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GENERAL ARTICLES.

SIMPLE DYSPEPSIA.

BY A. J. SANDERSON, M. D.

By simple dyspepsia we refer to that class of cases where only the quality of the work is at fault. The digestive agents are all present within their normal limits, but, from some disturbing cause, they have failed to do their simple work, and some abnormal processes arise, usually of a fermentive character. The condition does not often give rise to serious inconvenience, although it results, when long continued, in more severe troubles, either in digestion or general nutrition. Some cases, however, are accompanied by severe symptoms.

Simple dyspepsia usually exists as the result of oft-repeated attacks of the acute trouble, and their causes lie mostly in the same line. It is very frequently the result of some simple errors in the mode of living, either as regards diet, or irregularity in other habits. The predisposing causes mentioned in last month's article are even more applicable to these cases. The only alternative to the continued sedentary life is to combine with it an appropriate amount of exercise.

It is scarcely necessary to mention again the common errors in hygiene of the digestion, as hasty eating, excess of fluid with meals, eating when the system is exhausted, irregularity with meals, the use of indigestible food, etc.

Consistency in diet is a simple problem, but one that is often overlooked. We should have the

proper variety of food, and yet not an unwholesome combination at the meal. To make changes in diet with good judgment is very essential.

Every new food in its season should be in substitution of that which is just passed out of season, instead of making such articles a luxury in addition to the usual dietary regimen. We often notice that the season of abundance is more troublesome to the digestive organs than is the season of scarcity. The reverse, however, should be true.

Simple dyspepsia, being usually of septic origin, is aggravated by a diet in which fermentive foods are largely used. Excessively sweet foods and meals made up exclusively of starchy foods are often factors that have to do with the causes or the continuation of such troubles.

The question of water is also one that should be taken into consideration with every family. Water that is hard, or that contains a large amount of mineral matter, is usually irritating to the gastric mucous membrane. The continued use of alkali water should be discouraged under ordinary circumstances. Again, water that is impure should never be taken, as it contains germs that will find a fertile place for their growth in the alimentary canal. The stomach has certain antiseptic properties, but they are marked only during the height of the digestive processes, so that water containing germs taken at other periods is liable to do more harm than should the same germs be taken with the meal, when the stomach is better prepared to resist their action, by reason of the abundance of these antiseptic properties.

The question of water in many localities is even more serious than that of food. We do not mean, however, by this that all good, pure spring water or well water should be boiled or go through any of the germ-destroying processes.

It is hardly necessary to speak of the common habit of tobacco using as being very injurious to the digestive organs, acting as a cause of all the various forms of dyspepsia; also the use of beverages containing alcohol. The latter, when the alcohol is small in quantity, will be filled with germs which are injurious to the digestion. Those beverages which are stronger in alcohol are less injurious, because of their germ action, as the concentrated alcohol is a germicide in itself; but the stronger beverages have a decided injurious effect upon the chemical action of the digestive fluids.

The symptoms of simple dyspepsia are varied. It is often marked by a bad taste in the mouth, especially in the morning, coated tongue, frequent headaches, with dizziness, heaviness about the stomach, and sometimes there may be general malaise and drowsiness after meals, etc. It is quite often the case that there is reflex action upon the heart, giving rise to palpitation and suffocating feelings, the latter especially being felt in the night. These are quite troublesome, and often make one feel that he has some serious difficulty. Simple dyspepsia may, however, be accompanied by severe pains, either local or reflex, and the condition be very hard to distinguish from other more serious forms of stomach disorders. In these cases it is impossible to come to a definite conclusion as to the exact condition without analysis of the stomach fluids.

The treatment of simple dyspepsia is not difficult if it be promptly carried out. It consists mainly in removing the exciting causes, and in the careful regulation of dietary and habits of the individual. General rules can be given to aid in this recovery, but much of it must be accomplished by one's own judgment and sensible observation. Of course one should avoid watching his own digestion, as this alone will create dyspepsia, but, when symptoms arise, a thoughtful analysis of what might have been the cause will often point out the trouble and direct the way to recovery. Often a simple change in diet will give relief from the worst symptoms. Sometimes simply the leaving off of milk has relieved the trouble entirely, as some people can not take milk on account of

the peculiar fermentation which arises from it. The use of eggs has been noticed to have this effect also. Some digestive organs get into such a condition at times that fruit, especially fruit that is used with sugar, will have to be avoided entirely for the time being. As the morbid processes usually come from fermentation, the avoidance of sweets and an excessive starchy diet is necessary.

What we have pointed out as varied causes of the trouble should be considered, and if such exist in any individual case, they must be removed at once. Sometimes dieting for a few days on two or three simple articles of food will materially aid recovery. Water drinking from two or three hours before meals will be an advantage if taken in quantities which are absorbed readily, varying according to the individual's power of absorption. If the water remain heavy upon the stomach, and seems to be there when the meal is taken, the quantity used should be smaller. Hot water may be taken to advantage for a short period of time, though the continued use of hot water is not usually advisable.

Any forms of medication as aids to digestion are not generally necessary. If there is a great deal of fermentation which is unchecked, the use of some antiseptic powder will be beneficial. Finely powdered charcoal is one of the best of these. A teaspoonful taken after meals, mixed to a paste in some fruit juice, will prove very helpful. If the bowels are constipated, the charcoal will be more beneficial by having added to it an equal part by weight of precipitated sulphur, and taken in the same way. The quantity of sulphur will be comparatively small because of its being so much heavier than the charcoal.

TOO FAT.

BY IDA M. POCH.

AMERICANS may be divided into the two classes—the too fat and the too lean. The just right are the fortunate exceptions which prove the rule. Possibly the too lean are a little ahead; for even the pictures of Uncle Sam have a lean and hungry look. But the other class is coming up with rapid strides. Neither is a normal condition; consequently both classes must be the outgrowth of wrong habits of life, somehow. Let us consider the too fat, or obese class.

This company will include all those persons who

weigh from forty to fifty pounds, and upwards, more than they should. As we look over this company, we find it is made up of those whose daily occupation is not of an active character. There is only an occasional farmer or person of active habits among them—business men whose period of struggle is past, men of the learned professions who have sufficient reputation to carry them through, etc.—in fact, obesity is very often a consequence of sedentary habits.

Perhaps another great cause of obesity is overeating. Now don't think you need to eat your way through an eight or twelve course French dinner every day in order to overeat. Overeating is wholly a relative matter; in other words, more than enough to replace the waste of the body is too much. Another cause, not to be forgotten, is hereditary tendency. Other peculiarities of feature and form are handed down from generation to generation; why should not this be? The warped body of a blacksmith who has paid no attention to equal, all-over development, reappears in his children or grandchildren; so it is not at all strange that fat, unwieldy bodies should repeat themselves over and over.

Now let us look at the fat-making process. One of the most important tissues of the body is the constructive tissue. We find this peculiar structure wherever there is any supporting to be done. The nerve and gland cells, the muscle and nerve fibers, are bound together by this means. Just under the skin the body is covered with a loose network of fibers of connective tissue, by which the body is bound together into the complete whole. So we do not depend upon the skin proper for this important office. We have stated that the connective tissue forms a network with open spaces between. Now if we examine fatty tissue, we find these spaces filled with fat. We must remember that these spaces are found all over the body, and inseparably bound in with every organ. Where does this fat come from? How is it made? and from what? It is made from the food we eat. Certain of the food elements are heat and force producing. These same elements, sugar, starch, and fats, if taken in excess of the bodily need, are stored up as fat in the tissues. An illustration will show clearly the principle. An engine is loaded with coal. As the coal is burned, a portion produces heat, which is used to generate steam, or the power of the engine. Another portion goes up in smoke, and still another is the waste, or ashes.

In the human machine, food corresponds to the coal. Certain elements, as before mentioned, produce the heat and force of the body. The smoke corresponds to the exhaled breath; the draft to fan the flame of life is the inhaled breath. The waste, carried away by the excretory system, answers to the ashes of the engine.

Now let us load our engine, and start it off. It requires a certain amount of fuel to produce power sufficient to do its work. But suppose we take on more coal than is needed to begin with, and continue to take on more at each station. We would soon be overloaded. That is just what happens when we overload our bodies with food. It accumulates, and, after going through some changes, we find it in the form of fat. To be sure, reserve coal is not a bad thing, but we must not crowd the tender. So with the body; a certain amount of fat is needed as cushions for delicate organs, to act as non-conductor of heat from the body, to hold a reserve of heat and energy against a time of need. For instance, if at any time we are unable to take a fresh supply of food, the body will draw upon its reserve to tide over for the time being.

Now let us look again at our illustration. Suppose we take on an ordinary amount of coal, but instead of drawing a train of cars across the country, the engine is left at the station. We see at once in this case that it does not need the same supply of fuel. This fits the case of the man of sedentary habits. The small amount of bodily exertion uses but little of the heat and force-producing food supply, so that he is very apt to get an overload.

Now the question comes, Why not be fat? what is the harm? Let us see. We noticed before that there are spaces for globules of fat in all the bodily organs. Take the heart, for instance. Burden that organ with an inch or half an inch of fat, and the action must be somewhat labored. Again, we have, lining the chest cavity, the pleura. Cover this with a generous layer of fat. Now if we line a barrel with something an inch in thickness, the barrel will not hold as much as it would without the lining. Just so with the lungs. The layer of fat decreases the expanding room of the lungs by just so much. That is one reason why fleshy people get out of breath so easily.

Now think again. Suppose a man weighs 200 pounds when he should weigh but 150. He is carrying about with him just one-third of his weight extra. Now if the man had to carry a burden of

50 pounds outside of his body, if he had to walk with it, run with it, stop with it, and get up with it, he would complain. But take the man that weighs twice or more what he should. It would amount to carrying a man his own size on his back. And, remember, fat is not an active, living tissue; it is a dead weight. Thus burdened, this poor fat man puffs and pants his way through life, continually overworked. He is always bordering on that stage of consecutive fatigue we must guard against in taking bodily exercise. From the foregoing we see that our fleshy friends are not only in an unpleasant situation, but in a dangerous one as well.

We further learn that the only rational method to rid ourselves of this superabundance of fat is through exercise and diet. Any physical exertion sufficient to cause profuse perspiration, continued long enough, and pursued diligently enough, will use up this reserve material, and free the organs. Then there must be some care about continuing to overload.

A further thought about the matter of exercise: The exercise must be moderate, consequently longer time must be given to it. Avoid those exercises which cause shortness of breath, or the system will become poisoned from the broken-down tissue, and we have a condition resembling founder in a horse. One other point to keep in mind: It takes a certain amount of exercise to keep the body in a healthy state, to stimulate nutrition. Now if our fleshy friend means to reduce his flesh, he must exercise more than that; there must be enough to burn up the surplus tissue. All things considered, then, the fleshy person should reach the point of fatigue several times a day.

As to the use of medicine for this purpose, there is but one thing to be said, and that is this: Only such medicine as is ruinous to the digestion, or in some way breaks down the health, has any effect at all, and certainly it would not pay to use such. Thorough diet and work are the reasonable way to accomplish this.

FOR CONSTIPATION.—If the trouble is temporary, boil a few figs a few minutes and eat them warm—nearly hot. If the trouble is of long continuance, change your habits of life. Eat only graham bread, and be regular in all your habits. Take no "medicine." For constipation in small children, boil two tablespoonfuls of *bran* in a pint of water for two hours; strain and use as food. It must be made fresh once or twice a day.

IMPULSIVENESS.

IMPULSIVE action of the mind and body is the legitimate outcome of an environment which will always produce impulsive people. It is true that heredity may cause some individuals to receive impressions and transmit them more readily than others; nevertheless, most of the impulsiveness so common to every walk of life is the outgrowth of personal environment. The brain is the organ of mentality which receives all the impressions from without, and these impulses originate the sequent acts of the body. The brain, during the waking hours, is always in a condition to receive impressions, which may be transmitted according to the will of the individual, or they may be transmitted as purely reflexes.

Impressions, then, give rise to the thought, which results in action, and if the brain be not in a healthy or normal condition, the thought sequent to the impression can not be a normal thought. Consequently, if an individual has lost his nervous balance, as most of those have in whom the breaking-down process exceeds that of the building up, such an individual loses a part of his will or reasoning capacity, so far as he personally is concerned. He may, in all his business relations, be as strong-willed as ever, but in his relations with himself he is not. Reason is a product of the brain, but if, through disturbed vitality, the brain is not able to do its proper work, and furnish the vital steam for the running of the various organs of the body, none of the functions of the body will be up to par, none of the organs will do their full amount of work, and yet they of themselves, for the time being, may be healthy and capable of doing a reasonable amount of work; and if they only had the vitality to regulate and harmonize the functions, the body would not be subject to disease.

For a time, in most people who have had an experience in running down, the nervous system is not diseased, but has only lost its balance, which is shown in the abnormal action that will sooner or later, if continued, result, possibly, in organic troubles. And even while there is no real disease in the system, many people carry a condition of depraved vitality and its consequent unpleasant impressions. And the individual is all the more a sufferer because his nervous system is not balanced to rightly understand his relations. It is in this condition that symptoms mean more to the overwrought nervous system than they

should. Such a person has a pain in the back, and his abnormal reasoning elucidates this to mean that he has Bright's disease, when the pain is more than likely due to one of several other trivial causes. Pain in the stomach may often mean to him cancer, when to the man properly balanced it would mean little more than temporary digestional disturbance, or an effort of nature to stir up the torpid bowels.

The possessor of a perfectly healthy organism is absolutely unaware of his own existence. His only object is to live and enjoy all that his created existence has for him. His trials are but the foibles that burst before he has any body anguish over them, and for him all day long it is a pleasure to live, and as he eats to live, it is a pleasure to eat, because he eats to live. None of his functions are evident to him, but a sense of delight, contentment, satisfaction with himself and others, is always in evidence.

Sensations referable to any part of the body always mean disorders of some part—not necessarily disease, but some distraction of the function; therefore in the unbalanced individual who is always complaining, we have a disordered nervous system, a loss of balance. Following this we have disorders of the various organs, these organs complaining to the brain, and the brain not capable of logically estimating the significance of these complaints. Thus we have permanently a lowered vitality, which the individual often finds unequal to any sudden demand, and consequently death may follow some unusual strain. It is usually unnecessary for such individuals to plod along a certain portion of their lives, physically unequal to the duties that devolve upon them, meeting the work as an imposed task, laggard-like, and half living; yet they do this, fully determined to hold out to the end, confident that they are victims of some fatal disease, yet after all, daily, and after a fashion, doing their work without apparently losing in flesh and strength.

These cases are many; and sad they are when we realize how illy they understand and are understood, and how very amenable to cure they are, when they can be made to understand that it is all functional disturbance, and that right ways of thinking and living will enancipate them from the horrors of such living. It is of great importance in the management of these cases that the derailed reasoning powers of the patient should be turned into the proper track, and the personal influence

of friends who are able to inspire with new courage, and correct wrong habits of working and thinking, will be thoroughly appreciated by this class of individuals. To realize that they have no organic trouble, and become thoroughly enthused over some work that they enjoy, in which they have the good sense to work only as a means of culture, and recreate enough to break up the old morbid and routine habits, would enable the majority of these people soon to drift clear of the rocks, clouds, and shoals of an otherwise disagreeable life journey.

W. H. M.

CHURCH AIR.

MOST persons who attend church with some regularity, especially crowded ones, have often experienced a feeling of drowsiness during the service, which could not have been caused by the dulness of the sermon. Experience has shown that it is soon dissipated on going into the fresh air. The cause of this drowsiness has generally been attributed to a lack of oratory on the part of the minister, or to his dulness or prosy ways of thinking. A hygienist will, in most cases, trace its cause to the impurity of the air of the church. In too many cases those who build sacred edifices have no conception of the amount of fresh air required to keep the atmosphere of a room sweet and clean. It can, however, be easily calculated. There should be not less than 3,000 cubic feet of outside air provided hourly for each person while in the church. If much less is supplied, the carbonic acid and other toxic matters given off by respiration increase so fast that in a crowded room the air becomes too foul in a very few minutes for supporting life healthfully. We can not expect to keep the air in our rooms as pure as outdoor air, but there is a standard of purity which we should try to maintain. Outdoor air contains from 3 to 4 parts of carbonic acid in every 10,000 parts of air. This we may breathe with impunity. But indoor air contains more, and may contain much more, even 10 parts, and, in a crowded place, as in some schoolrooms, theaters, and churches, 15 or 20 parts. If, however, there are more than 6 parts in 10,000 of air, it has a depressing effect on the nervous system, and produces drowsiness.

Such an air, if heated, as in cold weather, affects also the preacher. Clergyman's sore throat and hoarseness are induced by the constant effort to

speak well in a heated and relaxing atmosphere. Church windows, except in the rural districts, are not made to open; and even if they were, unless the entering air is directed upwards to a considerable height, it falls upon the heads of the congregation, and complaints of draughts are made, which promptly secure their closing. Most churches are heated by hot-air furnaces, and this brings in much fresh air if properly arranged, but never enough. Exhaust ventilators in the roof are practically unknown in churches, consequently the foul and heated air never escapes, and after service, as the heated air cools, it descends, and a fresh congregation rebreathes the used air of its predecessors. Our churches are intended as places in which to keep alive the moral sentiments, and to increase our knowledge as to how our conduct should be regulated by principles of right and duty, and we are beginning to find out that morals may be related to our physical conduct, and that it is a sin against the laws of our being to live and breathe a polluted atmosphere even in a house of worship. The clergy, who are as deeply interested as any in this subject, may most properly act as leaders in reforming our church air to a standard which hygiene demands.—*Journal of Hygiene.*

BANDAGING.

BY E. G. WOOD.

THERE are few persons who will not at some time have an experience in case of accident or emergency in which a knowledge of the art of bandaging will be almost invaluable. It is our purpose in this article to give such instruction as will be of value to the general reader.

Bandages are employed to hold dressings in contact with the surface of the body, to make pressure, to hold splints in place in the treatment of dislocations and fractures, and to restore to their natural positions parts which may have become displaced.

Various materials may be used for bandages, as linen, cotton, muslin, crinoline, flannel, and rubber cloth. Bandages are designated as uniting, dividing, compressing, expelling, and retaining bandages, according to the purpose they serve by their application.

The ordinary bandage should consist of a strip of material free from seam and selvedge, prepared

from the materials above mentioned, of various lengths and widths, according to the portion of the body to which it is to be applied. This, for ease of application, is rolled into cylinder form. If made from a number of pieces sewed together, or if it contains creases or selvedge, it can not be so neatly applied, and is not so comfortable to the patient. In order to roll a bandage so that it may be well applied, it should be folded at one end until a small cylinder is formed. This is then grasped by its extremities, between the thumb and index finger of the left hand, and the free end is then grasped by the thumb and index finger of the right hand, and by alternating, pronating, and supinating of the right hand, the cylinder is revolved and the roll is formed.

Bandages are of various dimensions. For use on the fingers, hands, and toes, it is necessary to have a bandage about one inch wide and three yards long; for the head and extremities of children, two inches wide and six yards long; for the extremities of adults, two and a half inches wide and seven yards long; and for the trunk, four inches wide and ten yards long.

In the application of the roller bandage, the operator should begin at the extremity and bandage toward the trunk, placing the external surface of the initial end to the part, holding the end in place with the finger of the left hand until fixed by a few turns of the roll, holding the roll between the thumb and finger of the right hand. The bandage should be applied with uniform pressure, each turn giving a lap of one-third. As a rule, inexperienced manipulators are apt to apply the bandage too tightly. This may lead to serious results, especially so in the treatment of fractures and injuries, where there is apt to be swelling. It is much better to secure a dressing by a large number of turns than to depend upon a few turns too firmly applied, and is certainly more conducive to the comfort and welfare of the patient.

After the bandage has been applied, it should be securely fastened. To do this a pin is inserted transversely in the terminal end, covering the point well in the bandage, to avoid pricking the patient or manipulator. A safety-pin is better for the purpose. If the bandage is a narrow one, the end may be split, and the two tails resulting secured around the part by tying. One should also be systematic in the removing of the old bandage when it is necessary to change the dressing. The folds should be carefully gathered up and transferred

from one hand to the other as the bandage is unwound. This will avoid the danger of the injured part becoming entangled in the bandage. If it is necessary to cut the bandage in order to remove it, this should be done with thin, blunt-pointed scissors.

In the next we will give instructions for bandaging various common injuries.

THE BENEFITS OF EARLY RISING.

It was once laid down by a celebrated writer and historian that the difference between rising at five and seven in the morning for the space of forty years, supposing a man to go to bed at the same hour every night, is nearly equivalent to the addition of ten years to the life. This consideration should carry very great weight and be sufficient to induce those who have not hitherto practiced this habit to commence to do so, more especially the people who are always complaining that life is not long enough for them to transact all the work that they have to perform. There is much foundation for their complaint if they persist in wasting so many valuable hours of the day in bed.

The advantages and benefits of early rising can not be overestimated; in the early hours of the morning the brain is clearer and more ready for work, and after a night's sleep we should be ready to attack the work of the day. We are well aware of the objections that may be urged against this practice, but these objections may very easily be met. One says: "I should be delighted to get up earlier than I do in the morning, but my business does not necessitate my attendance until nine or ten o'clock, and what on earth am I to do with myself if I get up at six or seven o'clock in the morning? I should only wander aimlessly about the house." Another says that if he were to get up he would not find a room in the house ready for his reception. As regards the first, let him take a walk before breakfast when fine, and, when dull or rainy, surely there must be some occupation which it would not be entirely unprofitable for him to engage in.

Most persons have a hobby of some sort, and wretched is the man who has not. Well, let him devote himself to that, and he will not find his time wasted. He will benefit by his, to him, supreme effort of will in increased strength and an

enhanced enjoyment of life. Everything will seem brighter, happier, and more cheerful with him.

As regards the second complaint, that no room would be ready for his reception, well, if he is really inclined to exert himself and try the plan of early rising and secure a few hours of work or study before breakfast, the fact of his having, if necessary, to light his own fire and tidy up his own room should not stand in his way. The little exertion entailed in so doing will be amply compensated by the benefits he will derive from early rising.—*Selected.*

SYMPATHY.

It is doubtless a fact that doctors and nurses have more genuine sympathy than any other class of persons. Occasionally, however, we meet with some exceptions. Some physicians are too dignified, or cold, or reserved, either to feel or express sympathy to suffering humanity. Some have a mistaken notion that it detracts from their manliness and their professional worth to feel that tender sympathy that causes the eye to moisten and a choking sensation to arise in the throat.

There are nurses, too, who are so formal and precise and methodical that they approach the bed of the sufferer as one would approach any plain duty—ready to do whatever is needed—but whether they do not think, or whether the chord of sympathy has never been struck within them, they do not satisfy the soul of the sick one, longing for sympathy.

During the late war a little boy, Frank Bragg, was wounded and placed in one of the hospitals. He said it was hard to be there, away from all those who loved him. The nurse who was attending him bent down and kissed him and said she loved him. "Do you love me?" he said eagerly. "Kiss me again; that was like my sister's kiss." The nurse kissed him again, and he said with a smile, "It is not hard to die now when I know there is some one here who loves me." If there were more of this kind of sympathy in sick-rooms, it would be better for the world.—*The Nursing World.*

THERE is not a trouble so deep and swift-running that we may not cross safely over, if we have courage to steer and strength to pull.

Mother's Helper

WITH HER BABY ON HER BREAST.

O BABY mine, you are so dear!
What matter if the summer flies?
I keep the brightest blossoms here:
My violets are my darling's eyes;
My roses blossom on her cheeks;
The summer sun is in her hair;
And when my baby coos and speaks,
What summer music stirs the air?

O baby, baby, ere you came
I felt the touch of little hands,
Woke in the night and called your name!
Ah, every mother understands!
My empty arms enfolded you;
I smiled into your radiant eyes;
A fairer child none ever knew
Than mine, this side of Paradise.

O baby, baby, mother prays,
And clasps you close and closer still,
All happy things for coming days,
And never any earthly ill;
But if the way grows dark and wild,
And sorely tempted thou must be,
Remember then, O little child,
That somewhere mother prays for thee!

O child, be true for mother's sake!
In looking down the coming years
The mother heart will often ache,
And loving eyes grow dim with tears.
They blend a prayer with every kiss
The while they think of what may be,
But always, child, remember this,
That mother loves and prays for thee.

O sleep, my little one, and rest,
Dream on of only happy things,
Safe cradled on my loving breast,
While lullaby thy mother sings!
O baby, baby on my heart,
Find out what mother gladness is,
And that but happy thought may start,
Dream only of thy mother's kiss!

—Eben Rexford.

LESSONS IN NATURE FOR LITTLE ONES.

WE have now learned about nearly all the different parts of the flower. There is only one set of organs about which we have not studied, and these are that other set of essential organs about which we promised to tell you this month. The name of these organs is the stamens. You will find these in the center of the flower, arranged usually in the form of a circle around the pistil, about which we studied last month. These consist of little delicate stems, bearing on their tops a little oblong body, usually of a yellow color, but sometimes brown or red. The long stem is called the filament, and the oblong body on top is called the anther. We will try to learn these names, because we shall want to remember them when we come to analyze flowers a little later, and find out their names, and it will be better to know these names in order that we may study each part better.

In number the stamens generally correspond to the number of petals, and usually are attached to very nearly the same place on the receptacle of the flower, but sometimes they grow right out of the petals themselves. Sometimes there are many more stamens than there are petals, but nearly always, however great the number, it is a certain number of times more than the number of petals. Sometimes we find the stamens all joined together by their filaments, making a circle around the pistil and ovary in the center. Sometimes the filaments are all separate, but they are united by their anthers. Sometimes a number of them are united and one stands all alone, or sometimes they are united by their filaments in two different groups. Here again we see God's design to make a great variety, that we should have something new to interest us all the time as we study the work of his hands.

The purpose of the filament is simply to hold

the anthers up high enough so that they can perform the work for which they are made, and of which we will learn later. The anther is the important part of the stamen. It contains the fine powder, called the pollen, about which I told you in the lesson last month—that it was received upon the head of the pistil and was taken down the tiny tube in its center, to unite with the seed below, and thus enable them to take on life and grow and produce other plants.

Let us study these anthers in the different plants for a little while. We shall see that in some plants they are divided, one-half being on one side of the filament, and the other on the other. In others we will see that they are very long, with a crease in the center, and seem to be placed on the side of the filament. Others are placed on the very top of the filament, and are, as it were, hung on a hinge, and move from one side to the other. Before the flower is thoroughly ripe, we can only see the bright color of the anthers, but they will not give up any of this precious pollen; but after the flowers are quite ready to perform their work of making seeds, which work is called fertilizing the seed, if we then place the flower to our mouth or nose, it will part with some of the pollen, leaving a yellow tint upon our faces. Who has not seen this? It is very interesting to note how the little anthers give up their pollen. Some of them are so arranged that a little trap door on the side of the anther is lifted, swinging from the lower portion upward, the hinge being attached to the upper part of the anther. When this swings out, the pollen, being ripe, is scattered out from its nest, and is received upon the head of the pistil.

Other stamens have a little tiny hole on their very top, out of which the pollen is scattered when it is ripe, while others have a little crack down the side, which lets the pollen out. I wonder if we can find all these varieties of anthers if we look carefully among the flowers that are remaining. *

If we should use our microscope to examine this pollen very carefully, we should be very much interested to see how beautiful it is. Each of these little fine granules presents a very delicate and beautiful appearance. They are all alike in the same plant, but present very different appearances in the different plants. In some they are covered all over with little prickles, in others, with spiral lines. In other plants they are not exactly round, but sometimes oval, and sometimes have little ball-like projections from their sides. We will have to

get a very strong microscope in order to magnify these little particles so that we can distinguish the difference in their appearance. Each little granule is said to be covered with a membrane, which, when the pollen is wet, bursts and lets out its contents. This is a thickish fluid, and contains an immense number of very minute grains, infinitely smaller than the grain of pollen. Don't you think they must be very small indeed? It is this contents of the pollen granule which passes down the little tube in the pistil, to fertilize the seeds below.

H. S. M.

THE DUTY OF PARENTS TO THE CHILD IN SCHOOL.

BY CARRIE L. ALLEN.

PERHAPS first to be considered is the age at which the child should be placed in school. There is a great diversity of opinion among both parents and teachers on the subject. We are conscious that we are with the minority. We believe that children are placed in school much too young, as a rule. In town, where there are primary teachers, where the children have little to do but kindergarten work, and can go directly home after their few school hours are over, it may be well enough, but in our country schools, where one teacher must do all the work, we think it very objectionable, for several reasons: First, because the teacher can not give to the little ones the attention they require, partly for lack of time, and partly for the reason that very few persons are adapted by temperament to teach both little children and older ones.

In the graded school the principal of the primary department is usually a person who prefers infant work, and who gives her time to fit herself for it. In the country she can not do this. Of course a country teacher is expected to know everything and do everything, but she doesn't.

Again, unless the child is very quick to attain knowledge, he learns so little, or so slowly, that by the time he is old enough to really study, he is tired of the monotony of school life. Our experience with children convinces us that the ordinary child will learn as much between the years of nine and fourteen as between the years of six and fourteen, and he has had three years more of home life, which should be better for him than any other.

You can not expect that any one else will work for your child's well being as you will, and it is universally conceded that the foundations of character are laid before the child is nine. If you send him to school while he is so young, he must be allowed to spend the greater part of his time on the playground, where the teacher can not have him under her immediate supervision, as she must give her attention to those remaining within. If he lives far from the schoolhouse, he must remain until the older children can be his company home.

Mothers, you do not know how many things besides marbles and ball your boys are learning during these idle hours. It is quite impossible for you to believe that your child knows so many things that he ought not; but rest assured, the first thing he learns is to keep you in ignorance of his knowledge. We have been in the schoolroom too many years to believe that the youngest child that the law allows there, is too young to have learned all the vileness of the mysteries of sex, although he probably knows nothing of the sacredness or the God-given nobility of it. No one would be likely to teach him that part but his mother, and she either thinks he is too young, or can not talk with her children upon such subjects. Blessed indeed beyond all school districts is that district where there is not at least one family whose children are contaminating; and yours, however pure they may be, will hear and see much that is inexpressibly vile; and no teacher, however vigilant can prevent it.

But I believe that by earnest training, the character may be so fixed by the time the child has reached the age of eight or nine, that he may come near these things, if he must, without absorbing into the purity of his own soul a poison which shall mar this life's happiness, to say nothing of the life to come. We well know that a habit is more easily formed than broken, and that the younger the person the more easily is a habit acquired; and we believe that by implanting in your child the strictest principles of obedience to your commands and belief in your statements, you have given him a strength to resist evil, if he meets it, even when quite young, though not sufficient to shield the babies that are now admitted to our public schools.

Again, there are so many little things that a child ought to learn, that he might better learn by spending a few minutes each day at his mother's knee, while he is out in the sunshine, with the birds and flowers, the rest of the day. No mother

should begrudge these few moments to her child, however busy she may be. Better bake fewer pies and put less work on Mary's dresses, or let something go unironed, if by so doing you can make a page of your child's soul history more fair for reading at the judgment day.

Another objection to placing children in country schools at such an early age, is the fact that schoolrooms often have more little ones than there are low seats to accommodate, and the child suffers from a crooked spine in consequence. Parents will sometimes send children to school with the request that Johnny be allowed to sit with his older sister Mary. If the teacher refuses to comply with the request, she is condemned by the irate mama; if she complies, one or the other of those children is using an improper, uncomfortable seat.

Another duty that we would impress upon mothers is to teach children to sit still in comfort before they enter the schoolroom. Every home should contain chairs suited in height to the different members of the family, and each day all children not in school should be expected to sit correctly and quietly in their chairs for a considerable length of time, while they listen to something interesting told them by their mother, or perform some task fitted to their years. Then when they enter school, they are ready to do good work.

Now we will suppose the question of age and previous training settled, and the child in school. Have the parents any duties to perform in order to render the teacher's work more effective during the few hours she has control of him? Our observation leads us to believe that the parent, as a rule, has quite as much to do with the child's progress in school as has the teacher. The school holds much the same relation to the child that the nation does to the man, and there is no better time to teach him loyalty and give him a law-abiding character. Let him understand that while he is a member of the school, it is better to obey the teacher, whether her commands be good or bad, than to disobey. Teach him that when a man is not satisfied with a law of the state, he does not break that law, but he tries to send lawmakers who will repeal the law, and if it is a law bad for the majority of the people, it will soon be repealed, but if it be good for the majority, and only troublesome for the minority, then the minority must submit. Just so with him. If he doubts the wisdom of the teacher's rules, let him report them

to you, knowing that if in your wise judgment they are really bad for a majority of the school, you will appeal to the trustees to have that teacher removed; or, failing in that, if the rules are objectionable to a majority of the district, the trustees will be removed at the next election. But until such decision is made, he must render implicit obedience to the teacher. Teach him that when he becomes one of a large community, as in school, he must give up some of the freedom of action that he has known in the smaller community of his home.

Again, we would remind mothers not to condemn if the teacher manages your Johnny a little differently from the way she does Mrs. A.'s Jimmy. Do you not have to manage your own children differently one from another?

Now that you have sent your child to school at a proper age, that you have previously and are now continually teaching him to be a moral, studious, and dutiful pupil, there remains one thing more for you to do, and that is to see that the teacher does her duty. The trouble here lies in determining what is the teacher's duty; for I assure you that teachers are what the public demand that they should be. When any new subject meets the approval of the public, and they demand that their children shall be instructed therein, you will soon find that branch entered upon the normal course, and lecturers will be provided at institutes to give instruction in this branch to teachers who have already left the training schools. Since this is the case, it become your parents to decide carefully what you want your children to learn, and then demand that they shall be so taught.

HINTS FOR THE SEASON.

OF all deaths occurring from digestive troubles in children, by far the largest per cent occur in the summer season, and in children under four years of age. The reason for this is found, not so much in the season of the year or the age of the child, as in a general misunderstanding of the hygiene of childhood. We will be pardoned if, for the sake of our new subscribers, we reiterate some of the statements that have already been made in the columns of the JOURNAL. In nearly all cases of digestive troubles in young children, the fault lies primarily in the diet. If it could be thoroughly understood by all mothers that good fresh milk carefully prepared and administered in clean bottles or drink-

ing cups, is, aside from the breast milk of the mother, the only natural diet for the child during the first year, and for the most part of the second year of its life, much sickness and sorrow would be averted. Fruit and vegetables should be entirely prohibited from the menu of the babe until the second summer is safely passed, and then the juice and soft pulp of fruits may be allowed, the effects being carefully noted. Milk, and well-cooked grains in the form of mushes, bread, crackers, granola, granose, and rolls, with an occasional soft-poached egg, should form the dietary of the child under two years of age.

Less food can be digested upon a hot day than upon a cool one. Less clothing is needed upon a hot day than in the morning and evening of the same day. Playing in the sun on a hot day is dangerous to the digestive apparatus of the child, as well as to the nervous system. A failure to attend carefully to the cleansing of vessels in which milk is kept that is given to the children, is the cause of a vast amount of trouble. It is not sufficient simply to wash these articles until they appear to be clean, but they should be thoroughly boiled at least once a day.

After the children have passed the second summer, we must still remember that their digestive organs are developing only, and are not full grown. They can receive fruit and vegetables only moderately, and only such varieties as are most easily digested. Care should be taken in the selection of fruit for the children, that it is free from disease, and that it is fully ripe but not over-ripe. A watchful oversight of the diet of the child can not with safety be neglected until the child has reached the age of at least eight years. Last and most important of all, we would emphasize the necessity of the promptest attention to the first sign of a departure from the normal condition of the stomach and bowels in children. All food except the simplest should then be withheld. The child should be kept quiet, and all irritating matter be removed from the bowels by means of the enema or a mild laxative, or both. H. S. M.

FOR CHILDHOOD'S SAKE.

THE kitchen door was standing ajar one evening just at dark, one of those bitterly cold winter evenings that can be found only in the eastern portion of our United States.

It must have been the savory odor of the evening meal that called the wayfarer in, or else the light and warmth, but he came in, a wretched, forsaken, intoxicated stranger, and dropped unannounced and unwelcomed into a chair. The first feeling given him was of apathy indeed, but it chanced to be one of those times in our experiences when the unseen gives us a clearer insight and a more tender charity than we ourselves possess.

Standing a moment in doubt what could be done, we chanced to see farther than the present view, which was uninviting and even repelling, and a picture at once so sweet and probable came.

Long years ago (yes, it must have been, for his brow was wrinkled, and his unkempt hair was streaked with gray), he was a darling, sweet babe, and the dear mother who watched him so tenderly, thought him the dearest lad of all her flock, perhaps, and surely there were none in all the neighborhood half so dear. Growing tired from play, she crooned over him the fond mother song, "Hush, my dear, lie still and slumber;" and the "holy angels," were they not there? As the little tired head nestled close and was soon snugly asleep, she laid her darling down, and with true mother pride went humming quietly to her work.

Who can not now follow the story? We all have seen it in all its varying conditions, and in all its shades of dark and light. This dear child was but one of many who, having drifted away from the mother heart, finds himself enveloped in the wiles of this many-sided world. Her ignorance, and her inability to keep pace with the young life—was this what made him an outcast, an alien, a *tramp*? There was no bright picture for his future, no loving wife to greet him as he came from work, no baby voice to call him papa.

What petition could he offer to us more touching than these memories of his baby days; though he might seem to be unworthy of them now, yet for the sake of his childhood, with its purity and promise, we could but grant the gifts he asked.

What a lesson! Though every trace of their sweet childhood be gone, how it changes the present, and how tearfully we gaze upon their unlucky past, as we bestow the kindness and love due all unfortunates "for their childhood's sake"!

N. L. S.

WHISKY is not a tonic. It is probably an alterative; for it alters dollars to cents, virtue to crime, and men to brutes.

THE SICK BABY.

GENERAL MANAGEMENT.

(Continued)

THE sick child's bed should receive the most careful attention. See that the mattress and sheets are sweet and clean, and that the bed is in every way comfortable. We all recognize that a comfortable, tidy bed is conducive to the returning health of the adult, and it is no less so in case of children. If there is a tendency to soil the bed, let a pad be used, which can be easily changed. When there has been an offensive stool, the room should be aired as quickly as possible. If it is inconsistent with the safety of the patient to throw open the windows at once, some coffee or pastiles should be burned to disguise the odor.

There are many ways in which external application can be made so as to have a remedial influence in disease. Of all these, the use of hot and cold water in the form of baths, general and partial, compresses and packs, is among the most efficient. The following remarks are suggestive as to the methods of administering treatment of this kind. Their application to disease will be considered later, in connection with the study of special ailments.

Baths are classified, according to their temperature, as follows:—

1. Cold bath, temperature of 40 deg. to 70 deg. Fahr.
2. Cool " " " 70 " " 80 " "
3. Tepid " " " 80 " " 90 " "
4. Warm " " " 90 " " 100 " "
5. Hot " " " 100 " " 110 " "

The full bath may be used for many purposes besides that of cleanliness. When used for this alone, it should be tepid, unless the child is very young, when at first it should be moderately warm, but reduced to tepid as soon as the child can bear it, which is generally at the age of two months. If the child is inclined to remain blue after the bath, it may be known that the bath has been too cool, and a higher temperature should be used. For this reason, also, the bath should not continue more than five or ten minutes. The babe should be rubbed over with some non-irritating soap, especial attention being given to those parts which are likely to become most soiled or influenced by perspiration, as the creases of the neck, under the arms, and behind the ears. These need special attention, particularly in the case of very young children.

When administered as a remedy for disease, the warm bath may be continued for a longer time, say for ten or fifteen minutes. The hot bath, applicable in cases where it is desired to induce perspiration, should be continued but a short time, from five to ten minutes only, when the child should be removed, and placed in dry, warm blankets without wiping, and warm bottles put about it. The head should be wet with cool water before being placed in the bath, and should be sponged continuously afterward. If given for the purpose of inducing sleep, it should not be continued for more than one minute, and the patient dried at once, and placed quietly in bed.

In the use of either the hot or cold bath, to avoid fright, the child should be wrapped in a blanket at first, and put into water of a more moderate temperature than is designed for the bath, and it can then be rendered either hotter or colder by the addition of hot or cold water. The very hot bath is a powerful stimulant, and is seldom used except under the direction of a physician. In cases of great depression, however, when the surface of the child is cold and the pulse rapid, and it seems that death is impending, a quick plunge into a bath of the temperature of 110 degrees has often been known to resuscitate the child, and bridge over a critical moment, and save its life. This is specially applicable in cases where the child is suffering from diseases of the lungs. We would remark, however, that the operation should be done without any sudden movements or change of position on the part of the child, as this is almost sure to be followed by evil results.

The cool or cold bath should never be used unless ordered by a physician. It is seldom applicable to very young children, unless the temperature is exceedingly high, and can not be controlled by other means. In later childhood, it is very efficient as a means of controlling fever, and it is probably the best treatment known for typhoid fever. It should, however, be used with care, and watched as to the effect upon the pulse and general condition of the little sufferer.

The sponge bath should be used for the purpose of cleanliness, if for no other purpose. In most cases of sickness it may be given once a day, and often twice a day. We would suggest that in its administration everything be at hand before the operation is commenced—the hot and cold water, the receptacle for soiled water, the soap, and plenty of towels. The wash cloth should not be too large,

and yet sufficiently large to cover the hand, and should not be too wet in administering the treatment. The little one should be placed between blankets and kept covered, except the part that is being bathed. Of course it is unnecessary to say that the child should be carefully protected from drafts, and it is better that the room be quite warm, the windows and doors closed during the process. Care should be taken not to leave the child for one moment exposed, especially when any portion of the body is wet. The bath should be begun with bathing of the face and head and neck, next the arms, then the chest in front and behind, the abdomen, and lower limbs. In this process, also, we would suggest again, because it is very often overlooked, that the creases of the body should be carefully washed, and very carefully dried. To this bath may be added a little alcohol in cases of depression, or in fevers to reduce temperature; or bay rum may be added for the same purpose. If the water is hard, soda or borax may be added, which will make it more soothing in its influence, and enhance the effect in reducing the temperature.

The bath administered for the purpose of cleanliness to a sick child, should be tepid. For one convalescing, or for a little child, the sponge bath should be given cool, or cold. When this is done, the addition of a little salt to the water is an advantage.

When it is desired to allay irritation, the starch bath or bran bath is particularly desirable. The starch bath is made by adding one-half cup of thoroughly boiled starch to four gallons of water. The bran bath is made by the addition of bran to the water, until it assumes a milky shade. If this bath is given in a tub with sewer connections, the bran is likely to stop up the trap in the pipe, and should not be used in this way; but a good substitution is made by boiling a pound of bran tied in a bag in some water, and adding this water to the bath until it assumes the appearance described.

The mustard bath has a very stimulating effect, and is made by the addition of two teaspoonfuls of mustard to a gallon of water. A foot-bath is often rendered more effectual by the addition of mustard in this manner. The salt bath is made by dissolving rock salt, ordinary salt, or prepared sea-salt, in the proportion of four heaping tablespoonfuls to a gallon of water.

The wet-sheet pack is a very effective remedy, and is administered according to the purpose de-

sired. The warm sheet pack is given when it is desired to induce perspiration, and should be wrung out of hot water, and the child put into it as soon as it can be done. If the operator is most expert, the sheet will be more or less cooled before it can be opened and the child wrapped in it. For this reason it should be folded so that it can be readily undone, and the child should be fully prepared to be placed in it as soon as it is opened. Then it should be quickly but loosely wrapped about the body, and a warm blanket placed outside of it, and bottles containing hot water, outside the blanket. In placing the warm bottles, care should be taken that the heat is not too great, and burning of the body result. When it is desired to reduce the temperature by this means, the sheet can be wrung out of tepid water, and more time taken in unfolding it and wrapping the child.

The half pack, given from under the arms to the feet, is very effective in reducing temperature in young children. It is difficult, as a rule, in a full pack, to keep the arms covered; but the pack applied underneath the arms to the feet is very grateful, and will generally be gladly received by the little sufferer. If the temperature is very high, the sheet should be frequently changed; the bed underneath can be protected by a well-arranged oilcloth, and cold water may be sprinkled or poured over the sheet, without its being removed. In using cold in the treatment of children, however, very careful attention should be given to its effect upon the circulation. If the child looks blue, it might go into a state of severe chill very quickly, and it is necessary to have things ready to avert such a calamity. In moderate fevers, the half sheet or towel should be wrung from tepid water, and covered with one or two thicknesses of flannel.

A vapor bath may be given by covering the child warmly in bed, and lifting the clothes slightly from the body by means of half hoops from a barrel, or a chair turned upside down over the child's body, and introducing steam under the bedclothes by means of a tube placed over the mouth of a teakettle. Care should be taken that the hot steam does not come against the body. A hot air bath can be given in the same way, the hot air being carried from an alcohol lamp.

Warm compresses should be applied in the following manner: A cloth of about four thicknesses should be wrung from tepid water, and applied to the part, and covered over with oiled muslin, and over this two or three thicknesses of flannel. If

the oiled muslin can not be obtained, it can be more thickly covered with the flannel, care being taken to protect the edges of the wet compress. The cold compress is usually applied for the purpose of reducing inflammation, and should not be covered. It should be made of thin cloth, folded once or twice, making two or four thicknesses. This should be left uncovered, and should be frequently changed, or cold water conducted upon it by some means. Hot compresses are among the most effective means we have of allaying pain and inflammation. They are administered by means of a flannel cloth wrung out of hot water. This can be done in one of two ways,—by immersing the flannel in hot water, and placing it in a towel, which should be wrung until the flannel is dry; or the flannel may be folded in a manner to keep the ends dry, while the center is dipped in the water, and the cloth can be wrung dry without touching the hands to the heated portion. A dry flannel should be placed over the part to which it is desired to apply the heat, and the hot flannel placed in it, and covered with another portion of the dry cloth. The fomentation may be heated by wringing in boiling water as suggested, or it may be placed in a steamer over a kettle of boiling water, or can be heated by moistening and placing in a hot oven. They can also be folded as desired for application, and placed over a wet paper on a moderately hot stove. If done in this way, constant attention should be given lest they become scorched; but with very little fire, fomentations can be heated in this way satisfactorily and with very little trouble. The nurse should test the hot cloth against her own face, to ward against burning the child. Much tact is sometimes required in making these applications.

Boiled water in the form of injections for bowel troubles is one of our most powerful remedies. If used promptly in the beginning of the disease, together with the proper dietetic measures, it will very often abort serious bowel trouble. If used warm, it is a sedative, and is valuable for removing irritating and offensive matter from the bowels. Used hot, it is effective in inflamed, irritated conditions of the bowels, or if used cold, for reducing fever. It should be administered, if the child is very young, upon its back, with knees flexed, or upon the left side. It is better that the young child be held upon the lap of the nurse while it is administered. For this purpose, a pint of water may be used with safety for children of ten or twelve months, if slowly injected. To prevent its rapid expulsion, a

twisted towel or a roller bandage can be placed about the nozzle of the syringe. The fountain syringe is to be preferred for this purpose.

HEREDITARY TENDENCIES, AND HOW TO OVERCOME THEM.

BY LOUISE C. PURINGTON, M. D.

Now and then some one says, "I do not believe in heredity, do you?" Of course I do. I believe in it because I see manifestations of it every day. I see it in my friends, mother and daughter, who have precisely the same characteristic motion with the foot. I see it in the family nose and eyes in another neighbor's family. I see it in the head of my best friend, whose hair at sixteen was deeply leavened with iron gray. And if I did not see it, I should know it from a thousand well-known instances. I have only to go down to the cape, to the little town of Chilmark, on the island of Martha's Vineyard, when I should find 36 of the 146 inhabitants congenitally deaf and dumb. The town records say that two of the original settlers, in the seventeenth century, were deaf and dumb. The infirmity has been transmitted, and now about one-quarter of the population is involved. There has been no uniformity in the transmission, but steady progression.

Heredity is the law, but there may be acquisitions, variations, exceptions; also the imitations are often capricious, but the law abides. It is a law of God, like others from Sinai, and goes sounding through the Bible, in the Old Testament and the New. Abel and Cain are the two most ancient types; they began those hereditary threads, good and bad, which ever since have run through human nature. Noah is an example of what acquisition and environment may do—he planted a vineyard. Jacob shows how a man who builds altars and talks with God may overcome a bad hereditary. From Saul to Paul meant a new life, a new name, and such acquisitions in God as change character and destiny.

Many scientists leave God out of the account. The sins and follies of our ancestors leave upon us hereditary marks, but there is a way of reprieve, at least of partial escape. It is possible so to live, observing the statutes and walking in the ways of God, that "it may go well with thee, and with thy children after thee forever." There is such a thing

as heredity from God. Lydia A. Coonley expressed it most significantly in the *Arena*.—

"Why bowest thou, O soul of mine,
Crushed by ancestral sin?
Thou hast a noble heritage
That bids the victory win.
The tainted past may bring forth flowers,
As blossomed Aaron's rod.
No legacy of sin annuls
Heredity from God."

This article is simply suggestive as to an unfortunate heredity. How may bad tendencies and habits be overcome?

Education and environment are principal agents in creating a new heredity. A change of residence, a change of work, a change in the manner of living, new sights, new sounds and companionships, may all have to do with overcoming evil tendencies. Take the heredity of disease, for example. If disease has been transmitted, a new physical life must be begun if there is any expectation of victory in overcoming it.

One day on the summit of Red Hill, Center Harbor, N. H., we met an individual who was evidently a tramp; not the genius of the road, for he is not usually to be found on mountain peaks. This one inherited consumption, but determined to live. His life was spent virtually out-of-doors. For twenty years he had been walking over the world, had climbed nearly every great summit, and maintained himself, happy, hearty, and alive. This was an extreme measure, but full of hints for any victim of disease. Birth and parentage are not matters of choice to the children of this world, but very many may determine their surroundings and conditions of daily living. One who has a great physical and moral purpose can make these surroundings and conditions subservient to new attainments.

Consider what goes on within the body itself, and what may be done in the matter of treatment. The body is a channel through which a swift, life-giving current of blood is constantly flowing, and its character and composition depend upon the kind of matter taken up at the different stations. Has the food been simple and nourishing, and adapted to the need? If abstinence from flesh foods may arrest and overcome alcoholic disease, why may not the right kind of nourishment counteract other diseased conditions? The character of the blood depends also upon air, exercise, and sunlight. It depends upon the emotions, that is, whether

they are so controlled and guarded as not to introduce unfortunate elements. Also upon the occupation. Exercise in the open air increases the healthy flow, and helps to throw off bad elements; idleness diminishes it, and the sluggishness and accumulation of impurities make the body more susceptible to disease. An aim in exercise (How many birds and flowers do you know? How many stars?) and change in walk or work are important factors. The element of usefulness has also a beneficial effect, especially in a tendency to nervous invalidism. The physician who puts his nervous patient on the shelf, and dooms to an idle, useless life, is likely to have this patient until the end comes, and the poor sufferer is transferred to a region of greater activity. The busy effort to get well is one of the blessed agents in a first-class sanitarium. An instance in point is related by Frances Power Cobbe.

"Once in traveling," she says, "I fell into conversation with a nice-looking, well-bred woman. She said, speaking of the salubrity of Brighton: 'I have reason enough to bless it. I was for fourteen years a miserable invalid on my sofa in London, my doctor telling me never to go out or move. At last I said, It is better to die than to go on thus; and, in defiance of our physician, my husband brought me away to Brighton, and then I grew strong and well and happy.'"

Add to such measures and surroundings as have been indicated, a steadfast hope, a faith that takes hold on God, and a sad hereditary legacy may be greatly modified.—*New Crusade*.

CHILDREN'S HOURS OF SLEEP.

ONE of the most fruitful sources of the illness of children is the habit which some parents have of allowing them to stay up unduly late at night. It is one of the greatest mistakes of those who have charge of them to let them have too little sleep. It is confessedly a difficult matter always to get little ones to bed at the time they ought to go; they of course plead for only a little longer to stay up; but if parents would only realize the extreme importance of plenty of rest, they would remain obdurate to all such entreaties.

It should not be forgotten that children are naturally wakeful in the morning, and, in consequence of having to be off to school betimes, are frequently called before they have finished their morning nap. Children, as a rule, ought to sleep ten or

eleven hours; and to do this they ought to be put to bed early enough at night so that they may have this amount of uninterrupted sleep. If children do not get the necessary amount of rest, it is no wonder that they become nervous, fretful, and difficult to manage. Their nerves, inherited in many cases from dyspeptic parents, are keenly alive to every sound.—*Cincinnati Lancet Clinic*.

NEGLECTED DUTY.

It isn't the thing you do, dear,
It's the thing you leave undone,
That gives you a bit of heartache
At the setting of the sun.
The tender word forgotten,
The letter you did not write,
The flower you did not send, dear,
Are your haunting ghosts at night.
The stone you might have lifted
Out of a brother's way;
The bit of heartsome counsel
You were hurried too much to say;
The loving touch of the hand, dear,
The gentle, winning tone,
Which you had no time nor thought for,
With troubles enough of your own.
For life is all too short, dear,
And sorrow is all too great,
To suffer our slow compassion,
That tarries until too late;
And it isn't the thing you do, dear,
It's the thing you leave undone
Which gives you a bit of heartache
At the setting of the sun.

—*Mrs. Sangster*.

MOTHER'S WORK.

BY MARY F. BUTTS.

If thy work be holding dimpled cheeks of babies to thy breast,
Fashioning small garments where the needle moves to inward tune,
Stitching dainty scallops for a little rounded wrist,
Or knitting a silk sheathing for feet as soft as rose leaves,
Count thyself a sister of the gentle Judean woman,
Mother of a Saviour. How knowest thou the outcome
Of this beauteous bud of home? With thee lies the unfolding.
Make thy garden fragrant with the tender self-denying;
With holy love purged pure by prayer woo the opening blossom.
Thine a holy business set thee by the Father,
All its pains rewarded by gifts of honeyed kisses,
And angel looks that babies bring from heaven,
Clasping of soft arms, and murmurings of lovers
Innocent as birds in the dewy boughs of May-time.

—*Outlook*.

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BALD HEADS.

THE *Times and Register* gives us the thought that there is some relation between baldness and dyspepsia, in which the idea is advanced that, with careful inspection, a hair from the head or face will give, in a measure, the history of the individual. If carefully noted, it is said that the hairs will be found smaller in places, which shows that the life of the individual at the time that those particular attenuated portions of hair were produced, was suffering from malnutrition. And this may possibly be true in a measure, from the fact that nature is careful to guard and protect the vital organs, supplying them with the best of the nutritive force of the body. And when there is not enough to supply every portion of the body, we may expect that certain less important portions, such as the hair, nails, and other minor parts, will be robbed of their vitality to some extent. Thus we find, when the system is depleted by fevers, if very severe, the hair falls out, due to lack of nutrition, and partially to the influence of overheat on the hair follicles. From the above we may also conclude that overwork, anxiety over the business cares of life, are among the predisposing causes of baldness, as they deplete the vital forces of the individual. But we must not overlook other prolific causes in the production of baldness.

As a rule men have more vital force than women, yet, to the contrary, women have more luxuriant hair, and the bald head among women

is a rarity indeed. The cause of this difference might be somewhat elucidated by calling attention to the fact of the very different way in which the hair is dressed. Most of the bald heads seen among men are those who have the habit of wearing extremely short hair, while women, as a rule, wear extremely long hair; and can it not reasonably be supposed that the wearing of long hair has something to do with the luxuriance of the hair? Why will not the simple principle apply to the growth of the hair as applies to vegetable productions? We know that in vegetable productions there is a balance between the roots and foliage, the part above the ground being an important factor in the nutrition of the tree, which is always the more luxuriant the better it is balanced. May we not then conclude that there is a balance between the outside and inside life of ciliary growth? If so, we could not expect a luxuriant crop of hair if it is kept cropped short, more than we could expect a healthy growth in the tree if we pruned it so that it was void of foliage most of the time.

There is enough to this question physiologically so that we can dare to brook the wrath of Dame Fashion and plead for a change in the custom of the wearing of short hair among men.

There are other elements which enter into the question of bald heads among men, one being that hats worn the larger share of the year are not well ventilated, which means that the hair indeed must breathe in order to have a healthy growth. Men have been in the habit of wearing their hats in the office and store, and where business calls them out frequently, it is more convenient to keep the hat on the head.

Another point, although of small importance, is the fact that most of the hats worn by gentlemen are rigid in the crown, and make more or less compression upon the head, thus interfering with the superficial circulation in the skin.

In summing up we would urge that especially those who are inclined to baldness should go bareheaded, particularly indoors, and out-of-doors more than they do. Second, when a hat is worn, have it light and elastic around the rim, and well ventilated. Third, wear the hair longer. Fourth,

keep it clean and stimulate the scalp by manipulation and brushing, which will materially improve the nutrition of the scalp. If the hair were properly cared for, bald heads in the next generation would be a relic of the past.

TYPHOID FEVER.

THE warm season of the year is the most prolific season for germ diseases, when heat and moisture combine to force vegetable and animal growth; consequently, a few words in reference to typhoid fever we think may be timely for our readers.

The typhoid germ is one that especially attacks the mucous membrane of the bowels, accompanied with more or less soreness, sometimes beginning with constipation, but more often with diarrhea and a general running down.

First of all, the germ action being in the intestines, food especially adapted and ready of absorption should be the consideration. Hard, dry foods as a rule are not suitable in cases of this kind. Where milk is borne, this is the food for typhoid fever cases. A glass every two hours will sustain the individual so that he not only keeps up a fair degree of strength and flesh, but it is a food that is digested in the upper part of the alimentary tract; hence it gives the lower part of that tract the rest that it needs. In the majority of our cases we give no other food than milk.

Beyond the question of food comes next the indication for treatment, and if there is no pain, keeping down the temperature is the main indication. This is much better done with water treatment than with antipyretics. Water treatment carefully adjusted is always gratefully borne, and will often relieve the head of the flighty symptoms that are so common in typhoid fever. If the temperature is very high, cold wet sheet packs should be given several times a day, if they are gratefully received. But usually the milder forms of sponge baths will reduce the temperature sufficiently to make a light run of typhoid fever out of what might otherwise have been a long and distressing sickness. A sponge bath every fifteen minutes or half an hour, if the patient is not too tired, will usually be all that is necessary to keep the temperature down, and if less heroic treatment is admissible, sponging of the arms and legs, which will not disturb the patient, the patient

often sleeping through the treatment, with a cold wet cloth over the abdomen. Most cases of typhoid fever will not need other treatment than the sponging for the keeping down of the temperature. If the bowels are at all constipated, an enema of tepid water should be used every day, and if there is considerable gas, with diarrhea, the first two weeks, an enema every day will usually relieve most of the bowel symptoms.

After the first two weeks, the enema should be given with a great deal of care, if given at all; for we have reached the stage when hemorrhage of the bowels is most likely to occur, and the bowels should be kept quiet. We often administer two grains of salol three times a day, for the purpose only of disinfecting the alimentary canal. In the ordinary cases of typhoid fever, the above regimen of treatment is all that will be necessary.

Among the precautions, foremost is the great necessity of care in disinfecting the excreta of the typhoid fever patient. The germ action being mainly in the bowels, the excreta contains the germs, which, if not rendered harmless, will always give a fresh supply of typhoid germs for months after; and this is a menace to those who live in that locality. The cheapest and best disinfectant for the excreta of the bowels is copperas, enough of which should be put into a bucket of water to keep the water thoroughly saturated. If it is found that the water takes it nearly all up, a few handfuls more should be put in, and kept standing in the water. Enough of this should be poured into the vessel containing the excreta to cover it completely, and it should then be allowed to stand twenty minutes, after which a hole some two feet deep should be dug in the ground, and the excreta thrown into it and buried.

The success in typhoid fever cases depends almost altogether upon good nursing.

THE WONDERS OF NATURE.

THE man who suggested that we go to the ant and consider her ways if we would learn wisdom, was either a great naturalist or spoke more wisely than he knew; for of all the insects with which we have any acquaintance, few display so great an intelligence, or have made it so hard to distinguish instinct from reason. They seem to have nearly all the human passions, and to be able to conceive and execute their plans logically and wisely. Whoever has witnessed a battle between two groups

of these tiny warriors, must have come away feeling that we ourselves are only insects of a larger sort, and with the conviction that there is more going on in the grass under our feet and in the trees over our heads than is "dreamt of in our philosophy."

When ants fight, it is war to the death. They have their fighting contingent and reserve forces; they take prisoners and carry them off; execute flank movements, and afford relief to each other in time of need. They generally fight two and two, and nothing can exceed the fury and desperate valor with which the individuals engage in mortal combat—a valor which, for aught we know, may entitle them to promotion or honorable mention. Even when dismembered or nearly dead, they refuse to give up their grasp on an adversary. If the battle is not decided in one day, they retire to their nests, and begin the struggle with renewed fury again on the following day.

But they are not merely warriors; for certain species of ants are also pirates and slave makers. They engage in raids upon other tribes of ants, and carry off their young by force, imposing on their captives household duties which they themselves are too busy or too luxuriant to perform. They kidnap only the young ants, which can be moulded to do their bidding; and, having established a habitation in which the work is done entirely by their slaves, they soon develop the human quality of laziness, and finally become incompetent to provide for themselves; so if deprived of their serfs they die of privation and inaction. Like the Indians, they are ardent fighters, but revolt against domestic work.

Perhaps the most striking and interesting feature of ant life, however, is their pastoral propensity. They have their milch cows as well as slaves. They follow about and seize the little aphides, seeking the sweet liquor which distils from two quill-like formations on their hips. Further than that, they carry off and imprison these little insects, nourishing them like stalled cattle, in order that they may have on hand continually a supply of the coveted food. Where in all the realm of the wonderful can anything more marvelous than this be found?

MICROPHOBIA.

WE reprint a few words from the Fort Wayne *Medical Journal*, and which were reprinted in the *Medical Brief*, both of which are meritorious med-

ical journals. Microphobia within the last few years has come to be a very prevalent disease, in fact, almost as common as dyspepsia. Both diseases, as a rule, thrive contemporaneously. In reprinting this article for the third time, we do not wish it to be understood that germicides and antiseptics have no uses whatever. They have their place, and should be understood; but for the laymen, in the everyday walks of life, eating and drinking and working, the following words are timely:—

"The sanguinary crusade against the poor little germ has gone too far. After all the mean things we have said about it, and the vituperations we have heaped upon it, this little interrogation point between two worlds—the vegetable and animal—has gone into an open court, and bids fair to get a verdict, not only of having a justifiable existence, but of being a public benefit. Think of the lonely vigils of Faustus without their Mephistopheles, but with their incubators, sterilizers, test tubes, and what not, wasting their cerebral dynamics on uncanny incantations and midnight schemes of conquest and annihilation. And all for what purpose? Why, forsooth, as it now appears, to destroy the ally and the friend of man. And the ingratitude of it, the base ingratitude of it! If man's inhumanity to man makes countless thousands mourn, how many duodecillions of these little benefactors of the human race have been caused to mourn over the inflictions of man's mistaken wrath!

"Animals fed upon sterilized foods, given sterilized fluids to drink and sterilized air to breathe, are now said to die with reasonable promptness. Babies fed upon Pasteurized milk get scurvy and become constipated. Give us more germs, by all means. Make the indiscriminate sale of germicides a misdemeanor punishable by imprisonment and deprivation of germs for thirty days, unless life is seriously imperiled by so long an abstinence. Let us eat, drink, and breathe germs galore. Then will the white-winged dove of peace hover over hearth and home, and bucolic health shall gladden the hearts of the sons and daughters of men."

SECURE GOOD VENTILATION.—It has been shown by actual experiment that the water which streams down the inside of the window of a closed sleeping-room is so impregnated with the noxious exhalations of the sleepers that one drop is sufficient to poison a rabbit.

QUERIES.

26. DEAR EDITOR: What can be done for a floating kidney?

Many people carry floating kidneys all their lives without becoming aware of the fact, and it is only those where the pedicle of the kidney is so attenuated as to allow the kidney more floating room, on account of which it gets twisted, or interferes with the functions of other organs, that need any interference whatever. If the individual is otherwise strong, an operation for floating kidney is indicated. This is accomplished by making a small incision over the region of the kidney, and when reached, denuding a small surface where it comes in contact with the abdominal wall, and stitching it to the wound. This operation, although simple, will usually give permanent results. In the case of a floating kidney, when the individual is disturbed to that extent that he wishes to undergo the trials of an operation of this kind, we should heartily recommend it.

27. WILL you please tell us in your JOURNAL what we can do for a child who fell and fractured the skull five years ago, and has since had some headaches, and a sore spot on the head near the fracture?

F. G. W.

Injuries on the head are common, and when an accident of the kind is severe enough to fracture the skull, there is considerable danger of portions of the bone protruding into the membrane of the brain, or into the brain itself, causing a constant irritation, and sometimes even subjecting the brain to very serious inflammation. This is likely to produce more or less fluid within the membrane, which will cause pressure, and as the pressure increases, various functions of the body will be interfered with, and sometimes altogether abolished.

It is also notably strange that severe injuries to the brain sometimes produce very few and light symptoms. Projectiles have been thrown completely through the brain, and the individual has recovered, to live a useful life. An autopsy not long since revealed a tenpenny nail imbedded deeply in the brain tissue of an adult who had been healthy as far as friends could perceive, since the accident, ten years previous. Nevertheless, cases of injury to the brain, as in the above query, should receive attention from a surgeon as early as possible. Until some twelve years ago the skull was considered so dangerous a region that few surgeons cared to operate upon it to any extent, but to-day most surgeons would undertake an opera-

tion of the kind; and experience has proven that brain troubles and irritation are very easily removed by removing a portion of the skull bone. It may not be larger, necessarily, than an old-fashioned copper, but if a portion of the skull is removed, it will allow the escape of any fluid that may be compressed there, and at the same time it gives an opportunity for removing the portions of the bone which were causing the irritation. We can but heartily recommend that, in the case of a child suffering in this way, it should be placed in the hands of a good surgeon, with an operation in view. If carefully done, there is very little more danger in an operation on the skull than on any other portion of the body.

28. I WRITE to ask what are some of the first signs of consumption of the lungs.

A. E. S.

It is customary to look for consumption especially in people who are poorly nourished. Lank, narrow-chested individuals, with flabby muscles, furnish the largest list of consumptives. But there are very many individuals who have enough iron in the constitution, when properly developed, so that they will be immune from this disease; but it takes development, and every young person starting out in life with hereditary tendencies toward consumption, owing to such a make-up, would do well to develop the heart, lungs, and muscles, as the only safeguard against this disease.

One or several attacks of pneumonia form a strong predisposing cause, as well as an attack of *la grippe*. The first signs of consumption are a weakened condition of the system, which can not be accounted for in some other way, with shortness of breath. There may or may not be a cough. The above symptoms may be carried for a long time before any disintegration of the lungs takes place, but the shortness of breath shows that there is not perfect aeration; and imperfect aeration, with dyspepsia, is a somewhat discouraging outlook for a young person. When one has the first symptoms of such a trouble, we would recommend mountain living as the safest precaution.

AN Englishman was in China, and ignorant of the language. Anxious to know the composition of a delicious dish he was eating, thinking he recognized the flavor, he queried, in the universal tongue, "Quack, quack?" Fancy his dismay on being promptly answered, "Bow-wow!"—*Max Müller*.



The Household

GRANDMOTHER'S DREAM.

BY FLORENCE M. ALT.

THE noonday is past, my spinning is done;
 And now in my corner I sit in the sun,
 And watch the white road that goes winding away
 Across the blue hills to the gates of the day,
 Where the pink baby clouds lie dimpled and curled,
 And the golden-rod blooms on the edge of the world;
 I measure the shadows in heaven's blue dome,
 And wait for the night when the children come home.

There is some one who places a stool for my feet,
 And straightens my cap, with a word soft and sweet;
 But I fret at her touch; for the day is so long
 Till the children come in with their laughter and song.
 She says she is Marjory; but she is old
 And gray—and Marjory's hair is like gold
 In the sun, and her heart is as light as the foam—
 You shall see her to-night when the children come home.

Then wee baby Elsie will wake from her nap,
 And come, half awake, to climb up in my lap.
 The quaint, broken speech of her dear twisted tongue
 Is sweeter to me than all songs that were sung.
 No wonder she prattles of pixy or elf—
 Her people they are; she's a fairy herself.
 I must weave me a story of brownie or gnome,
 To wile the long hour till the children come home.

And Hugh, with his wild, boyish talk of the sea,
 Will come whistling over the meadows to me,
 From the fern-margined brook that runs down at the farm,
 With his little toy ship tucked under his arm.
 Sometimes they tell me, with quivering lip,
 Of a captain named Hugh, who went down with his ship;
 Of a sailor whose one truant thought was to roam—
 But my boy will be here when the children come home.

I listen no more to the stories they tell.
 I scarcely feel sorry—I know them so well.
 Behind me the sunset is ashen and rose;
 But my faith is the hills where the golden-rod grows
 Straight into the sunshine; so clear are my eyes,
 I can see the bright jewels that wall Paradise.
 I shall see, when the shadows stain heaven's clear dome,
 Across the blue pavement the children come home.

IDA'S WARNING.

"IDA must have a tonic, not medicine, but something to build her up and give her strength."

As Dr. Morton spoke, the troubled expression on Mrs. Snow's face gave place to one of hope.

"I am thankful to hear you say that. I have been so anxious all these weeks; it seems almost too good to be true that the disease is really conquered at last. What tonic do you recommend?"

"I have a preparation of my own. It is composed of the very best extract of beef, with a little good wine added. I am a strict temperance man," he continued in an apologetic tone, "and in doubtful cases, where there might be danger of an acquired or inherited appetite, I should never recommend this. I am always very particular about the matter. In this case, however, there is not the slightest danger, and I know of nothing that would do her as much good."

This apology from the doctor may have been due to the fact that, being a "strict temperance man," his conscience was somewhat troubled. Or he may have detected on Mrs. Snow's face a shadow

of the resistance she felt at the thought of surrendering in the least to that against which she had so long fought as a W. C. T. U. worker. Whatever her doubts may have been, they were quickly silenced by the thought that her old and trusted physician knew better than she.

But, although she uttered no word, grave questions arose in the mother's heart as day after day went by and she noted the effect of the tonic. Ida evidently liked the mixture, and gradually increased the amount, always draining the last drop from the cup. Had not Dr. Morton said there was not the slightest danger, and that it was the best thing she could use? Surely he had been right, for she was gaining strength rapidly, and would "soon be herself again;" then there would be no need of the tonic.

Ida, however, a gay, light-hearted girl of twenty, was haunted by no such scruples. If she gave the matter a moment's thought, it was because the tonic was pleasanter to take than her medicine had been. She never stopped to consider why she liked it so well. As she grew stronger, by the advice of her mother the amount was gradually diminished until it was a mere taste; but to this she fondly clung, because she "liked it so well." Not once did she suspect the thrill of apprehension her careless words sent through her mother's heart, who now longed for the summer days, when she might leave the city.

They chose a quiet resort among the mountains, and the pure and bright sunshine proved to be all the tonic the girl needed.

As the summer days slipped by, the memory of old anxieties grew dim, and Mrs. Snow laughed at her foolish fears. They returned to their home with happy plans for the future.

After they returned to the city and had settled into the old ways of living, Ida found herself turning to the accustomed place for a bottle which was not there, and was conscious of disappointment.

One autumn day, soon after their return, Ida and her mother went out to do some shopping. Thoroughly alive to the influences of the beautiful season, the girl chatted with her mother of the many changes they saw, never dreaming that amid so much beauty could be lurking an evil ready to strike at her very heart. As they reached the crowded part of the city, Ida was pushed by the throng quite away from her mother, and close to the wall of a large building. She hurried forward, and a door swung open near by. What was it that

seemed to strike her in the face so that she reeled? Looking up she recognized the screened windows of a saloon, and the odor of liquor so overcame her that it seemed as if she must push forward to that open door. But the hurrying crowd carried her forward until she found herself again at her mother's side. She felt thankful for the crowded street, which prevented her worried and distracted appearance from being noticed by her mother.

They visited one counter after another, examining goods and discussing prices and quality. Her mother at length noticed that Ida did not act naturally.

"The crowd has completely tired you out, Ida; you are actually pale. You certainly are not able to do more shopping, and I think we had better take a car home."

Ida feebly objected, but felt greatly relieved that her mother insisted. In the quiet of her own room she recalled the event of the afternoon that had so disturbed her. What did it mean? She shrank from harboring the thought that all that long afternoon had confronted her. It could not be possible that she, like some "common" people she had heard of, had become a slave to an evil appetite. It was not possible that the demon of strong drink could gain a hold on her.

For several days she fought her battle over and over. Then she resolved to face the subject squarely and put it to a test. She shrank from it with an unnamed dread, but her strong will enabled her to do what she knew would settle the question once for all.

Again with her mother she took her way over the same route, through the busy streets of the city.

She passed the saloon, breathed the heavy air as it rushed from the swinging door, and recognized the delirious longing that swept over her. With steady step she kept her place by her mother's side, but it was to her as if she were walking from day into the blackest midnight. Little did her mother think as she walked by her side that day that her child had traveled the long and difficult road from girlhood to womanhood—from the innocent trustfulness of youth to a maturity of purpose, that set her face as a flint against this evil influence, whose power she was now compelled to acknowledge. It was to be a battle fierce and long.

This is no sketch from fancy, but a chapter from real life. The sequel has never been written.

Years have passed, but their record who could keep? Some of their awfulness is briefly hinted at in Ida's own words: "Never do I smell the fumes of liquor without being strongly tempted."

She has not yielded. She has battled bravely and well. To-day, from a high position of trust and honor, her Christian character speaks to all of the nobility of her life. — *Union Signal*.

CAN GOD SAVE A WOMAN FROM WORRYING?

BY EMILY TOLMAN.

I COME near not goin' to meetin' last Sunday. I knew t' our minister warn't a-goin' to preach, and I was dreadful tired. I really thought maybe 'twas my duty to stay to home and rest. I had a hard week's work before me, and a good many things to worry about. There was Aunt Susan comin' to pay us a visit; she isn't the easiest person to get along with, you know, and I kind o' dreaded it. The children had been exposed to the measles, and I was expectin' 'em to come down with it any time. Then I had just heard that father had had an ill turn, and I felt a good deal worried about him. There's old Mr. Peters been bedridden these three years; I felt as though father might be the next.

When I stepped to the side door, the air felt so fresh an' sweet scented I began to perk a little, and I says to myself: "Sarah Ann Stebbins, you just wait till afternoon before you begin to worry about to-morrow, and see what you can get from the service this mornin'."

Well, the minister read a long chapter from Romans about sin and justification by faith. I never could understand Romans much, and that was the blindest chapter of 'em all. And when he begun talkin' about sin and how dreadful 'twas, and all that, I didn't feel greatly impressed nor edified. Of course, I know I'm a sinner, but I look to Christ for salvation, and I mean to do the best I can, and I didn't feel in a mood to dwell on my sinfulness.

All at once the minister asked, just as though every church-goer wasn't posted on that, "What is Christ to save?" "I know," says he, "what you are all ready to answer—the soul; but the Bible doesn't say so." I could almost have sworn it did, but I couldn't quote any partic'lar verse to prove

it just then. "The preachers and the hymns say so, but you can't show me a place where Christ says it. You have sinned; you are to be saved, body, mind, and spirit.

"Who of you," he said, "is as strong, mentally and physically, as you might have been if you had always lived just right?" And he went on tellin' about the vices of bad men, and about the love of God bein' equal to savin' the worst of 'em. I felt truly thankful that I had been brought up in a Christian family, and had been kept from such terrible wickedness. Then he went on about some other things, which he said were not called vices, but which were, nevertheless, sinful and injurious to body, mind, and spirit, such as greed for gold, envy, tearin' anger, and needless anxiety.

When he mentioned this last, I seemed to hear a voice sayin' loud nuff to be heard across the meetin'-house, "Sarah Ann Stebbins, that means you," and this question came to my mind, "Can God save a woman from worrying?" The minister had made out that He could save from any sin, even the worst. Somehow it hadn't never come to me before that worryin' was a sin, to be put alongside of anger and covetousness. I'd always supposed 'twas something that you couldn't help. But that's what Mr. B. says about gettin' drunk, and I never considered it much of an excuse in his case. I d'n' know but what the preacher's right about needless anxiety bein' a sin.

I can't tell you just what more he said, only I know the words, "Where sin abounded, grace did much more abound," come to me with a different meanin' from what they ever had before. And when he quoted so triumphantly the words of Paul, "We are more than conquerors through Him that loved us," somehow I felt all the work and worry of the week just fallin' away from me like Christian's burden in the "Pilgrim's Progress." And I says to myself, "If God's grace is sufficient to save a miser from his greed, and a drunkard from his appetite, why not an anxious woman from her worryin'?" And I just made up my mind to try it.—*Congregationalist*.

HOME, SWEET HOME.

LONDON *Tid-bits* recently offered a prize for the best definition of "home." Five thousand answers were sent in. Here are some of the best:—

"The golden setting, in which the brightest jewel is 'mother.'"

"A world of life shut out, a world of love shut in."

"An arbor which shades when the sunshine of prosperity becomes too dazzling; a harbor where the human bark finds shelter in time of adversity."

"Home is the blossom of which heaven is the fruit."

"Home is a person's estate, obtained without injustice, kept without disquietude; a place where time is spent without repentance, and which is ruled by justice, mercy, and love."

"A hive in which, like the industrious bee, youth garners the sweets and memories of life for age to meditate and feed upon."

"The best place for a man after business hours."

"Home is the coziest, kindest, sweetest place in all the world, the scene of our purest earthly joys and deepest sorrows."

"The only spot on earth where the faults and failings of fallen humanity are hidden under the mantle of charity."

"The place where the great are sometimes small, and the small often great."

"The father's kingdom, the children's paradise, the mother's world."

"The jewel casket containing the most precious of all jewels—domestic happiness."

"Where you are treated best and grumble most."

"The center of our affections, around which our heart's best wishes twine."

"A popular but paradoxical institution, in which woman works in the absence of man, and man rests in the presence of woman."

"A working model of heaven, with real angels in the form of mothers and wives."

BRAIN WORK AND MUSCULAR EXERCISE.

THE perfect human being is he in whom every organ and part is judiciously used. The strongest man is that man who is not specially developed. Such a man as Sandow represents special muscular development. The most perfect muscular man would be his inferior in a speciality of work, yet infinitely his superior in breadth of muscular function.

This comparison applies equally to mental workers. Men who use their brains in special lines develop them at the expense of the whole. A brain thus developed possesses points of irregu-

larity, being excessively strong in certain directions and weak in others. These variations from the normal indicate a tendency towards a diseased condition. If the mental parts of man are developed at the expense of the muscular system, the result must be in the direction of disease. There may result great mental strength, but there can not be the best of mental functions. If it be true that the best result of mind comes from the most judicious use of every organ and part of man, it is also true that when an organ is used at the expense of another, that other must of necessity suffer.

The great error of this our present age is the lack of muscular exercise among brain workers. When they arrive at their most effective period of mental development, the entire force of the individual is applied upon the brain, to the exclusion of a proper and judicious use of the muscular system. The muscular system and all organs of the body are rendered subservient to a strained and overburdened brain, and the result must be the production of a weak, if not a diseased, mentality. Men in the prime of life are prematurely aged and have white hair and wrinkled faces and inelastic step, with insomnia and various neurotic states, which influence not only the individuals themselves and the begetting of progeny, but all around them. By the using of brains to the exclusion of proper muscular exercise we get progression and rare gleams of mental products; but it is the mentality of tension untempered by judicious use. In the conduct of great enterprises, where executive ability is taxed to its utmost, it is generally found that the executives exercise their brain to the exclusion of their physical nature. The product of such brains, while seemingly thoroughly effective, shows in crucial test erratic flights and vagaries which demonstrate the lack of equilibrium.

The world's largest and most important interests are presided over by injudicious brain users, and many of the ills of our present life can be traced to this source. While they constantly and enormously exercise certain faculties of their mind, and develop them to a wondrous extent, the entire system suffers as a consequence; there ceases to be a proper union of mental and muscular effort. Seated within their offices from early hours in the morning, these men become simply brain workers, and give evidence of exalted and abnormal function. It has been ordained that every man must

earn his living by the "sweat of his brow." Mental work does not fill this injunction. It is only the muscular exercise which meets the full indication.

Throughout the length and breadth of this land men of rare business capacity, men of splendid executive talents, authors of genius, are nothing more or less than walking pathological specimens. There is not one brain worker in a hundred who knows the real pleasure of living. Many withdraw themselves from the fresh and pure air, rarely touched by the health-giving beams of a rejuvenating sun, and their lives are more than cruel to their muscular system and the system at large. If it were possible to sum up the misery, the injudicious acts, the danger, and the bad mental product produced by this life of injudicious use in the controllers of this world, certain it is that more attention would be paid to the normal mode of life. He who would tell these truths in strongest terms and in such forcible language as would compel attention and induce the rulers of men to shun the vice of excessive brain use to the exclusion of muscular use, would not only be a benefactor but almost a saviour of man. It would be much better if offices were less luxuriously furnished. If there could be attached side by side to every office a gymnasium, where the muscular system could be exercised with the same earnestness as is given to the mental part, great benefit would accrue, not only to the individual but to the world at large.

The life of such a man as Gladstone, who has shown what judicious use can do, ought to be a constant reminder to all mental workers of the virtue of muscular and mental use combined. Should a law be devised which would compel each and every mental worker to exercise his muscular system in the same measure and proportion as he exercises his mental part, it would carry infinitely more blessing than laws which are devised against many of the so-called vices of man. If such a law as this were enacted and could be enforced, more benefit would go down to the world than almost any law which could be devised. If the thousands of temperance orators, who speak with force and eloquence, would take for their theme the desirability of judicious muscular exercise, they would rob intemperance of many of its serious and most constant dangers.

Without proper and judicious use of every organ, the best product of life is not possible. The healthful product established by proper brain

and muscular use would make the world immeasurably better, give healthier thought, broader function, a kinder and more just manifestation of mentality. Use has almost changed the stamp of nature in many men under the modern mode of living. He that seeks for fame, let him start in and study the existing form of life, and show to the world the full force of exaggerated and improper function, and the full force of judicious use of every organ and part of man.—*Railway Surgeon.*

HABITS OF A FINANCIER.

EDWIN GOULD is reported to have said that "if a man lives in the country a part of the year, takes plenty of outdoor exercise, air, and sunshine, eats plain food, makes sure of that peaceful sleep which he can get only in the country, helps to make his wife, children, family, and home happy, and enjoys the happiness he helps to make, he ought to be able to work, to keep up the pace from year to year, for his natural term of life.

"I myself go to my office not too often, as I have a telephone in my country home connected directly with the office, and I stay in the country as much as I consistently can. The trouble with business men is a too close and steady contact with their desks. Some men work from nine to five—no longer, no less—every day; they worry when not at the desk, worry when they get there, and the poison of worry, added to close confinement, kills."—*Journal of Hygiene.*

THE WARM BATH FOR OUR PUBLIC SCHOOLS.

THE death rate in the German army is the lowest of any in Europe or the world, being only five per thousand yearly. In England it is eight, in France ten, in Italy eleven. The method used in Germany to secure this low mortality is entirely hygienic, and one of the most important is that of bathing in tepid water. All the soldiers have their warm baths, at a cost of about twelve cents for each hundred persons, including the soap used.

It is believed by sanitarians that the same means applied to children living in the dirtier quarters of all large cities, would produce similar

results. Applied to all school children it would help perhaps more than any other means to stamp out contagious diseases. We are particular to keep unvaccinated children out of our public schools, fearing an attack of a very uncommon disease, smallpox. The warm bath and cleanliness of clothing would be worth, in our opinion, a hundred times as much; for it would help to stamp out diphtheria and scarlet fever, spread largely through schools. Let us have a little more of preventative medicine through cleanliness, and a little less through methods now in vogue.

Every new school building erected after this date in a large city, where children likely to be un-bathed at home or infected with diseases attend, should have as a part of its necessary equipments not only a room for physical culture, but also connected with it one for bathing, where the warm bath can be given quickly and cheaply, and where the clothing may be submitted to any heat sufficient to disinfect it of all germs of disease. As it is now, filthy-skinned children are too often massed together under conditions that are productive of children's diseases, and equally or more injurious to the teachers themselves. We believe that these evils are possible of reduction in every city. It is to be hoped that those in authority will give attention to this power of washing for cleansing the population, and not only for cleansing them, but for staying those epidemics which are now so fatal to such a large number of the young in all parts of the world.—*Journal of Hygiene.*

ADULTERATIONS.

WE clip from the columns of a daily newspaper the following statement, which shows to what extravagant lengths the work of adulteration of foods is carried:—

“Acting upon a report received from Chemist Wenzell, the board of health yesterday ordered Health Officer Lovelace to arrest and prosecute offenders against the pure-food laws. Market Inspector Davis was directed by the health officer to at once proceed with the arrests.

“The report contained a statement of the analyses of eight samples of jelly bought in the open market by Inspector Davis.

“Of these four were of goods sold as current jelly. Of these the chemist said: ‘Sample B2 is made from the damaged fruit; sample E8 is

made from badly damaged fruit, and is colored with aniline dyes; sample A2 in tumbler is a combination of apple and currant jellies; sample A2, in tin can, is apple jelly with some currant jelly. That labeled raspberry is found to be apple jelly colored with aniline dyes. The blackberry jelly was found to have been made from damaged fruit.

“One sample of alleged strawberry jelly was found to be a compound of apple and turnip pulp, and another a mixture of strawberry and apple.

“The law under which prosecutions are directed to be begun make it a misdemeanor, punishable by fine and imprisonment, to sell, without a notice on the label that the contents are a compound, any article of food in which adulterants have been used.”

HOW TO DRINK MILK.

IT is well known that milk curdles immediately on reaching the stomach. The most common reason why milk does not agree with people is that they swallow it too quickly. If a glass of it is drunk hastily, it forms one solid curdled mass, very difficult of digestion. If the same quantity is slowly sipped, and well chewed, it will be so thoroughly divided that, when it is coagulated, instead of being in one hard mass, upon the outside of which alone the digestive juices can act, it is more in the form of a sponge, and exposes a much larger surface to the action of the gastric juice. Milk may also be rendered more digestible, and to many persons more palatable, if it is first curdled by slowly adding a few drops of dilute hydrochloric acid to it, drop by drop, while stirring it well at the same time. Water should also be always sipped slowly and thoroughly “chewed up” before swallowing.

IN these days, when we are almost afraid to eat or drink or breathe by reason of the ubiquitous microbe, and its supposed habit of going to and fro in the earth seeking whom it may devour, it is a real comfort to read this in a paper presented by a Chicago physician to the State Board of Health Auxiliary Sanitary Association: “Stress should be laid upon the fact that there are numberless microbes that are harmless, and very many that are useful and even necessary to mankind. Indeed,

the public should be warned against microphobia (if I may use the term). The study of the microbe, its habits and tendencies, should be left to scientists. It is enough worry for the public to know that the dangerous microbes thrive best and multiply fastest in dirt, just plain dirt and filth, and that the best and most convenient weapon to use in the conflict against them, is soap and water in abundance, frequently applied and well rubbed in. The public should be particularly instructed not to be in constant fear that something they eat or drink will do them harm, for suggesting of pending disease may produce it, as suggestions of help by faith in remedies may cure it."—*Union Signal*.

HOW TO RECOGNIZE EYE STRAIN.

EYE strain has been "harped on" for so long by the specialist—more so than reflex neurosis by the orificialists—that people are either beginning to be disbelievers, or are getting tired of repetition. Nevertheless, eye strain is always with us, many cases in every-day practice; but the fortunate part of it is that it is easily recognized.

Patients suffering from eye strain frequently have headache, the pain being located in the eyeballs and in the frontal region.

Headache from nasal disease is more likely to be in the morning on awakening, while headache from eye strain comes on later in the day, after having used the eyes.

Symptoms of irritation of the eye is an indication of eye strain; the patient complains of burning, itching, and frequently of watering of the eyes, having used them for some close work, such as reading or sewing. Recurring styes and chalazions, if not clearly traced to some general dyscrasia, are almost always due to eye strain. In persons between the ages of forty and fifty, drawing in the eyes, lids running together, inability to use the eyes at night, are the first symptoms of presbyopia, commonly called old sight.

The fact that a person has perfect sight is no criterion of the case; for I am free to state that nine-tenths of all the glasses I have adjusted have been for all these unpleasant symptoms grouped under the term asthenopia, and only the tenth part to increase the sight.—*Cincinnati Eclectic Medical Journal*.

KIND words are better than gold, and the voice of a friend has saved many a man from ruin.

ONE OF HOLMES' EXPERIMENTS.

OLIVER WENDELL HOLMES once told a dinner party how he undertook to solve the enigma of creation. Having observed that when unconsciousness is consciously approached, as during the inhalation of an anæsthetic—when the mind is on the confines of two worlds—there arise sublime and voluminous but fugacious thoughts; and, having satisfied himself that in these thoughts, if they could only be caught and transcribed, there lay enshrined the secret of the universe, he determined that by a supreme effort of the will he would catch and transcribe them. So, placing himself in his arm-chair, with pen, ink, and paper at hand, he inhaled the vapor of chloroform. As drowsiness stole over him, and just as unconsciousness was impending, those sublime and marvelous thoughts arose, and by a vigorous effort he seized his pen and wrote, he knew not what; for before he had finished he fell back unconscious. When he awoke, with trembling anxiety he turned to the sheet of paper, on which he could read, in scrawling characters, but quite legible, the secret of the universe, written in the words, "A strong smell of turpentine pervades the whole."—*Syracuse Standard*.

SCHOOL SLATES.

It is reported that the Board of Health of New York City has called upon the school authorities to abolish the use of slates, on the ground that they spread contagion. We also notice that resolutions have been adopted by the Mount Vernon Board of Education for the same purpose. They are seeking to provide, as a substitute, pads of paper, to be used instead of the slate, which has been so long in vogue. The cheapness of paper at the present time will make this exchange quite possible, and it is evident that it may often avert dangers that have existed in the past. Doubtless health authorities in many cities and towns will consider this question, and make this change in the common practice of the public schools.

THE man who sits down and waits to be appreciated will find himself among uncalled-for baggage after the limited express train has gone by.—*Whitehall Times*.

SMILE WHENE'ER YOU CAN.

WHENEVER things don't go to suit you,
 And the world seems upside down,
 Don't waste your time in fretting,
 But drive away that frown;
 Since life is oft perplexing,
 'Tis much the wisest plan
 To bear all trials bravely,
 And smile whene'er you can.

Why should you dread the morrow,
 And thus despoil to-day;
 For when you borrow trouble
 You always have to pay.
 It is a good old maxim,
 Which should be often preached,
 Don't cross the bridge before you
 Until the bridge is reached.

You might be spared much sighing
 If you would keep in mind
 The thought that good and evil
 Are always here combined.
 There must be something wanting,
 And, though you roll in wealth,
 You may miss from your casket
 The precious jewel—health.

And though you're strong and sturdy,
 You may have an empty purse
 (And the earth has many trials
 Which I consider worse);
 But whether joy or sorrow
 Fill up your mortal span,
 'Twill make your pathway brighter
 To smile whene'er you can.

—Bright Side.

BACTERIOLOGICAL EMPIRICISM.

A CAREFUL perusal of much of the literature of the present day, not only the enlightenment of the masses by newspaper medicine, but also from the reports of professional men in their clamor for the serum of life, discloses much of the empiricism of the Dark Ages.

In their "hysterics over a hypothesis" we frequently notice such expressions, saying that "to the uninstructed mind it may smack of absurdity to say that at no distant day bacteria will be cultivated as we now cultivate other commercial products. The fermentation of cream and of cheese is already as much of an art as is the fermentation of malt in the manufacture of beer."

"In the curing of tobacco the same activity is discovered, and the day is not far distant when commerce in high-bred tobacco bacteria will be an established fact."

"In short, we are led to believe that the day will come when bacteria will be carefully cultivated and the bacterial herd book will be found along with those of the Jersey cow and the Norman horse."

"On a par with this is the sterilization of prod-

ucts, which process is necessary before the thoroughbred bacteria is introduced." Consider the magnitude of this question, when we are also informed that the bacteriologist has declared that the surface of coins of all metal denominations, and bank-notes of every description, are simply swarming with germs of various degrees of virulence, and cultures have shown the presence of from four hundred and fifty to three thousand five hundred germs upon a single coin, ranging from streptococcus and staphylococcus pyogenes to tubercle bacilli and typhoid bacilli. These have been deposited, of course, from contact with saliva, pus discharges, soiled fingers, and dirty purses.

Dark as this picture looks, people will persist in handling money without question, and even in the face of the bacteriologist. That these germs are virulent has been shown by inoculating animals with their cultures and obtaining characteristic lesions.

Yet with all this "germ" enlightenment, who ever saw the development of disease from this source? And although the bacterial laboratory claims to be playing havoc with demonstrated facts of pathology recognized to-day as modern, these men, followers of a "false prophet," have a bitter lesson in store for them, and discloses plainly the "shades of Hippocrates."

The science of medicine covers all these facts concerning disease which time and experience have taught us are true.

The medical art has been practised from the earliest times. Before Hippocrates there were treatises on medicine, which that great master evidently embodied in his incomparable works. Very early, indeed, the effects of diet and of exercise were carefully noted, and Hippocrates appears to have had a clearer conception of the relation between the amount of food taken and of the mechanical energy produced by it, the effects on health of different kinds of air, of water, and, to some extent, of soils, than many of the self-elected teachers and writers of the present time.

Herodicus, one of the preceptors of Hippocrates, was the first to introduce medical gymnastics for the improvement of health and the cure of disease. Plutarch says of him that, laboring under a decay which he knew could not be perfectly cured, he was the first who blended the gymnastic art with medicine in such a manner as protracted to old age his own life, and the lives of others afflicted with the same disease.—*Medical Brief.*

RETREAT NOTES

—The hitherto unbroken solitude of Adam and Eve, those lonely sentinels that stand upon the summit of Howell Mountain, will now often be disturbed by the presence of ambitious climbers, who will make the ascent over a trail which has been cut through the almost impenetrable foliage which covers the side of the mountain. It is now possible in a short walk of two miles or less, to reach a point which commands an extensive view of the surrounding country. We owe this to the enterprise, muscle, and early-rising propensities of some of our family. We are now using the strength-testing machine, or dynamometer, quite extensively, and it will be interesting to note the effects of hill climbing upon the various muscles of the body.

—On the morning of July 10 the residents of the sanitarium and vicinity were delightfully surprised and much refreshed by a copious shower of rain, a thing almost unheard of in this locality at this season of the year.

—Prof. J. H. Goodall, of the Pacific Seminary, Oakland, is stopping at the sanitarium for rest and recuperation. He recently favored the sanitarium family with a sermon, which was highly appreciated by all. Professor Goodall is particularly noted for his fine analysis of Bible texts, and it is to be hoped that he will be able to favor us in this way again before he leaves. Professor Nash, so often mentioned in the columns of our JOURNAL, is a colleague of Professor Goodall. He writes us that he is happy in returning health, and is spending his vacation in a genuine mountain tramp, instead of at the sanitarium. While we regret that we shall not have his presence with us for a time, as we expected, we are glad that he is able to recuperate in this way.

—Mrs. Elizabeth Hastings, of East Oakland, with her granddaughter, is spending a few weeks at the sanitarium. She does not come for treatment because she is ill, for she declares herself to be in a sound condition, but because she wishes to feel better, which is inevitably the result of taking the treatment administered at our institution.

—Mrs. Wylie, wife of the Rev. Richard Wylie, of Napa, is spending a season at the Retreat, with her daughter. We are glad to say to the friends of Mrs. Wylie, many of whom are among the readers of the JOURNAL, that she is making very satisfactory progress healthwise.

—Miss Ada Magee has recently paid a short visit to the sanitarium, not, however, on her own account, but to bring a friend to enjoy the advantages which she has experienced on former occasions. Many of our readers will be glad to know that Miss Magee's mother, who was for so many months a guest, and a very patient sufferer, here, has so far regained her health that she is able to attend to her household duties, a thing which she had not been able to do for some years previously. She has steadily continued the improvement which was thoroughly established during her stay here.

—Mrs. E. Fritsch, two years ago a guest at the sanitarium for some months, recently spent a few days with us, in company with her father, Mr. Louis Schmidt, whose sudden death was recently commented upon at length in the daily

papers. This sad occurrence, due to incurable heart trouble, took place very soon after his return from here.

—Aug. C. Kinney, M. D., of Oakland, recently paid us a few days' visit, and was so pleased with the management of the sanitarium that he returned shortly afterward, bringing with him one of his own patrons, who will doubtless arrange for a lengthy stay.

—The sanitarium has recently been favored by visits from Dr. Gardiner and Dr. Driesbach Smith, of the State Asylum at Napa.

—Mr. D. A. Courtenay, who has for some months been a guest on the hillside, continues to improve steadily, and does not look like the same man who was mentioned among our arrivals.

—Mrs. G. S. Hurwood favored us with her usual annual visit. We are glad to say that she seems to be very much improved in many ways, and bids fair to be able to serve the public even more efficiently, if possible, than she has during the past years, in which she has made an enviable record.

—Miss Bentley and Miss Sutherland, schoolteachers from Oakland, are spending their vacation with us. These friends spent a summer at the institution some years ago, and are greatly pleased with the improvements that have taken place since that time.

—We are happy to report the return of Miss Blow, who has for so long a time proved herself a true friend of the institution. We are also happy to say that she has continued her improvement since leaving the sanitarium last December. She will doubtless stay with us, however, for some time—not so much because she feels the need of professional care, as the quiet and relaxation of the sanitarium life, which are helpful to her returning health. Miss Blow brings with her her sister and two nieces, who will spend some time with us.

—Mr. T. J. Parsons, who was numbered among our guests for some weeks last winter, has returned, with his family complete, consisting of wife and four children.

—Miss Klose, a very successful teacher of china painting, has been spending a few weeks with us. We hope she will return for a longer stay in the near future.

—Mrs. Huntley and daughter, of Oakland, are with us. Mrs. Huntley is the sister of Mrs. Dow, whose name was mentioned in our columns some months since. The friends of Mrs. Dow will be glad to know that she has continued her improvement since returning home, and is quite well.

—Mrs. Bowen, with her daughter, Miss Mary Bowen, from San Francisco, are among the recent arrivals, also Mrs. Ruggles.

—Another wedding has taken place in our midst, since our last JOURNAL went to press, viz., that of Professor Sanderson and Miss Nellie Lay, lately of Allegan, Mich. We are glad to say that, although the professor has been very ill during some weeks in the past, he is again making a strong pull toward health. We are sure that all the friends of these estimable young people wish them great happiness and a long life in which to enjoy the same.

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David praiseth God.

PSALMS.

He prayeth for safety.

19 To deliver their soul from death, and ^b to keep them alive in famine.
 20 ^a Our soul waiteth for the LORD: he *is* our help and our shield.
 21 For our ^c heart shall rejoice in him, because we have trusted in his holy name.
 22 Let thy mercy, O LORD, be upon us, according as we hope in thee.

PSALM 34.

^a Prov. 24. 16.
^b Ps. 117. 15.
^c ver. 6. 17.
^d Ps. 130. 6.
^e John 13. 30.
^f Zech. 10. 7.
^g John 16. 22.
^h Ps. 94. 25.
ⁱ or, shall be guilty.
^j 1 Kin. 1. 29.
^k Ps. 71. 23.
^l or, Achish.
^m 1 Sam. 21. 13.

19 ^a Many *are* the afflictions of the righteous: ^a but the LORD delivereth him out of them all.
 20 He keepeth all his bones: ^a not one of them is broken.
 21 ^a Evil shall slay the wicked: and they that hate the righteous ^b shall be desolate.
 22 The LORD ^b redeemeth the soul of his servants: and none of them that trust in him shall be desolate.

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