taken in their use. If they are unrestricted, they will develop naturally. Most children see only objects near them. Sound attracts them, but they do not see very distinctly at any great distance. They are able to see, but do not concentrate their gaze.

"A child will seldom be amused with minute objects, because they tire the eye. If forced to play with these, it will cause irreparable injury to the eyes. The child's own choice would be larger objects.

"Many school children of to-day wear glasses. Formerly the sight of a child with glasses would cause commiseration. Now, it arouses curiosity merely. One sees a child of nine or ten, whose carriage, dress, and manner betoken well-to-do parents, and he looks at the world through glasses. One sees the ragamuffin, who has more freedom, and he needs no glasses. His eyes have not been tampered with in early life. Parents may draw their own inference."

Why Flesh Eating Should Be Discarded.

Because flesh is an unnatural food.

Because it is a dead food, dead organically and dead dietetically.

Because flesh eating is a powerful influence in shortening life.

Because if the ox could speak, we would not eat him.

Because flesh eating necessitates premeditated, systematic, deliberate murder.

Because it is revolting "to think of eating anything that looks out of eyes."

Because there is greater risk of infection from using meat than is incurred in any other way.

Because flesh eating is one of the most serious causes of the diseases that carry off ninety-nine out of every hundred people.

Because a flesh diet produces uric-acid poisoning, increases the poisonous character of urine, and is a prolific source of blood and tissue contamination.

Because a large number of diseases directly result from the use of flesh food. Among these are typhoid fever, rheumatism, gout, Bright's disease, cancer, epilepsy.

Because flesh eating is a most active cause of decay of the teeth, due to the retention of the fibers of lean flesh between the teeth, where they undergo decay, harboring and encouraging the development of germs.

Because flesh eating overwhelms the liver with poison derived from the meat and from the decomposition of flesh foods in the alimentary canal, producing a condition which is familiarly known as torpid liver, or biliousness, a condition which is simply an open invitation to disease; for the crippled liver cannot arrest and destroy the poisons brought to it in the blood, and the poison-laden blood carries to every tissue and cell in the body the noxious substances that it contains. Every organ is disturbed, every function interfered with, and the bodily structures themselves are changed; in time these changes become degenerations, and show themselves in paralysis, hardened arteries, fatty liver and kidneys, weak heart, swollen joints, and other grave morbid conditions.

Because flesh food is not only inferior to the products of the vegetable kingdom in the quantity or proportion of energy-producing element which it contains, but is also inferior in quality. The proteid, or albuminoid, substances of which flesh food is chiefly composed,—lean meats almost altogether, in fact,—are chiefly used in replenishing or repairing the proteid wastes of the body, and are decidedly inferior to vegetable fats in energy-producing value. For example, an ounce of meat contains thirty-two food units, while an ounce of rice contains one hundred and twenty-one food units, and an ounce of peanuts, one hundred and sixty food units. It thus appears that flesh food is inferior in force-producing qualities even to those cereals that contain a large proportion of starch, and that are often regarded as a light diet such as rice, an ounce of which contains nearly three times as many food units as are contained in a like weight of lean meat, while the food value of an ounce of peanuts is more than four and one-half times that of an ounce of beef.

EDITORIAL.

THE TREATMENT OF CHRONIC RHEUMATISM.

THE popular notion that a fruit dietary is to be strictly avoided in rheumatism has no foundation.

For many years the writer has practiced placing rheumatic patients upon a strictly fruit dietary whenever evidences of auto-intoxication were quite marked. Not infrequently the patient is required to eat exclusively fresh apples, grapes, or any other seasonable fruit for several days in succession.

A fruit diet is certainly incapable of increasing the accumulation of uric acid, as it does not furnish the necessary material for the production of this toxic element. The only effect which can be attributed to it is a marked increase in the output, a property which can be utilized to great advantage therapeutically.

It is not sufficient simply to withhold flesh meats in cases of rheumatism. The patient must be furnished with an ample supply of easily digestible foods which he can relish, and which will furnish to the body the needed nutritive elements with the least outlay of vital energy. If dyspepsia be present, which is true in many cases, cereals must be used in a dry and well-dextrinized condition (zwieback and other cereal-food products dextrinized by heat). Mushes must be carefully avoided, also starchy vegetables. Purées of peas and beans may be eaten in moderate quantities, but the skins of these legumes must be excluded. Mustard, pepper, and condiments of all sorts must not be used; the use of tobacco in any form must also be strictly prohibited for the reason that the nicotine not only depresses the heart, but greatly taxes the liver and kidneys, first in the work of oxidizing and destroying the poison, and second in eliminating it. Copious water drinking is a measure of the highest value. All the vital work of the body is done under water.

To the great thinning of the blood which follows copious water drinking, is due the remarkable increased activity of kidneys, skin, and bowels, which it produces. Examination of the urine shows, not only that the quantity is increased by water drinking, but that the urea and other solid constituents are increased in amount.

By the continued employment of this measure, the tissues may be thoroughly washed free from accumulated waste, and to such an extent that uric acid, urates, oxylates, and other products of imperfect oxidation may be reduced to almost imperceptible amounts, and it may finally almost entirely disappear. The quantity of water taken should be from two to three quarts daily. Distilled water is preferable to mineral waters of any sort, as it has been recently shown that the indigestion of alkalies or alkaline carbonates does not increase the output of uric acid. Distilled water, or water containing the smallest possible amount of mineral, is most readily absorbed. Carbonated water is more readily absorbed than the natural water. In most cases it is best to take the water at the ordinary room temperature. Deluging the stomach with hot water relaxes the organ, and lessens the digestive power. Hot-water drinking is to be recommended only in cases of gastritis accompanied by a profuse secretion of mucus, and in cases of hyperpepsia. In gastric dilatation and in hypopepsia, the practice is exceedingly harmful.

Next in importance to the regulation of the dietary is the question of exercise. Every chronic rheumatic must be made to perspire daily. It is not well to produce constant and profuse perspiration, but the

highest activity of the skin short of actual sweating may be maintained with benefit. The skin ordinarily eliminates from an ounce to an ounce and a half of liquids per hour. In profuse sweating, this amount may be increased to from fifty to sixty ounces hourly. Such an increase for a short period is highly beneficial, and an increase of the ordinary amount to four or five times the usual quantity is decidedly advantageous. Rheumatics, on this account, generally do better in a warm, dry climate, and suffer less in clear, dry weather, than at other times; as under these conditions, activity of the skin is promoted.

Rheumatics need exercise more than almost any other class of persons. This is one of the most efficient means of burning up the surplus proteid wastes. Vigorous exercise may increase the amount of oxygen absorption to the extent of seven times the amount absorbed when the body is in a state of rest. The output of carbon dioxide during exercise shows that the respiratory activity is increased, or at least not diminished, and oxidation is also much increased. The diminution in uric acid and in urinary toxicity observed by Bouchard, after exercise, is evidence of the improved oxidation of the nitrogenous wastes.

Although rheumatic patients need exercise more than any other class, they are unfortunately so crippled that general active exercise, such as walking, horseback riding, etc., is out of the question, and in many cases in which the disease has not advanced so far as to produce such a degree of disablement, the patient is often deterred from exercise by reason of the fact that anything more than a very moderate amount of exercise is likely to be followed by an exaggeration of the pain. Rheumatics suffer from other embarrassments in relation to exercise, among which may be mentioned shortness of breath from rigidity of the chest, and a consequent diminution of the respiratory field, and general muscular weakness. These difficulties must be overcome by carefully graduated muscular work, beginning, if necessary, with the more gentle forms of massage, gradually increasing the vigor of the manipulation. As soon as able to do so, the patient must be encouraged to take active voluntary exercise. The amount of exercise to be taken each day must be designated, and must be increased daily as the patient's capacity for muscular work increases. The outdoor gymnasium, affording an opportunity for exposing the body to the air and sun, is of the highest value in cases of this sort. Sand baths are particularly helpful. The patient must, of course, be very careful to avoid chill from evaporation after exercises which produce perspiration. Care must be taken to tone up the skin by suitable cold application after taking exercise of any sort, with sufficient vigor to produce perspiration.

The value of hot baths in rheumatism, both chronic and acute, has been recognized from the earliest ages. Some eighteen years ago I had the pleasure of visiting and studying in various parts of Italy, the ruins of many ancient Roman baths in which the rheumatic and obese gormands of the degenerate days of ancient Rome were daily subjected to hot water baths, vapor and hot-air baths, followed by massage and exercise for the purpose of combating the effects of their luxurious living. Almost every country has its hot springs to which numerous victims of uric-acid disease make annual pilgrimages, rarely failing to receive more or less benefit.

All forms of hot baths are beneficial in rheumatism — the hot-water bath, the vapor bath, and the electric bath, especially the latter, are to be preferred, for the reason that these are the quickest and most efficient means of securing an elevation of the bodily temperature, and thus increasing nitrogen oxidation.

But hot bathing alone is not sufficient in this disease. Hot baths of all sorts are attended by the inconvenience that they produce a decidedly depressing effect. All the vital processes are depressed; the heart action, in particular, is diminished in vigor.

The relaxed condition of the blood vessels of the skin, as the result of the hot bath, exposes the body to injury from the rapid loss of heat, resulting in chill, and an aggravation of the symptoms which are at first relieved. These several inconveniencies may be wholly avoided by the application of a proper cooling procedure immediately after the hot bath. The method must depend upon the various circumstances. If a hot-bath immersion has been administered at a temperature of 105° to 108° (about the proper limits), the temperature of the water may be lowered, within one or two minutes, to 80°. The patient may be kept in the tub with gentle rubbing for two to five minutes by which time the temperature of the skin should be sufficiently lowered to make it safe to remove the patient from the bath, wrapping him in a Turkish sheet and woolen blankets, and to permit him to lie quietly until his skin is thoroughly dry, and the equilibrium of the circulation restored.

The hot-blanket pack may be followed by a short wet-sheet rub, the vigor of which may be gradually increased from day to day by lowering the temperature of the water employed, starting at 68°, and lowering the temperature one or two degrees daily to 55°, and by increasing the duration of the application from one-half minute at the beginning to two or three minutes later on. In very feeble cases, the cold towel rub or cold friction may be employed.

Chronic as well as acute rheumatism is a general rather than a local disorder; hence comparatively little need be said respecting applications to the diseased joints. The local affection being only symptomatic of the general disorder, disappears when the patient is relieved of his general dyscrasia. There are valuable measures, however, whereby the local curative process may be hastened, and pain and other symptoms greatly mitigated. The most important of all local applications is heat, which may be employed in the form of vapor or the fomentation. The dilatation of the vessels by heat leads to an accumulation of the blood in the part, and promotes tissue cleansing and renovation.

In the words of Holy Writ, "The blood is the life." It is the blood that heals, hence the concentration of blood in the diseased structures is a measure of the highest importance. This is especially true if the hot application is followed by a very short cold application, whereby the passive congestion is converted into the active movement of the blood. These hot applications may be applied with advantage twice daily, and should be followed by a cotton poultice or a heating compress. The heating compress consists of a linen cloth or a moderately thick cheese cloth wrung dry out of cold water, wrapped around the joint, covered first with oiled muslin or mackintosh, and then with several thicknesses of flannel, so as to retain the heat. Thus the superheating induced by the hot application is maintained.

Another measure of great value is local massage. When tenderness exists, much care must be used. The first manipulations should consist of light stroking or friction movement; later, digital kneading should be employed about the joint in such a way as to follow the natural contour of the bones.

Joint movements should likewise be employed in connection with massage. If the movements of the joint are limited, the first attempts at flexion and extension should be applied with great care; only a moderate amount of force should be used. From day to day, the latitude of the movements should be increased until the greatest degree of mobility possible is established. Gentle massage and joint movements may be best administered after a hot pack or fomentation, or some other hot application which has been followed by a very short cold application to prevent chilling by evaporation.

The building up of the general health is a matter of primary importance in chronic rheumatism. Every effort must be made to improve the general physical condition of the patient.— *Modern Medicine.*

HOW TO TAKE A COLD BATH COMFORTABLY.

No one who has experienced the delightfully refreshing effects of a cold bath, and who appreciates the value of the tonic influence of this bath when taken regularly, will be willing to forego his morning cold bath even if it does require some little fortitude. Nobody enjoys the first sensation produced by immersion in a tub full of water at a temperature of 60° to 70°. One is strongly inclined to make his stay in the bath as short as possible, and thus may lose some of the good effect which might otherwise be obtained. When the bath is taken simply for the tonic effect, the momentary contact of cold water with the skin is quite sufficient, but when it is desired to obtain strong alterative effects, that is if one is suffering from obesity or diabetes, and wishes to encourage the combustion processes by which fat or sugar are burned up, and thus the disease combated, the good effects obtained depend upon the duration of the bath. The longer one remains in the bath, the greater the effects produced, as the bath abstracts heat and thus stimulates combustion. By constantly rubbing the surface while the skin is in contact with the cold water, vigorous circulation may be maintained and the sensation of chilliness greatly lessened. The effect of the bath is also accelerated by bringing a larger quantity of blood to the surface to be cooled. Cold contracts the vessels, while rubbing dilates them; thus the effect of the cold is antagonized by the rubbing, and the free circulation of blood maintained at the surface.

The most disagreeable element of the cold bath is the intense impression made upon the temperature nerves when one first enters the bath. For many persons who are sensible to cold, the contact with cold water is not merely disagreeable, it is really distressing and painful, often giving rise to involuntary exclamations of distress. With persons who have strong powers of reaction this sensation quickly disappears, but with those in whom reaction is slow, most intensely disagreeable sensations continue during the whole period of the bath. There is no means by which the first impression of cold can be obviated, but by a very simple procedure the duration of this impression may be very greatly shortened. Here is the method:—

Draw into the bath tub the amount of water required for the bath, making the temperature 70° to 75°. Persons who are not accustomed to cold bathing may use a little higher temperature at first, say 80° to 85°. If a shower bath is available, let the bather now stand in the bath tub, having previously wetted the head, face, and neck with the coldest water obtainable, and expose the whole surface of the body for six or eight seconds to a cold shower at a temperature of 50° or 60°, or pipe-water temperature, whatever it may be. After this short cold shower, the bather at once submerges himself in the tub, and to his delight he will find that the water feels warm instead of cold. If the surface is a little cold so that the contact with the cold water of the shower is dreaded, a very hot shower may be taken for fifteen or twenty seconds before the cold shower.

If the shower bath is not accessible, two pails of water should be prepared, one containing water at a temperature of 104° to 108°, the other containing water as it runs from the cold water faucet. While standing in the bath tub, first the hot water and then the cold water is poured over the body as quickly as possible. This will greatly lessen the discomfort of the cold bath.

A cold bath taken every morning is one of the best means of fortifying the body against the depressing effects of heat and preventing the loss of appetite which with many persons, especially those whose employment is sedentary, is one of the inconveniences of the warm season. The loss of appetite must necessarily follow the loss of energy. This indeed is an indication of a lowering of the vital powers, and should not be regarded as a trivial circumstance. A

cold bath taken immediately on rising, followed by a brisk walk of fifteen or twenty minutes in the early morning air is a better means of inducing appetite and good digestion than any or all of the drugs known to materia medica. Try it if you have never done so, and you will certainly be pleased with the result.

CARE OF CHILDREN DURING HEATED TERMS.

HAVING completed the initial toilet of an infant, whose advent into the world occurred while the thermometer was registering a torrid temperature, the physician in charge inspected the attire of the tiny stranger with a smile of satisfaction. Being acquainted with his views upon the subject, the nurse had clothed the little one with a view of keeping it cool and as comfortable as possible. First came the flannel band, then an undershirt of softest cotton, and the napkin. Over these was placed a muslin slip, minus the suggestion of starch. The conventional socks and long flannel petticoat were omitted, and no article of wool, excepting the band, was allowed.

The weather was closely watched, and at the first intimation of a change, an extra article of apparel was added. When the drop in the temperature was not especially considerable, this additional garment consisted of a wrapper of outing flannel. Besides being amply protected, every one voted baby as particularly charming in these dainty creations of downy cotton, with their pale pink or blue stripes, and edges bound with silk tape of a corresponding tint.

Certainly no child thrived better than this one; and the doctor, commenting upon the evils of overdressing during intensely warm weather, was firm in his conviction that such a practice was no small factor in precipitating attacks of diarrhea and other grave intestinal disorders. He further remarked that overheating of the delicate little body during any period of the year was to be avoided quite as much as undue exposure to cold, and that he had seen all the symptoms of "summer diarrhea" in winter.

However, our climate is so remarkable for very sudden changes, that unless a baby can receive the closest attention — and that cannot always be accorded him, or at least isn't — it would seem to be the safest course to keep wool next the skin all the year round. Of course, during the heated term, this woolen garment should be of the lightest texture obtainable, its office being to prevent too rapid evaporation of moisture from the body.

Reverting to the subject of clothing for children, this ought to be as cool as may be, not only with regard to the baby, but as concerns the older child as well.

Perhaps no material better adapts itself to the day's outing in the woods, or upon the river steamer, than gingham. This comes in such a variety of attractive tints that it can be converted into the prettiest of little frocks. It is soft, and therefore not as easily soiled as some other fabrics, and is quickly laundered, for it requires little if any starch.

White is, of course, beautiful for children's wear, but it is ont suited for outing purposes, where health and pleasure ought to be the chief pursuits.

Neither should the benefit to be derived from a day with nature be offset by an injudiciously prepared picnic basket. The free air brings with it an added zest for food, so that even the plainest of fare is enjoyed.

As to the baby, don't make his outing an occasion for overfeeding him, but keep him comfortable by sensible treatment. A hammock protected by a piece of netting will contribute much to his well-being and happiness.— *S. Virginia Lewis, M. S. N., in Table Talk.*

ANSWERS TO CORRESPONDENTS.

Paralysis.—C. B.: "If a person nearly seventy years old has had two strokes of paralysis, one very severe and the other slight, will a third stroke cause death or continued helplessness for the rest of life?"

Ans.— 1. It is impossible to tell how a third attack of paralysis will result. Each attack is usually more severe than the preceding one. The patient's age considerably complicates the matter. Of course, a positive opinion could not be determined without seeing the patient.

Indigestion.— Mrs. M. E. B., Brooklyn: "Patient is a woman of forty-eight, in seemingly good health, eats three good meals a day, but has been troubled with brown patches and livid white spots on the arms from elbows to fingers and on the neck. Is also troubled with large red spots on the back between the shoulders, which itch intensely. Tongue is furred, and has very sore cracks in it. Give cause and remedy for trouble, which is of four or five years' standing."

Ans.— The patient evidently suffers from indigestion. The discoloration of the skin arises from a deposit of pigment, or coloring matter, which may be due to an overtaxed liver. The dextrinized cereals and nut preparations, with malt honey abundance of fruit, the drinking of four to six pints of water daily, and abundance of outdoor exercise and sleep will be beneficial. The local irritation may be relieved by the application of zinc-oxide ointment once or twice daily.

Early Rising — Watermelons.— M. T., Louisiana: "1. Business man of New Orleans considers himself in good health, but is troubled over the fact that he persistently wakens at four o'clock, and can sleep no longer. Retires at ten o'clock, as a rule. What is the remedy, and does the trouble indicate any special ailment or future physical trouble? 2. Are watermelons nutritious, and what is the best time of the day to eat them?"

Ans.—1. The condition does not necessarily indicate anything serious. Would suggest a neutral bath, 92° to 95°, at night before retiring, the wearing of the moist abdominal girdle at night, directions for which have been given in GOOD HEALTH, and cold friction bath on rising in the morning.

2. Watermelons are mostly made up of water. They are best eaten at mealtime, or as a substitute for the third meal. The pulp should be excluded.

Nervous Debility.— S. M. S., Michigan: "Woman seventy-three years old is troubled with constipation, coated tongue, wakens at three or four in the morning and can sleep no more, feels dull and sleepy nearly all the time, has catarrh of the head, urine is at times scant, and highly colored, then changes and has no color at all; urinates often, is very nervous, tires very easily, and cries sometimes all day, with no cause."

Ans.— Dextrinized cereals with fig bromose, malt honey, malted nuts, and abundance of fruit as a diet, and the drinking of five or six pints of water daily, would be beneficial. Take as much exercise as possible in the outdoor air, neutral bath at night, moist abdominal girdle at night, cold friction bath on rising in the morning. Carefully avoid chilling.

Epilepsy.—Mrs. J. A. K., Wisconsin, has a little girl six years old, who is troubled with epileptic fits; has had the fits for two years. Can she be cured, and what treatment should be followed?

Ans.— Impossible to tell whether the epileptic fits can be entirely cured; but probably the progress of the disease can be arrested by proper means. The patient should entirely discard flesh and greasy foods of all sorts. Also, should never be allowed to take tea and coffee; neither milk, unless in the form of buttermilk or cottage cheese. A diet of dextrinized cereals, granose, toasted wheat flakes, zwieback, together with malted nuts, malt honey, and an abundance of fruit, would be the best suited to her condition; also peas, beans, lentils, eggs occasionally. The child should be kept out of school, and spend the greater part of the time out of doors. Should have an abundance of sleep at night. Before retiring, give a neutral immersion bath at 92° to 95° for 20 or 30 minutes, moist abdominal girdle to be worn during the night, and a cold friction bath on rising in the morning.

Asthma.— C. D. M. W., Arizona: "Patient living 5,700 feet above sea level, in dry climate, yet is a constant sufferer from asthma, which she is supposed to have inherited from her father. Would a lower altitude or a moist climate be better for her, or should she go higher up among the pine timber? Outline treatment."

Ans.— Probably an altitude of half the height mentioned would be better for the patient, although persons in the region of Denver, Colo., which is over 5,000 feet, usually experience very little difficulty from asthma. Fomentations to the chest for fifteen minutes twice daily, with a carefully adjusted chest compress, as outlined in a previous number of GOOD HEALTH, and daily cold friction on rising in the morning, avoiding sudden applications to the chest, would be helpful.

Acute Sciatica.— Mrs. A. E. S., California, desires outline of treatment for acute sciatica; also give diet.

Ans.— A hot half bath, using water as hot as the patient can tolerate for eight to ten minutes, followed by a heating compress to the leg, would be the best treatment. The compress should consist of a cheese cloth wrung rather dry from very cold water, wrapped around the limb, and covered with several thicknesses of flannel.

Snoring—Wet Cupping.—Mrs. J. A. F., Ontario: "1. Do you think snoring hereditable? Kindly give cure. 2. How is wet cupping done? Is it more effective than dry cupping?"

Ans.— 1. No. The remedy is to keep the mouth shut during sleep. It is sometimes necessary to remove obstructions from the nose or throat.

2. By puncturing the skin and applying suction, so as to draw off a small quantity of blood. It generally affords temporary relief from pain, and is more effective for this purpose than dry cupping; but it is rarely or never necessary to resort to this measure, when hydriatic measures can be skillfully employed.

Colorless Urine—Whole-Wheat Flour—Gum Chewing—Protose—Vaporizer—Dried Figs.—W. S. L., Michigan: "1. When urine is colorless and clear soon after drinking, does it indicate that the stomach is clean? 2. Is whole-wheat flour more healthful than such brands as 'Pilsbury's Best' for instance? 3. How long may gum be chewed with beneficial effect after eating? 4. What is the composition of protose? Does it combine well with cream? Is bread and protose a balanced fare? Is protose as easily digested as meat? 5. Is not any vaporizer constructed on wrong principles which requires the patient to blow his breath into the nasal cavities? 6. Are dried figs (not sugared) easily digested? Should the skins be eaten?"

Ans.— 1. No. It indicates simply that the water has been rapidly absorbed.

2. Whole wheat has the advantage that it contains a certain amount of the indigestible portion of the grain which is beneficial, aiding activity of the bowels.

3. Gum chewing after meals is not necessary. It is far better to put the energy into chewing the food.

4. Protose is composed of wheat and nuts. It combines well with all foods. Protose and bread constitute a well-balanced bill of fare. Experiments carried out by Dr. W. H. Riley, Superintendent of the Colorado Sanitarium at Boulder, Colo., show that protose is digested in one half the time required for meat.

5. No. The breath naturally goes through the nose anyway. When employed as directed, the expired air simply passes into one nostril and out of the other.

6. Figs are not the most easily digested of fruits. They must be thoroughly masticated, and are more easily digested after steaming.

Biliousness — Dandruff Cure. — L. W., Alabama: "1. What is an efficient home treatment for biliousness? 2. Do you commend the dandruff cure advertised in Good Health?"

Ans.— 1. An aseptic dietary excluding meats, cheese, milk, butter, greasy foods, mushes, soups, pickles, condiments, tea, and coffee. The diet should consist of well-dextrinized cereals, fruits, and easily digestible nut preparations, such as malted nuts. Apply a fomentation over the stomach at night, followed by heating compress to be worn during the night. A cold bath should be taken every morning, and a sweating bath at night two or three times a week.

2. It is doubtless beneficial in cases in which the dandruff is due to infection of the scalp.

Shingles.— Mrs. H. E. H., of Vermont, asks if shingles is caused by impure blood, or from nervousness, and desires a remedy.

Ans.— Shingles is an inflammation of the nerve, due to lowered vital resistance. Very hot fomentations applied over the affected part. If for example, the shingles affects the side, the most common seat, the fomentations should go two thirds the way around the body, and should reach from the armpit to the hip. The affected part itself should be covered first with a little dry cotton or cheese cloth, and then by mackintosh or a piece of newspaper folded to three or four thicknesses. After the fomentations, rub the sound skin over the whole surface that has been reddened with the hand or a soft napkin dipped in very cold water. Continue the rubbing about half a minute, frequently dipping the hand in the cold water. Then dry the parts, and dust the inflamed surface with starch and cover with soft cotton or with a mass of soft cheese cloth. Apply a bandage around the body just tight enough to hold the cotton in place. This may be repeated three or four times a day, and will afford very great relief; but the disease

has a definite course the same as measles, whooping-cough, and many other diseases. After a few days the eruption will disappear.

The parts which have been inflamed are frequently the seat of disagreeable neuralgic pains for some weeks or even months after an attack. For this apply very hot fomentations three or four times a day and the heating compress during the interval and at night. The heating compress consists of a napkin or small towel wrung dry out of very cold water, and applied over the part, covered first with mackintosh, and then with flannels so as to keep it very warm.

Corns — Redness of Nose.— A subscriber is anxious to know (1) what will remove corns; (2) what will cure redness of the nose.

Ans.— 1. Consult a competent chiropodist.

2. The cause is probably indigestion, which must be cured by attention to diet, proper treatment, etc.

Nut Butter from Pecans.— E. W., Texas, asks if nut butter can be made from pecans, and how.

Ans.— Yes; by crushing or grinding to the consistency of a paste.

Lead Poisoning from Tinware.— J. W. F., Nebraska: "1. Will hot water dissolve a lead oxide? 2. Is there danger of lead poisoning from using cheap tinware for boiling drinking water."

Ans.—1. Yes.

2. Yes, if the tin coating is adulterated with lead.

Chronic Constipation. — M. R., Michigan, has a little boy, four years old, who has always been troubled with constipation. For the first eighteen months of his life he was fed on poorly cooked oatmeal. Weaned at eleven months. Drinks very little except at meals. General health good. Urination requires great effort, and constipation has become chronic, sometimes from three to five days intervening without any movement. Wet girdle has been tried every night for a week without success; a daily enema was necessary. Please prescribe necessary treatment. What can be done to prevent same trouble in a nine-months'-old child threatened with same trouble?

Ans.— Continue the treatment. Give the child malted nuts, malt honey, or Sanitas Infant Food. Two or three times daily bathe the body of the child with the hand dipped in cold water. Apply the moist abdominal girdle all the time, changing every four hours. Use a small amount of cold water for the daily enema, instead of warm water. The water should be at about 70° or 80° F. Introduce a couple of ounces of olive or linseed oil into the rectum, to be retained there overnight. The child may eat granose biscuit or granose flakes with the malted nuts or malt honey. Employ the same measures for the younger child.

NOTES

from the

Literary Editor's Desk

Books Received.

"Coals from the Altar," by Rev. H. T. Davis, author of "Solitary Places Made Glad," "The Shining Way," "Modern Miracles," and other books of a religious character, is one of the works sent out by "God's Revivalists," Mount of Blessings, Cincinnati, Ohio. "Life of Charles G. Finney," by A. M. Hills, is another book recently put out by the same organization.

Both are bound in paper. Price 20c per volume.

Among the books that have come to us during the month is a volume of travels by Mrs. Mattie Hamilton-Welch, entitled "Travels on Four Continents, or around the World for Jesus."

The volume records the varied experiences of Mrs. Welch, her husband, and two daughters during a protracted evangelistic tour. The pages are rich in religious sentiment, and the book is handsomely bound in three styles.

Address inquiries to Mrs. Mattie Hamilton-

Welch, care of the Review and Herald Pub. Co., Battle Creek, Mich.

"A System of Physiologic Therapeutics," edited by Solomon Solis Cohen, A. M., M. D. This is a series of volumes which will cover the whole subject of physiological therapeutics as distinguished from drug medication, and will comprise treatises on electrotherapeutics, climatology, nursing, diet-therapy, mechanotherapy, rest, hydrotherapy, pneumotherapy, serumtherapy, etc. The first two volumes, devoted to electrotherapy, are prepared by Prof. George W. Jacobey. The long list of able authors mentioned in connection with this series of volumes is itself a guarantee that the subjects considered will be treated in both a scientific and a practical manner.

These books would make a valuable addition to the library of any one wishing to keep thoroughly informed in relation to modern scientific progress, especially in reference to therapeutics.

"A Brief of Necroscopy and Its Medico-Legal Relations," by Gustav Schmitt, M. D. 3¾ x 6¼ in., leather, 186 pp. $1, net. Funk & Wagnalls Company, New York and London.

This pocket manual has been prepared to meet the special needs of physicians, lawyers, and expert witnesses. It supplies in brief form, and yet with every essential detail, all practical facts connected with the study, diagnosis, technique, and the medico-legal aspect of a post-mortem examination. To the physician, the advantage of the book is apparent. The suddenness of a call to make a post-mortem examination leaves little time for him to post himself on the subject.

On the other hand, it assists the attorney in cross-examination, especially upon the points as to whether the post-mortem was conducted according to law, and whether the diagnosis was correct.

To the expert witness it is a post-mortem in a nutshell.

By reason of its size, Dr. Schmitt's little manual can always be slipped into the pocket to serve as a complete guide for whatever emergency may arise.

Good Housekeeping for August makes the following wise remarks concerning the bath: —

"The best effects of a bath can be obtained only when it is accompanied by a fatiguing, but not exhausting, amount of muscular exertion."

After enumerating several different forms of exercise that may be taken with advantage, including housework, the writer continues: "The essential point, as far as health is concerned, is that perspiration shall be induced every day in the year by interested muscular exertion, not by languid submission to outward stimulus."

Success for August contains a very interesting and valuable article by David Fairley St. Clair, on "Raising Values in Fruits and Flowers." In it he tells how scientific cultivation has raised many of our most valuable fruits, flowers, and vegetables from their wild state to their present perfection.

"We owe," he says, "to Vilmorin the present carrot, a vegetable which was nothing more than a thin, dry, hard, woody root, unfit for the stomach of a sheep or a cow. Year after year, he sowed in a bed and carefully examined every root. By selecting seed from only the best plants for the new sowing, he produced a carrot with more flesh and less wood."

The Household for August has an excellent article on "The Culture of the Voice," in which the writer gives many valuable hints to those who would develop the voice or overcome peculiarities or localisms in their speech.

The August **Atlantic** is largely and seasonably a fiction number. Besides containing a continuation of the Baroness von Hutten's delightful story, "Our Lady of the Beeches," it opens with a powerful "fisher" story by Norman Duncan, "In the Fear of the Lord," and includes attractive and entertaining complete stories and sketches by Arthur Colton, Jack London, Alice Brown, and Annie H. Donnell.

PUBLISHERS' DEPARTMENT.

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J. H. KELLOGG, M. D., Editor

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NEW ENGLAND SANITARIUM.

THE readers of GOOD HEALTH in the East will no doubt be interested in the change of location of the New England Sanitarium, which has been located at South Lancaster, Mass. The new location is within a few miles of Boston, in the midst of Middlesex Falls and near the tract of 3,500 acres which has been reserved by the State on account of its great natural beauty.

The property which has been secured for the Sanitarium is the one known formerly as the Longwood Hotel. The grounds, which contain forty-one acres, border on a beautiful lake, which gives opportunity for bathing and boating; it also has beautiful macadam-drives, tennis grounds, and golf links.

Address, New England Sanitarium, Melrose, Mass.

THE OCTOBER LIFE BOAT.

THE October number of the **Life Boat** will be a "Home and Social Purity" number. Ideal homes are becoming more and more scarce. Sin, iniquity, and moral leprosy are insidiously undermining the character of the rising generation. This issue of the *Life Boat* will contain choice articles from the strongest workers in reformatory work.

The August *Life Boat* contained articles from the pens of John G. Woolley, A. T. Jones, Dr. Kellogg, Eva Marshall Shontz, Col. H. H. Hadley, Margaret Wintringer, and Lillian Wood. It had a circulation of nearly 50,000. You cannot afford to miss the October number. Subscription price is only 25 cents per year. Sample copies can be secured for a two-cent stamp. Address the Life Boat, 28 Thirty-third Place, Chicago.

THE managers of the Battle Creek Sanitarium have on hand a few photographs representing the laying of the corner stone of the new Sanitarium building, which took place May 11.

These photographs are of two sizes, mounted on cards 10½ x 13½ and 10½ x 22 inches. Any one desiring these pictures can get them by sending the price, 50 cents and $1, respectively, to the Battle Creek Sanitarium, Battle Creek, Mich.

THE NEW GOOD HEALTH BATH CABINET.

THE Good Health Bath Cabinet is one of the best articles of this kind on the market. It is beneficial for breaking up a cold, breaking chills, relieving soreness of the muscles, rheumatism, inactivity of skin, diabetes, and disorders of the liver, kidneys, and other chronic ailments.

Price, including attachments, is $5. Send us the names and addresses of your friends who might be interested.

Agents wanted, men and women, to occupy territory in every State. Write for terms to Good Health Pub. Co., 303 W. Main St., Battle Creek, Mich.

NOTICE

Our Bible Offer.

SINCE making our grand **Bible Combination** offer, we have been so overwhelmed with orders that we have decided to extend the time, and thus give all our subscribers a fair chance to avail themselves of this opportunity to obtain a splendid *self-pronouncing, large type, teachers' ready reference Bible* and a year's subscription to GOOD HEALTH, *all for $2.*

GOOD HEALTH, 1 year	$1.00
A Holman Bible	3.50
Value of both	$4.50.

You see we are making this to you at less than half price. We also pay the twenty-three cents postage on the Bible.

This remarkable offer is made to GOOD HEALTH readers to induce each subscriber to secure a new reader. We cannot accept your own subscription alone on this offer, as it is made solely *to increase our* GOOD HEALTH *list;* so if you will secure a new subscriber, you will obtain this beautiful Bible for yourself or your children, or you may send it to some one of your friends.

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THIS sounds like a big story, but nevertheless it is what every hard-working laboring man does daily. But this represents only about one fifth of the energy actually expended in the body, for four fifths of the bodily energy is consumed in keeping the body warm. Whence is the source of all this enormous amount of energy, equivalent to lifting nine million pounds?

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THE GOOD HEALTH ADJUSTABLE WAIST.

THE Good Health Adjustable Waist has a number of distinct advantages. It was cut by an entirely new method of measurements, and is made to fit the exact proportions of the natural form. In the construction of this waist the principle is recognized that the front of the body from the chest down over the abdomen demands room for expansion, as with every full inspiration the medium form expands about four inches.

An adjustable feature is the shoulder strap, which can be changed to make the bust fit more or less closely, and to lengthen or shorten the waist.

This waist may end at the waist line or cover the hips, according to the figure and the preference of the wearer.

ANN ARBOR, MICH., May 6, 1902.

GOOD HEALTH PUBLISHING CO.,
Battle Creek, Mich.

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I have received the waist you so kindly sent me and I am glad to be able to give it my cordial commendation. It is beautiful in material and workmanship, and practical in construction, and mus solve the corset problem for many an anxious woman

Cordially yours,
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For fuller information, write the Good Health Pub. Co., 303 West Main St., Battle Creek, Mich.

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BATTLE CREEK SANITARIUM, Battle Creek, Mich.
J. H. KELLOGG, M. D., SUPERINTENDENT.

COLORADO SANITARIUM, Boulder, Colo.
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NEBRASKA SANITARIUM, College View (Lincoln), Neb.

PORTLAND SANITARIUM, 1st and Montgomery Sts., Portland, Ore.
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NEW ENGLAND SANITARIUM, South Lancaster, Mass.
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CHICAGO BRANCH SANITARIUM, 28 33d Place, Chicago, Ill.
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INSTITUT SANITAIRE, Basle, Switzerland.
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NEW SOUTH WALES MEDICAL AND SURGICAL SANITARIUM, "Meaford," Gower St., Summer Hill, N. S. W., Australia.
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Chicago	AM11.05	PM 3.02	PM 8.15		AM 7.32	
Valparaiso	PM12.40	4.53	10.25		10.05	
South Bend	2.08	6.15	11.52		11 35	AM 7.10
Battle Creek	4.14	8.15	AM 2.00	AM 7.00	PMA2.00 L3.45	PM 5.00
Lansing	5.20	9.28	3.28	8.30	5.25	
Durand	6.00	10.15	4.25	9.30	6.30	
Saginaw	8.10			11.05	8.10	
Bay City	8.45			11.40	8.45	
Detroit	8.00		7.30	11.50	9.20	
Flint		10.40	4.54	10.21	7.28	
Port Huron	9.40	AM12.30	7.00	PM12.20	9.30	
London	AM12.32	3.27	10.10			
Hamilton	2.10	5.24	PM12.25			
Suspension Bridge	3.40	7.05	1.55	8.50	AM 3.40	
Buffalo		8.20	3.05	10.00	6.15	
Philadelphia	PM 3.47	PM 7.20	AM 6.55	AM 8.56	PM 3.47	
New York	4.33	8.23	8.23	9.33	4.33	
Toronto		AM 7.40	PM 1.30	PM 7.40		
Montreal		PM 7.00		AM 7.30		
Boston		AM 8.15		PM 7.05		
Portland		8.00		6.30		

WEST	3	5	7	9	11	75
Portland	AM 8.15	PM 6.00	AM10.30			
Boston	11.30	7.30				
Montreal	PM10.30	AM 9.00				
Toronto	AM 7.40	PM 1.00	PM 5.25		AM 8.30	
New York	PM 6.10	8.00	AM10.00			
Philadelphia	7.00	8.45				
Buffalo	AM 6.15	AM 8.00	PM 9.30			
Suspension Bridge	7.00	PM 2.00	11.15			
Hamilton	8.45					
London	11.05					
Port Huron	M 12.00	9.00	AM 3.20	AM 6.50	PM 3.50	
Flint	PM 1.35	11.07	4.54	8.45	5.54	
Bay City				7.25	4.00	
Saginaw				8.00	4.25	
Detroit	AM11.30	10.00		7.00	4.10	
Durand	PM 2.02	AM12.05	5.22	9.30	6.30	
Lansing	2.45	12.57	6.05	10.50	7.50	
Battle Creek	3.50	2.17	7.10	PM12.15	9.10	AM 7.30
South Bend	5.35	4.08	8.55	2.39		PM 5.20
Valparaiso	6.51	5.25	10.05	3.57		
Chicago	8.45	7.20	11.55	6.15		

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BATTLE CREEK SANITARIUM

EAST HALL.

WEST HALL.

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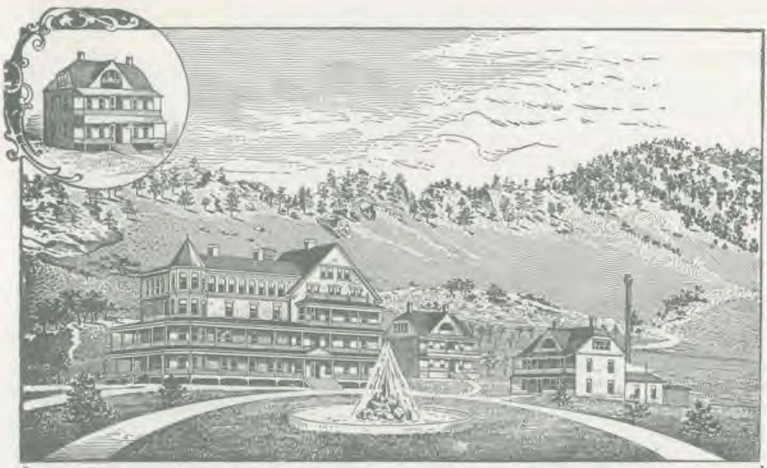
Battle Creek Sanitarium, Battle Creek, Michigan



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