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TUBERCULOSIS.

It should be more generally known that more than one-seventh of all those who die annually, die of tuberculosis, and that the large percentage of mortality from this cause might be minimized by a proper understanding of the nature of the disease and proper care exercised in the attention of those suffering from that malady. Years ago little was known as to the cause. Physicians generally could recognize its course and symptoms, and knew full well its obstinacy and end, and undertook to treat it more from a humanitarian point of view than with any confidence of treating it to a successful issue. The last ten years have wrought a wonderful change in the minds of the profession in reference to the causes of the disease; and while there has been little progress made in lowering the rate of mortality, the way has been opened so that in this disease, perhaps more than any other, preventive means will serve better ends than known curative measures.

It is now known that tuberculosis is caused only by minute rod-shaped bacteria which gain access to the body, and, under favorable conditions, colonize in the tissue, forming small nodular masses called tubercles. While they colonize in every tissue of the body, the lung tissue is the most favorable tissue for their propagation. All persons are not equally liable to the disease. Normal tissue will always repel any invasion; but when the tissue is in a weakened state through lack of tone or some morbid condition generally hereditary, it more readily allows such invasion.

The tubercular bacilli often colonize large areas of tissue, and so closely together do these colonies settle that the lung tissue presents the appearance of consolidation. The favorite seat of such invasion is in the upper part of the lung, and, in the majority of cases, the left lung is the first to be affected. After an indefinite period the milliary tubercles begin to soften slowly, finally breaking down into the smaller bronchial tubes and alveolar spaces, and more or less of the tubercular mass is expectorated with debris of broken-down lung tissue. Thus the breathing capacity is gradually encroached upon, and in addition to this the body slowly but surely sinks under the poison of effete matter produced by the disintegration of tissue, the cause of which is but too well known to everyone who has seen persons gradually pass away from sight under its insidious progress.

It is our aim here to show mainly how the disease is acquired, and to offer some hints that will materially lessen the spread of this most dreaded scourge. The most common way in which the germs gain access to the lungs is by being breathed in with particles of dust which are floating in the

air; or, in other words, the germs are transmitted from man to man by means of the dust in the air. When the consumptive is within doors, the sputa should always be burned at once, or deposited in a five per cent solution of carbolic acid or some other germicide, and when the patient is without, a cloth should be used, which should never be allowed to become dry, but should immediately be burned, or placed at once in a germicide solution. The excretions of the bowels, in case the bowels are tuberculous, should be allowed to stand a half hour in a saturated solution of copperas and then buried.

If these precautions were always observed, much of the danger of contagion might be averted, but, unfortunately, this in fact is very rarely done. Thousands of consumptives are daily walking the street, assembling with the masses in churches and theaters, who discharge the sputa upon the floor and pavement, where it dries, is ground up, and mingles with the common dust. Of course the chances of infection are, fortunately, minimized from the fact that the offending material is greatly diluted by currents of air; it is fortunate, also, that the germs cling tenaciously to the moist surface, as has been proved by the fact that the germ may be developed or spread on a moist surface, and strong currents of air be forced over the germ field, after which the air is found to be free from the germ. This proves conclusively that the germ cannot be transmitted by the breath, although contamination might arise from the act of kissing if the lips are dry. The germ may be cultivated upon the potato and other media, although it does not grow by nature outside of man and the lower animals.

Another common cause of tubercular infection is from the cow, which seems to be greater than in any other of the lower animals thus exposed to its ravages. When the animal is thus infected, not only the flesh of the animal but the milk is equally dangerous, and no doubt many deaths result from this source of contamination. As soon as the disease is discovered, the animal should be killed and burned or otherwise rendered harmless. It has been proved many times to our shame that unscrupulous dairymen in the larger cities have put upon the market tubercular meat rather than lose the price of the animal which they see they are about to lose. This meat is not always rendered harmless by cooking, and is generally served rare than otherwise. Railroad and steamship companies

should provide separate apartments for those passengers who are suffering from tubercular diseases, and not subject the traveling public to the danger that comes from general contact with these cases.

As the dangers of infection are appreciated, more stringent measures will be observed in reference to tubercular meat, milk, and dust, the greater danger being the latter, and as a result of proper care the next generation might be relieved of much suffering and premature death. W. H. M.

IS IT SO EVERYWHERE?

AMONG the staple articles of food, especially for the young, is milk, and the public have the right to demand that they shall be supplied with that which is pure, but if an article in the *San Francisco Chronicle* of June 25 is true, it seems morally certain that pure milk in that city is the exception and not the rule. The first paragraphs make the following startling statements:—

"Almost every drop of milk sold in this city is a manufactured product. Much of it is dangerous and often deadly in its effect. Adulterations, claimed, of course, to be harmless, are openly sold by the dairy supply depots, and are bought by milkmen to color and increase the bulk of the unwholesome liquid which they sell as pure milk, and to preserve it apparently fresh for a week.

"So general has the nefarious practice become in this city and San Mateo County that the Board of Health has been quietly investigating it. The results obtained have been even worse than was at first supposed, and in a short time the officer who has been prosecuting the inquiry expects to furnish a report that will startle the community."

The inspector, in company with a *Chronicle* reporter, visited some of the firms which sell the coloring liquid in large quantities which gives to milk of poor quality a rich cream tint. The report says:—

"The coloring is used in the proportion of one tablespoon to a can of water. That preparation is then put in the milk. Dealers consider that two gallons of milk and one gallon of colored water, or coloring, as it is called, is a pure product, to be reserved solely for the private trade. What the restaurants and hotels get depends entirely upon what they pay. The milkman is usually a being of very flexible conscience and great water resource. If the restaurant keeper wants cheap milk, he gets it. The coloring effectually prevents the detection of the use of water, and milkmen are free to acknowledge that they will sell the product for whatever people are willing to pay."

Another firm sold what it calls "Preservative," to keep old milk fresh. It, like the other, is said to be perfectly "harmless." The clerk of one

firm told all about the cost of the vile stuff, of its cheapness and its general use by the milkmen of this city. It will preserve milk, cream, bottled milk, and buttermilk, and the circular gives the astounding information that the advertised preparation will keep butter and eggs fresh for a year.

The *Chronicle* declares that ice is kept in very few milk depots at the present time. "Preservative" is used instead, and the consumer who supposes he gets morning's milk at noon may have that three or four days old. Another preparation used extensively is called "Preservative." These preservatives must be strongly alkaline or they would not preserve the milk. On the San Bruno road, where much milk comes from, it is said that

hundreds of cows are fed day after day on what are inelegantly termed "brewery slops," a sour, ill-smelling, vile mixture, the odor of which will nauseate anyone except a milkman. It is the only food of the cows, and as the inspector said, stimulates an unusual flow of milk. "Why," said one of the milkmen on the road, "it makes the cows feel fine." "Yes, it makes them drunk," was the inspector's reply. One of the vilest dairies visited was that owned by Peter Costa, on San Bruno road, near Cortland Avenue. The stench that came from the barns where the cows are housed, fed, and milked was almost unbearable. Filth of almost every description was on the floors and walls. A few cows were feeding on the sour mixture in the stalls. The rancher took his visitors' intrusion with very poor grace. "That food," said the inspector, "is dangerous to the last degree. The milk from such cows is essentially deadly to invalids and children."

"Brewery refuse," said the inspector, "exposes the cows to every disease known to the kind, and the milk taken from them forms the basis for the adulterated compound sold in the city. I would venture to say that half the milking cows in this and San Mateo Counties are affected with tuberculosis. The highest bred are more particularly affected, and Jersey cows especially have the deadly disease in their system."

The following is the opinion of the inspector respecting San Francisco milk:—

"In my opinion, there is hardly a pint of milk brought into the city that does not contain the germs of tuberculosis. Add to that deadly stuff the influence of an alkaline preserver and of various patented coloring substances and you may obtain some idea of the character of the milk traffic in this city, which is spreading and inoculating disease."

The *Sacramento Record-Union* thinks that what proves so profitable to San Francisco milk dealers could scarcely escape the cupidity of unscrupulous dealers in the interior. Inquiry should be put on foot in every direction, and people should know the character and source of the milk they use.

M. C. W.

OUR COOKING SCHOOL AND PHYSICAL CULTURE CLASS.

SINCE public announcement was made that the Rural Health Retreat was to add to their facilities two more aids for the promotion of health and the dissemination of knowledge relative to those topics upon which health depends, some questions and letters of inquiry have been received, which we shall be pleased to answer in a general way. The necessity of reformatory measures in the art of cooking has impelled us to make an effort to establish a cooking school, in which the principles governing the preparation of simple food shall be dwelt upon mainly with a view of making simple food palatable and where necessarily unpalatable because of depraved appetite, so educate the judgment to govern the appetite in the interests of health, longevity, and happiness. In so doing we realize we shall be obliged to step out of the general and popular current of dietetic usages, and, in the behalf of suffering stomachs, torpid livers, and depleted nerves, row vigorously up stream; for who is there, having had an extensive experience in traveling, or what physician, as he studies the wreckage along life's highway, has not been made painfully aware of the fact that a large majority, especially those in affluent circumstances, "live to eat" rather than "eat to live"? The appetite governs the quantity, as the palate the quality, and the principle of adapting the proper food elements to the needs of the body, if noticed at all in the act of feeding, is of secondary importance.

It is said of Diogenes that on one occasion he met a young man in the street going to a feast, whom he intercepted and took home to his friend as a person running into imminent danger. What would that philosopher have said could he have looked upon a magnificent modern meal and seen the fish, fowl, and large luscious boiled steak dressed in oil and mustard, vinegar and spices, salads of different herbs, sauces, confections and fruits, tea or coffee, wines interspersed with pastries of great variety, and ice cream, the whole topped off with a cigar or two?

What unnatural motions and emotions, ferments and counterferments, must such a medley of intemperance produce in the body. Such a table set in all the magnificence of modern art and replete with all that culinary skill could furnish, is beautiful indeed to behold, is appetizing in the extreme. It is only natural to sit down and revel among the

dishes with a pleasure, for the present, only marred by the brevity of the neck, or the lack of a ruminating apparatus by which the pleasure might be extended for a season; but could the veil be lifted and the eye behold the consequences, the gormandizer would be horrified to behold gout, fevers, dyspepsia, consumption, Bright's disease, and other innumerable ailments lurking in ambush behind the dishes.

A writer on dietetics once made the statement, "God made the food but the devil made the cooks." If he had said cooking instead of "cooks," it would have appealed to our judgment as containing a truth rather than an injustice to the cooks. Nature delights in the most plain and simple diet, and her majesty cannot afford to pander to the tendencies of a depraved appetite. Life is measured not by the amount that is taken into the body, but by the vital manifestations that come out of the body. True happiness does not stoop to the mere gratification of the appetite, but finds her joy in the fulfillment of her possibilities for good. From the foregoing our readers will have an intimation of the object and aim of our cooking school, and much more will be written from time to time for that special department in the JOURNAL. As the subject is of common interest to all, let us hope that our efforts will meet with the general approval, and we would respectfully solicit correspondence for our mutual good.

Not less interesting to the public will be our physical culture class, its special aim being simply to act as an important auxiliary in the development of health.

Many laymen seem to have the idea that disease is merely a blocking somehow of the wheel of life, and that some remedial agent might, perhaps, touch the mainspring that clears the highway, and health will immediately spring back to its normal status. This would indeed seem probable in many acute diseases when the nerve force has not been impaired, but the case is very different in chronic troubles, where for years the nerve force and the vitality of the various organs have been waning. The body, composed of its various organs or system of organs, like a chain, cannot boast of its strength above the strength of its weakest organ. Thus the appearance is indeed quite different, and those of such an experience are not slow to comprehend that it takes time, that it is a process of development, evolution, if you please, where the same laws

that take the child and make the youth, then the man, take the diseased body or the diseased organ and build it anew, step by step, to a better grade of health. This is physical development, and when such development has for its object perfect symmetry, co-adaptation, and equalization of force throughout the organization, then physical development becomes physical culture.

Physical culture from a medical standpoint is a system of exercises, sometimes passive, as by Swedish movements, but more generally active, as with dumb-bells, Indian clubs, or machines by which the weakest muscles of the body are so developed that they become as strong accordingly as the stronger ones, and the diseased organs are developed to a par with the healthier ones. The preliminaries of such a course are, first, a thorough examination; second, a grading and making of a physical chart; third, a prescription of exercises, to be increased or changed to meet the possibilities of development of the pupil. The class has three sessions each day, in which all participate, and by the aid of music the exercises are made entertaining as well as instructive. Then follow individual exercises especially adapted to the needs of the individual. Much attention is also given to healthful postures, elasticity and grace of movement, and while every detail is wrought in carefulness, much enthusiasm prevails as the objects to be attained by the course are experienced. Often, under the influence of the exercises, the weaker portions of the organization become the stronger, the breathing capacity is increased, and elimination augmented.

Nature, with her warm, motherly care, is ever ready to help us bring the worn, diseased body to a normal state, but it takes systematic attention in the matter of food, rest, and exercise to reach the best physical condition. Physical culture received more attention centuries ago than at the present time. The Roman and Athenian games in their day were the cradle of national vigor that led their armies to victory and feats of great military prowess. The Chinese, no doubt, can lay prior claim to a regular system of physical culture exercise, from the fact that we now have transcripts of their exercise, with figures embodying an extensive regimen in vogue over two thousand years ago.

While we cannot to-day claim a better system of exercise, we can claim a better adaptation to the special need of individual cases, and, therefore, at-

tain more satisfactory results. It is only in the gymnasium and under a competent tutor that we see the best results and are led to appreciate it as a means of obtaining health; and while we aim to make this auxiliary an important agent in developing physical powers, it is only one of the many means to that end.

W. H. M.

ADVANTAGES OF SANITARIUMS.

THE *Northwestern Medical Journal* for December, 1891, has a thoughtful article by J. C. Farmer, M. D., of San Francisco, on the "Popularity and Success of Sanitariums." He refers to the prejudice formerly existing against them, but shows that the increase of such institutions is a proof that they are popular.

Of the advantages he says: "One of the advantages that a sanitarium offers is the complete rest that is enjoyed, and in many cases this is a matter of no small import, particularly with women overburdened with household worries and the care of children. No matter how much the doctor may enjoin rest and the cessation from care, if the patient is at home and able to be up at all, she will be occupying herself with some work, and when in bed, family jars, complaints, and worries will reach her ear. With the overworked man of business half the cure is rest and absence of care.

He then speaks of the experience and work of the physicians in sanitariums. He says: "It is patent to all that a great deal of knowledge and experience are gained by the practitioners in these institutions. It is different from the experience in a public hospital, for in the former [the sanitariums] the best skill and care must be given. Treatments are based on physiological and pathological knowledge, and are such as are advised and recommended by the most intelligent physicians, but very difficult to follow at home on account of the absence of appliances and conveniences." After referring to the appliances of every good sanitarium, he continues: "Having all these appliances, many diseases are treated admirably without the use of medicine, or with the aid of a very little of it. Rheumatism is the disease that lends glory to these institutions. Cases that have gone the rounds of the doctors and been dosed with medicines yield readily to a judicious system of dieting, the use of electricity, a few baths and massage, and when not due to an incurable cause are cured, and great relief given in fatal cases. He

then speaks of other diseases which are greatly relieved at such institutions, mentioning constipation, liver troubles, long-standing inflammation of the pelvic organs, overplus fat, stomach troubles, wrongs of circulation, and chronic bronchial troubles. "Many more cases," he says, "could be related where permanent cures have been made without medicine, and with very little unpleasantness to the patient."

Another element of success, the diet, nursing, and charges, he speaks of as follows: "The strict supervision of the diet partaken of in each particular case contributes not a little to the success in treatment. The ordinary practitioner, though he may advise and admonish, can exercise but little influence in altering the customary diet of his patients. Even when these patients are willing to follow his suggestions in this matter, they fail, through ignorance or from an inability to withstand the temptations of the table. In a sanitarium there is no avoiding the prescribed diet. In rheumatism, neuralgia, certain liver affections, and in stomach and bowel disorders, dieting is an essential feature of the treatment. The good nursing assured, and the excellent sanitary conditions of these establishments are more reasons for their popularity. Though from necessity not always located in a healthy city, yet the immediate surroundings of these institutions are wholesome. The plumbing is good, and there is plenty of light and air, and all things are as conducive to health as possible. At these places room, board, medical and daily treatments are given for fifteen dollars and upwards a week, twenty dollars a week being the average charge. All things considered, this is cheap, much cheaper than remaining at home and paying the doctor's fees and employing a nurse."

There is another point worthy of special mention which Dr. Farmer has not referred to, and that is this, that at every good sanitarium, patients are not only treated for whatever may ail them, but they are instructed as to how to keep well. They are helped to regain health, but they are taught how to retain it.

When it is remembered that Dr. Farmer is speaking in the interest of no sanitarium, and speaks only after considerable thought and investigation, his testimony, with that of other enlightened physicians, is valuable. A good sanitarium is greatly to be preferred to ordinary treatment at home.

M. C. W.

NOTES ON THIS, THAT, AND THE OTHER.

As promised in our last issue, we start in this month under more favorable auspices. The HEALTH JOURNAL has now on its editorial staff a competent physician, and this gives much better promise of success than to run on with a non-professional dabbler in health matters. We do not mean by that that the JOURNAL has been grounded, shoaled, or snagged on her way up stream, neither has its boiler burst, nor has anything else of serious nature occurred. It has just steadily plowed its way up the stream, as it is still going to do, with added impetus in the future. The PACIFIC HEALTH JOURNAL is, we hope, here to stay. Men may come and go, but the JOURNAL is established. We call the attention of our readers to the large amount of original matter presented this month, especially in our Mother's Helper, Housekeeper, and General departments. We ask the co-operation of our readers in the good work of disseminating abroad the gospel of health.

In our reports last month we unintentionally omitted to state, what will be of interest to many of our readers, that, at the meeting of the St. Helena Rural Health Retreat trustees, July 7, the following officers were chosen: Physician in Chief, W. H. Maxson, M. D.; Assistant Physician, Mrs. H. S. Maxson, M. D.; Chaplain, John A. Burden; Superintendent, John A. Fulton; Matron, Mrs. J. L. Ings; Bookkeeper, Mrs. Ella Burden; Auditor, F. Zelinsky.

We would also announce that the Rural Health Retreat has made arrangement for a nurses' training school, to commence November 1, and which will doubtless continue for two years, with occasional vacations. The course will embrace the anatomy, physiology, and hygiene of the body, the theory and practice of nursing, together with instruction in cookery and physical culture. The advantages of such a school as this, combined with practice, will be obvious to all. A good nurse is oftentimes of greater value than a good physician; but, however good the physician, a good nurse is a necessary adjunct. Further particulars will be given in the October JOURNAL.

The *Sunday School Times* has the following excellent note on the matter of early rising: "Early rising is sometimes a good thing, and then again it isn't. It depends very much on what your busi-

ness is, and what is your temperament. If you are a newspaper carrier or a milkman, or if you are a factory hand or a farmer, you will have to get up early; so you will if you live in the country, and must take an early train to town; there is no doubt about your duty in such a case. And if you are a cold-blooded man, with no nerves, you can as well get up as lie abed in the morning. But if you are a person of nervous organization, of hot blood; if you are inclined to keep at work as long as you are awake, and can find rest only when you are asleep; especially if your work is brain work, and you can choose your hours for it, —it may be that early rising would be a gross imprudence on your part. Many a child who needs sleep in the morning is persistently started out of bed by its parents, to its permanent detriment of body and mind. And, again, many a parent who needs sleep in the morning is persistently started out of bed by its early-rising child, to the parent's discomfort, and to the detriment of both parent and child. To 'rise with the lark and lie down with the lamb' is unquestionably a good rule for the lower orders of creation; but some of us are very different from both larks and lambs, and need different hours of getting up and lying down. The best thing for each of us to do is to do the best thing for each of us, whatever that may be, and not to let larks and lambs settle the rule for us severally."

THE following is a recipe for lung disease, says *America*, given fifty years ago: "A Recipe for Armilda Purdy's Lung Complaint.—Take of the bark of wild Cherry, Sasafras, Sycamore, yellow poplar, Dogwood and black oak, a Double handfull of each; take of Sasaparila Root and Spignard one handfull of each; to which add three Gallons of water. Boil it Down to one; strain it and add one quart of Good french Brandy and one quart of Honey, of which take about one Gill three times a day. This was tryed by Jonathan Douglas when he Could not Set up and has Cured Several others. N. B.—If She Canot take agreeable to Directions Take what She Can." "Armilda" certainly ought to have been "cured." There are cure-alls nowadays not much better, and much more pretentious.

THE *Vegetarian Messenger* (London, Eng.) gives a report of a discussion on "Tuberculous Flesh Meat" by the Northwestern Branch of Society of Medical Officers of Health. It was called out by

a paper read by Dr. Jasper Anderson, of Blackpool, who presented the matter in a candid way, considering objections, and showing that it had been proved that tuberculosis had been conveyed from a tuberculous animal to a human by means of milk, and that there was danger from the meat, as most beef was eaten underdone, and slight cooking did not kill the germs. At the close of the discussion the following resolution was adopted: "That the flesh of any animal affected with tuberculosis, to however slight an extent, is, in the opinion of this branch, unfit to be sold for the food of man."

M. C. W.

QUERIES.

28. TREATMENT OF FELON.

WHAT is the best treatment for a felon?

As a felon is one of the most painful maladies of all acute diseases, there are consequently two points to be gained in the treatment of a felon, (1) the removal of the cause and (2) the alleviation of pain. It will be in order to say a few words in reference to the nature of the trouble. There is around all the bones a thick, fibrous membrane, the periosteum, which is closely attached to the bone, and from which the bone gets a large portion of its nourishment. A felon is caused by a nucleus of inflammation followed by suppuration between the bone and the periosteum, the intense throbbing pain being caused by the great pressure in lifting the periosteum from the bone; consequently the felon is cured by the radical operation of passing a knife through the tissues and periosteum to the bone, thus removing the pressure, the cause of the great pain. This is the most simple way to remove the felon and cut short the inflammation also. It can be prevented in the beginning, as soon as the pain is felt, by holding the thumb or finger in very hot water for a long time, which will often stop the inflammatory process and thus cure what might have been a felon. Any measure that will relieve the pain, if only in part, will be found to be of great service. The flaxseed poultice put on hot and large enough to retain the heat for a little time and changed often will be found to be of great value and will often relieve the suffering so that rest may be obtained. The flaxseed poultice with some laudanum poured on the surface will be found to be even more serviceable in allaying the pain.

29. WHAT IS ZWEIBACH?

What is zweibach and how used?

The word "zweibach" means twice baked, is extensively made and eaten by the Germans, and is growing rapidly into favor among all civilized people. It is easily made from bread sliced and baked until brown and crisp, and is very palatable indeed; it has usually been made from white flour bread, but what we use in the sanitarium is made from whole-wheat bread, or bread made from whole-wheat flour, which is not only palatable but much better than the other kind of bread, from the fact that it contains all the nourishing properties of the whole wheat. Zweibach thus made from the whole-wheat bread is achieving quite a reputation not only among our patients but there is a growing demand for our whole-wheat zweibach wherever it is known. I might suggest that from a medical standpoint it is to be recommended in cases where there is a tendency to sour stomach. In combination with a meat diet, it will be found to be of great benefit in the worst cases of acid dyspepsia.

A REMEDY FOR TOOTHACHE.

Can you give an infallible remedy for toothache?

Yes; extraction is a sure remedy for it, and is always to be recommended if the tooth is so badly decayed that it cannot be readily filled. A diseased tooth is very injurious to the individual, from the fact that portions of food lodge in the cavities, from which it is difficult to extract it, and it soon decays, furnishing a center for germ life and a foul breath. If there is a cavity, the pain may be allayed by rolling a very small portion of cotton on the end of a toothpick and with it cleaning the cavity as nicely as possible; then make a small ball of cotton the size of the cavity, drop it into strong carbolic crystals, and put it into the cavity of the tooth, taking care not to let it come in contact with the tissues around the tooth; put dry cotton over it, so that the acid will not come in contact with the tongue. The influence of the acid is not only antiseptic but also serves as a local anæsthetic. This, in most cases, will furnish relief. Sometimes a drop of the oil of cloves will be of service. All such teeth, if worth saving, should be promptly filled.

A GOOD remedy for toothache is found many times in a hot-water bag, or a hot cloth applied to the face as hot as it can be borne or—hotter.



A SOUND BODY. NO. 4.

BY A. J. SANDERSON, M. D.

If we were to look into an air cell, we would find it constantly being refilled with fresh air from the world without, air that contains a little more than twenty per cent of pure oxygen. This it imparts to the blood, and, at the same time, takes from the same carbonic acid gas and a vapory substance. This change comes about in this way: The coloring matter of the blood is of such a chemical nature that it has a strong attraction for oxygen, and, when it gets so near to it as to be only separated by the thin wall of the air cell, it simply draws it to itself. At the same time the carbonic acid gas, and other waste matter, pass in the other direction into the air that the oxygen has left, and go out with it into the outer world, being no more useful to man, but serving a purpose in the vegetable kingdom.

Having thus taken this step with the oxygen, we find ourselves viewing a capillary of the lung. Before us lies the whole circulatory system in man, great in its extent, perfect in its arrangement, and containing in itself the life of the individual; not only the element that entered by the lungs, but all others beside. These, through an open channel, flow to every atom of the body, except those in the nails, hairs, and cuticle of the skin. These channels can be traced from their origin till they get too small to be seen, and then, if you take a microscope, you can magnify them in their minuteness, so that during life, by means of the web of a frog's foot, and other ways, you can see the different elements of the blood rushing on to every tissue and fiber, to do their assigned work in life, giving and preserving life.

Here the human mind stops in the knowledge of its Maker. No physical law of which man has conceived can tell us anything about the changes

there taking place, neither does any rule known in chemistry explain it. We can only call it a mystery, and confess that all our knowledge, which even in its limitation gives us great pleasure, is but the first step to what we might have if we could but know as we are known. But while we look with admiration at the unseen, we will not despise the wonderful little that we do know, so let us go back and reconsider.

We were situated in one of the capillaries of the lungs. These are the smallest of all vessels, and connect the arteries with the veins. In these the blood has undergone the changes before spoken of, and, instead of the dark crimson impure blood, it is now bright scarlet, renewed in its life-giving properties.

These capillaries run into veins, and they flow together, till finally there are only four, which empty into the upper left chamber of the heart. This portion of the circulation, taken with the artery that goes from the heart to the lungs and its branches, makes up what is called the lesser circulation, and differs from the rest of the great system of the body, which is termed the general circulation, in that the impure blood flows in the artery, and the fresh blood in the veins.

Here we now are at the heart, the fountain of life, which, though small, is possessed with energy sufficient to keep up its important work from birth, as long as life exists. The organ is situated a little to the left of the middle line of the body, about half way down and in the front part of the chest. It is composed mostly of very strong involuntary muscles; that is, they act without reference to the will. We have no power to start or stop them. Its interior is divided into four parts, or chambers, each of which will hold about four or five tablespoonfuls. The upper and lower ones are connected by openings, which are closed with valves to keep the blood from going backward.

Upon the inner surface of the heart wall there are numerous small bands of muscle and tendon which connect the parts together, adding to the strength of resistance in the wall. Some of these also go from the wall to the valves, rendering them stronger.

The shape of the heart is familiar to all. Its base or broad part is upward, to which the great vessels are attached. The apex is small, and is directed downward and to the left side. We now enter the right upper chamber, but we cannot stop, as the door opens and we are forced to take the next room, and no sooner have we reached it than the double doors behind close, and we cannot return.

Hasty observation shows us that we are now in the strongest portion of the heart, strongest because it does the most work. This teaches us the lesson that strength and work are inseparable; both begin together, and make exactly the same progress. The next instant a quick contraction comes from the apex of the heart, and is felt first here, so that the blood starts for every station in the body, and its throbbing beat is felt in the remotest parts. This is all over in a part of a second, but the blood that has gone into the artery cannot return, for already a beautiful three-valve gateway has closed behind it, so it goes on to fill the place of the forward companions that were sent along by the onward impulse.

Let us stop here and consider how much energy must be used in doing this work. It is estimated that the resistance met with in sending the blood through all the vessels is equal to a column of blood nine feet high, the size of the aorta, or great arterial trunk. Therefore, allowing one-fourth of a pound of blood to be sent out at each beat, to raise the column of blood nine feet would be the same as raising nine times as much, or two and one-fourth pounds, one foot high. This being at every beat, then each minute there would be work amounting to lifting seventy times two and a fourth pounds, equivalent to lifting over one hundred and fifty-six pounds one foot high every minute. Multiply this by the number of minutes in days, months, and years, and you can tell how much work is done for us by this noble organ. Seeing all this, who can be so ungrateful as to knowingly bring depressions to bear upon it? And, as we point out in other articles the depressing things of some of our oppressive habits, we hope that it will cause some hearts to rejoice.

Having entered the first artery, that ascends with a proud arch and turns to the left side just below the neck, we find the ways that we might go so numerous that we will stop and consider our steps, continuing in our next number.

WALKING FOR HEALTH.

AN EXERCISE WHICH IS A NERVE TONIC AND APPETIZER BOTH IN ONE.

Few people who have not tried the experiment know how much health there is in walking. It is a nerve tonic, an appetizer, and general system invigorator all in one. When the weather is too fickle to discard winter wraps, and when occasional warm half hours suggest seersuckers and white hats, a "dead-and-alive feeling" is apt to result, which may not be a disease, but which is very akin to illness. "Spring bitters" and old-fashioned "sulphur and molasses" are time-honored remedies, but the best cure of all is exercise, taken regularly and in doses sufficient to effect a cure. To a majority of people engaged in active business walking is the handiest exercise procurable. The man who walks to and from his office or store not only gets up an appetite and a circulation, but he wards off congestion and pneumonia, and if he is of an observing turn of mind he also sees many incidents and traits of character which will both amuse and instruct him.

Writing about the benefit to be gained from walking, an eminent London physician says: "Until I took up walking to and from my office I was a hollow-chested, dyspeptic man, weighing about 125 pounds, very nervous and very dissatisfied with myself and the world in general. As soon as I began to walk regularly, a change for the better was noticed. I now weigh 160 pounds, I sleep well and have a perfect digestion, all of which I credit to pedestrianism. These were the benefits I sought, but they were not all I gained. I am an old resident of London, and naturally I know a great many of its citizens by sight. I soon discovered that some of the successful men I knew were regular pedestrians. I also had observed that the men who had themselves won great success were the fastest walkers, passing by their fellow pedestrians in their walks to this city. I now lay it down as an axiom that the man who outstrips his competitors in walking on the streets will also win in whatever business he undertakes."—*Boston Globe*.

NEEDED SLEEP.

THAT the amount of sleep required by different individuals is decidedly different has almost passed into an axiom. Persons who are very energetic naturally require a great deal of sleep, and children and young people who are growing require at least nine or ten hours of sleep. Invalids or people advanced in life should sleep as long as they can, as there is no restorer of tired nature like sleep. To get a refreshing sleep the brain must cease to act. It would be curious to trace how many cases of irritability, or of functional diseases of the nerves, are due to lack of proper sleep. Little children should literally go to bed with the chickens. They should have an early supper, at half-past five, and be put to bed directly after. This should be kept up till the child is seven or eight years old, when the bed-time hour may be changed from 5 o'clock to 7. A growing girl should certainly go to bed as early as 8 o'clock. The old Norman law which commanded that all fires should be covered and lights put out at the ringing of the curfew bell, though looked upon as a tyrannical measure, was, from a hygienic point of view, a wise one. Considerable harm has been done by arbitrary rules in the matter of sleep. The fact that Napoleon was able to exist with six hours' sleep, if it were true, proves nothing but his exceptional endurance. It is said that General Grant once said that he could do nothing without nine hours' sleep.

There has been considerable discussion as to what is the best position in sleep. Most physicians will tell you that you should lie on the right side, but no definite directions can be given. A weakness of the lungs may cause the sleeper to rest more comfortably on the left side. Again, in depressing illness, the patient usually lies flat on his back, and this position seems, in general, to contribute the greatest amount of rest to the muscles, yet few people would find it a comfortable one. A position which has been advocated with considerable show of reason is that of lying partly on the face. Probably no healthy person sleeps altogether in either one of them, but varies his position during his resting hours.

The best bed coverings are light woolen blankets. The impervious cotton comfortables so much used are the most unwholesome of any covering. A hair mattress is conceded now to be the very best bed, and a good hair bolster is the most wholesome head rest. Sleeping with a number of pillows un-

der the head is certainly injurious, as it tends to raise the head into a cramped, unnatural position. The fashion of double beds is one greatly to be depreciated, and two single beds placed side by side are taking their place in many cases. So high an authority as the London *Lancet* says, in discussing the question: "Nothing will so derange the nervous system of a person who is eliminative in nervous force as to lie all night in bed with another who is absorbent of nervous force. The latter will sleep soundly all night and arise refreshed in the morning, while the former will toss restlessly, and awake in the morning fretful, peevish, faint-hearted, and discouraged. No two persons, no matter who they are, should habitually sleep together."—*Hall's Journal of Health*.

THE USE OF WATER AT AND BEFORE MEALS.

OPINIONS differ as to the effect of the free ingestion of water at meal-times, but the view generally received is probably that it dilutes the gastric juice, and so retards digestion. Apart from the fact that a moderate delay in the process is by no means a disadvantage, as Sir William Roberts has shown in his explanation of the popularity of tea and coffee, it is more than doubtful whether any such effect is in reality produced. When ingested during meals, water may do good by washing out the digested food and by exposing the undigested part more thoroughly to the action of the digestive ferments. Pepsin is a catalytic body, and a given quantity will work almost indefinitely, provided the peptones are removed as they are formed.

The good effects of water drunk freely before meals, have, however, another beneficial result—it washes away the mucus which is secreted by the mucous membrane during the intervals of repose, and favors peristalsis of the whole alimentary tract. The membrane thus cleansed is in a much better condition to receive food and convert it into soluble compounds. The accumulation of mucus is specially marked in the morning, when the gastric walls are covered with a thick, tenacious layer. Food entering the stomach at this time will become covered with this tenacious coating, which, for a time, protects it from the action of the gastric ferments, and so retards digestion. The viscid contents, a normal condition in the morning before breakfast, is not suitable to receive

food. Exercise before partaking of a meal stimulates the circulation of the blood and facilitates the flow of blood through the vessels. A glass of water washes out the mucus, partially distends the stomach, wakes up peristalsis, and prepares the alimentary canal for the morning meal. Observation has shown that non-irritating liquids pass directly through the "tubular" stomach, and, even if food be present, they only mix with it to a slight extent.—*British Medical Journal.*

SCARLET FEVER CONVEYED IN A KISS.

SCARLET fever contracted by a kiss is the latest freak in infectious diseases. A report of this peculiar case is given in a letter received recently by Secretary Probst, of the State Board of Health, from Mifflin, Ashland County, Ohio. The letter states that a lady recently came to the village from Mansfield, Ohio, accompanied by a child suffering from a slight attack of scarlet fever. They called on a friend, and the scarlet fever patient was permitted to kiss three children in the family where the visit was made. Within a week the three children were stricken with the disease, and their father and mother have since fallen victims to the contagion.—*Sunbright Dispatch.*

PROPORTIONS OF THE HUMAN FIGURE.

DR. GIOVANNI, of Milan, has recently published in Italian a remarkable work on the *morfologia* of the human body, which promises to work quite a revolution in the study of disease. Among other interesting facts presented by this eminent investigator are the following respecting the proper proportions of the ideal human figure:—

1. The height of a person is equal to the greatest stretch of the arms, that is, the distance between the tips of the middle fingers when extended laterally as far as possible.
2. The circumference of the chest is equal to one-half the height.
3. The length of the sternum, or breastbone, is equal to one-fifth of the circumference of the chest.
4. The height of the abdomen, measuring from the pubic bone to the end of the sternum, not including the ensiform cartilage, is two-fifths the circumference of the chest. The umbilicus marks the middle point between the pubic bone and the lower end of the sternum.

5. The greatest distance between the large bones of the pelvis is four-fifths the height of the abdomen.

Represented in inches these measurements are as follows for a man and a woman who closely approach the ideal type:—

	Man.	Woman.
Height.....	68.8 in.	64 in.
Extreme stretch of arms.....	68.8 "	64 "
Circumference of chest.....	34.5 "	31.8 "
Length of sternum.....	6.8 "	6.4 "
Height of abdomen.....	12.9 "	12 "
Width of pelvis.....	10.4 "	10.1 "

—*Selected.*

A MEAN BUSINESS.

THE *Denver News* of not long ago called attention to a matter which, if true (and it seems to be), is indeed alarming. It says that in several counties in Missouri there is mined a white, heavy mineral substance, known as *barytes*, which is ground in mills, and shipped all over the country "at the rate of thousands of tons a year. Although there are hundreds of mines in operation, the supply is always less than the demand. Several large firms in St. Louis handle nothing else, and have become immensely wealthy within the last few years. A strange feature about the nefarious business is that very few of the miners know the real use to which the mineral is put. It passes through several hands before it reaches the consumers, which are the people themselves. After being taken out of the earth, it is broken up and pulverized into a fine powder, so as to resemble flour or white lead. It is mixed with many articles of food, such as granulated sugar, powdered sugar, and is also extensively used in adulterating white lead, which is the basis of mineral paints. That is the principal reason the paints turn yellow much sooner nowadays than in former years. It is shipped in barrels, and the people where it is mined are told that it is gypsum, or is intended for use in packing houses for painting the canvas with which cured meats are covered in summer." It is said that rich capitalists who are interested in the mines are about to ask that a tariff of four dollars a ton be placed on its importation, as German ships bring it in as ballast. While the mineral is tasteless and dissolves on the tongue, yet much of it in food must be harmful, and people generally like to get what they purchase.



AFTER THE BATTLE.

We have fought a goodly battle, and, defeated in the fight,
Are not dismayed, but proud to think we battled for the right.
When selfishness and vice combined our army to defy,
We knew we could not conquer, yet were not afraid to try.
From sun to sun we fought the foe, expecting not to win
(With such a small though faithful band) against the hosts
of sin,

Which stood defiant in our front, a hundred to a man,
Yet trembled when our spotless flag was carried in the van.
And now the battle's over, and, though we bear a scar,
One wound will not destroy the man, one battle end the
war.

Nor, though we fail a hundred times, yet still again we'll try,
And kiss the rod, yet trust in God, and hope for by and by.

—Selected.

ACTION OF ALCOHOL IN THE MOUTH.

THE teeth should cut and grind food into a pulpy mass, that it may be more easily digested in the stomach. Certain glands in the mouth secrete a watery fluid which contains a chemical element. Its purpose in the economy of digestion is to turn the starch contained in food into sugar. This may be proved by taking a small piece of ordinary laundry starch into the mouth, and holding it there until it is fully saturated with saliva. In a few moments it begins to have a sweet taste; it is being turned into a solution of sugar. This is normal digestion. Bread, and all like substances, are largely composed of starch. By the digestive element in saliva these bread stuffs are changed into a peculiar kind of sugar, in which form it supplies nutrition to the body. Now repeat this experiment, first taking a tablespoonful of brandy into the mouth, hold it there for a few moments, and then spit it out and place the piece of starch in the mouth. It will now take from twice to four or five times as long for the starch to be turned into sugar. The reason for this lies in the fact that the alcohol of the liquor paralyzed the nervous vitality of the salivary glands. They failed

to secrete the saliva necessary to turn the starch into sugar; and, furthermore, the alcohol destroyed or weakened the chemical elements in the saliva which were necessary to effect the change. It was only after the alcoholic liquor had been ejected from the mouth for some time that the glands assumed their normal condition, and again began to secrete natural digestive elements which would affect the starch.

CONCLUSION.—Alcohol defeats mouth digestion of starch by paralyzing nervous vitality and destroying the digestive element of saliva.—*Alcoholism, Its Cause and Cure*, by "Joe Brown," Doctor.

JOSEPH COOK'S VIEWS.

AMONG the distinguished speakers at National Prohibition Park last week was Joseph Cook, of Boston, the well known author and lecturer. A *Voice* reporter found him enjoying the shade on the broad veranda of the Park Hotel Sunday afternoon shortly after the second meeting at the Auditorium, and entered into a conversation with him upon the subject of temperance.

"How long, Mr. Cook, have you been a total abstainer?" queried the reporter.

"From birth, by the blessing of heaven on the instructions of my parents—and you see how thin and pale I've grown," said Mr. Cook, his ruddy countenance lighting with a smile as he glanced over his ample proportions. Mr. Cook weighs 280 lbs.

"What specially caused you to become an abstainer?"

"Three things; (1) parental instruction and example; (2) physiological instruction, beginning with an exhibition of 'Sewall's plates' in a district school as early as 1844; and (3) habit, supported by continued study of the temperance cause in its scientific and personal aspects."

"Will you state some general reasons for practicing total abstinence from intoxicants?"

"Alcohol is a brain poison. Intoxicating liquor is the devil's fishhook. It easily goes in—but not out. The tendency of the use of a little intoxicating liquor is to produce a diseased appetite for more. Wine is a mocker, and he who is deceived thereby is not wise. Tippling is Satan's kindling wood."

"Can literary men, as a rule, do better work while practicing total abstinence?"

"Assuredly, if they take proper care to sleep enough, and maintain vigor by sufficient physical exercise. Every brain habitually stimulated by alcohol is more or less disintoned. Such a brain injures the quality of its literary productions. No intoxicated brain is a sound brain, and every brain more or less unsound has more or less unsound ideas and sentiments. Moderate drinking destroys the nice balance of the faculties."

"How does total abstinence help the literary man?"

"Total abstinence prevents mental giddiness in any well-balanced brain. It wards off many a fit of depression. It prolongs mental vigor into advanced years. It's the only secure prevention of drunkenness, which is the ruin of genius as well as of health."

"I have made the tour of the world as a lecturer with my wife, who was in frail health at the time," continued Mr. Cook, "and we found no necessity in any climate for the use of wine or beer, and were total abstainers everywhere without apology. The public schools of thirty-six States of the American Union now teach total abstinence in the name of advanced science. It's high time for literary men to rise to the temperance level of the public schools."—*New York Voice*.

THE LIQUOR TRAFFIC AND PRODUCTION.

THE liquor traffic robs us of the right to produce. Generally speaking, capital is the friend of labor, its necessary ally in the production of wealth. But capital invested in the manufacture of intoxicating liquor does not befriend labor by making a lucrative demand for brain and muscle. Compared with other industries, which would be immediately stimulated into activity by the destruction of the liquor traffic, it will be seen that labor's employment is far from commensurate with the investment of liquor capital, and labor's share for

wages is so trivial as to deserve the name of robbery.

In 1880 the liquor industry, on a capital of \$118,037,729, employed 33,689 workmen, paying them in wages \$15,978,579. That is, it required \$3,504 of capital to employ one man, and pay him in wages \$447.

Compare this with the following table:—

CAPITAL.	INDUSTRY.	MEN.	WAGES.
\$3,504 invested.	Boots and Shoes	8¾	\$3,387
	Furniture	4 4-5	1,920
	Carpentering and Building ..	9%	4,487
	Bricks	8	1,624
	Carpets	3½	1,190
	Cotton	3	935
	Woolens	3 1-5	960
	Sewing Machines	3	1,400
	Printing	3½	1,815
	Worsted	3½	1,050
	Bakeries	4¼	1,770
	Agricultural Implements ..	2½	900

This comparison will apply with similar results to all classes of manufactures.

Compare again: \$118,037,729 in liquors employs 33,689 men; wages, \$15,978,579; \$118,037,729 in above industries employs 168,445 men; wages, \$60,314,000.

Clearly this mal-investment of capital robs labor of the liberty to produce, and thus thwarts the right to do good work for bread. The liquor traffic also robs labor of the benefits of labor-saving inventions by making them simply cash-saving and time-saving inventions.

The wives and children of liquor drinkers are forced into the labor market, and they, in turn, force adult labor away unemployed, or else reduce wages to a minimum. Instead, therefore, of benefiting labor to the extent they should in lightening work, shortening hours, and cultivating skill, the inventions are operated by the wives and children of drunkards, for lower wages.—*John Lloyd Thomas*.

THE DISASTER OF DRUNKENNESS.

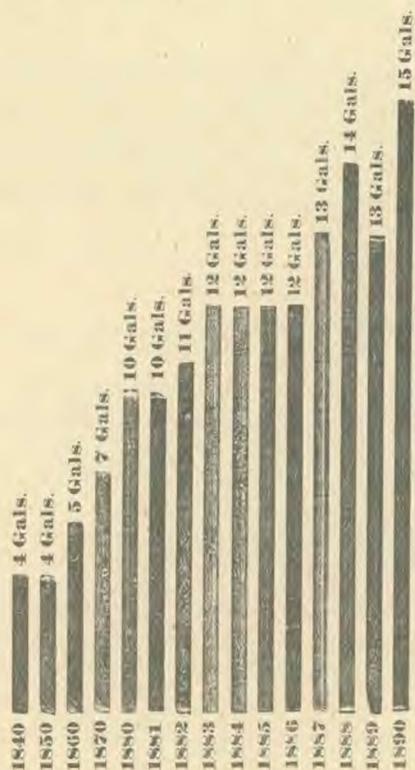
So great is the disaster, from an economic point of view, wrought by the liquor traffic that Germany has instituted a most exhaustive investigation. This investigation has resulted in the declaration that the alcohol habit reduces the available military strength of the empire by fifteen per cent. The investigation was conducted according to the highest standard of German thoroughness, conducted in a country where public opinion is strongly in favor of beer and wine drinking, and the results declared must be considered as arrived at very conservatively.

Will our social reformers of the economic schools in America pause one moment and consider the terrible enemy they have in the liquor traffic? The indictment against liquor can be made more severe in America than in Germany. The pens of poverty are not filled alone from the humbler walks of life. Those from the ranks of wealth and from the great commoners come down borne toward a terrible destiny until they find themselves among the dependent poor.

One million people in these United States are at work day and night to push the terrible traffic. —*Progressive Age.*

INCREASE IN FIFTY YEARS.

How can men be blind to the fearful increase in the *per capita* consumption of intoxicating liquors in the face of this picture taken from the government records?



THE GOVERNMENT RECORD.

Year.	Liquor Consumed, Gals.	Year.	Liquor Consumed, Gals.
1840.....	4-17	1884.....	12-45
1850.....	4-08	1885.....	12-06
1860.....	5-34	1886.....	12-62
1870.....	7-60	1887.....	13-68
1880.....	10-08	1888.....	14-30
1881.....	10-47	1889.....	13-86
1882.....	11-84	1890.....	15-51
1883.....	12-11		

There are more total abstainers in this country now than ever before; yet, if all the intoxicating liquors consumed in America were divided equally between the inhabitants, men, women, and children, it shows that the consumption increased from four and seventeen one-hundredths gallons, in 1840, to over fifteen gallons in 1890, and to about sixteen gallons in 1891. The nation is being debauched, and the only question now is, *Shall this republic abolish the saloon, or shall the saloon destroy the republic?*—Compiled by Tallie Morgan.

ABRAHAM LINCOLN'S ONLY DRINK.

AN exchange tells an interesting anecdote of President Lincoln: "Abraham was not afraid to speak out about beer. He was once urged to drink a glass of lager by some man with whom he had business dealings. In vain he protested that he never drank liquors. Lager was then coming in fashion, and his friend told him that he must learn to drink it, as it was wholesome, and would do him good. He drank it, and they parted, but the lager made Mr. Lincoln very sick, and he never forgot it. Many years later they met again. It was at a White House reception. The tall President, who was receiving, saw his friend coming afar off, and called out, 'Mr. W., I have never drunk a glass of lager since!' And we may infer that he wished he had never drank that."

THE COST OF STIMULANTS.

IN the *Popular Science Monthly* Mr. Felix L. Oswald makes the striking statements that it takes one bushel of grain to make two gallons of spirits and three bushels to make one barrel of beer, and that, according to this estimate, the distilleries and breweries of the United States consume annually fifty-five millions of bushels. This he says would make more than a billion four-pound loaves of bread, or nearly a hundred loaves for every family in North America.

DRINKING MEN CAN'T BE TRUSTED.

No fact in business is better established than the fact that a man who drinks is not to be trusted in a responsible position, where lives depend upon the clearness of his head and the steadiness of his nerves. It is amazing how ready people are to risk their lives and the lives of other people in the glorious cause of rum.—*Voice.*



BRIDE OF THE AUTUMN SUN.

O GOLDEN-ROD! sweet golden-rod!
 Bride of the autumn sun;
 Has he kissed thy blossoms this mellow morn,
 And tinged them one by one?
 Did the crickets sing at thy christening,
 When in his warm embrace
 He gave thee love from his fount above,
 And beauty, and cheer, and grace?
 He brightens the astors, but soon they fade;
 He reddens the sumach tree;
 And the clematis loses its sunny bloom,
 But he's true as truth to thee.
 Scattered on mountain top or plain,
 Unseen by human eye,
 He turns thy fringe to burnished gold
 By love's sweet alchemy.
 And then when the chill November comes,
 And the flowers their work have done,
 Thou art still unchanged, dear golden-rod,
 Bride of the autumn sun.

—Sarah K. Bolton, in *Ladies' Home Journal*.

"HER HUSBAND IS KNOWN IN THE GATES."

BY FANNIE BOLTON.

(Continued.)

"WELL, we will see," said Mrs. Lee. "Meanwhile do let me have my theories. You know it is by beholding we become changed. Mrs. Browning says, 'It takes the ideal to blow a hair's breadth off the dust of the actual. . . . Life develops from within;' and Emerson says, 'The spiritual is stronger than any material force,' and that 'thoughts rule the world.' I believe revelation is revolution. If there were no other experience in the world save yours, I might indeed be hopeless. But there is. I have read of women who have kept the current of healthful life always flowing from honeymoon to

harvest moon, and I actually know a woman whose experience justifies my theories. Doesn't the wise man say of the virtuous woman, 'Her husband is known in the gates'? I take that for a divine promise of a woman's power for good when her object is noble and unselfish and her dependence is in Christ."

"Ah, Mrs. Lee, I see you sitting by the fire darning stockings, or mending rents; Mr. Lee is away to the club, seeking intellectual diversion, or, if he is at home, he is moodily conning the secular news and saying nothing to you!"

"Oh, but I see another picture!" said Mrs. Lee. "If I do darn stockings in the evening, my husband shall read to me from the latest magazine, and when he is tired, I shall put up my darning and sing to him, or encourage him with my expectations of him. When he is weary, I shall rest him, and when anxious and troubled, I shall be hopeful. I have made up my mind that I shall believe in his success and usefulness, even when he is despairing, and, if God is willing, finally see him reach the desired haven, through the grace of Him who is the ideal of perfect manhood."

"It may be," said Mrs. Aimes, "but I imagine your voice will be saved for baby's lullabys, and your fingers will get too clumsy for piano playing. I have been through it, you see."

"I did not intend staying so long," said Mrs. Lee, rising, "and I see your children coming from school. But may I not bring a charming friend of mine to see you next week, a veritable little tug who is towing a magnificent steamer into harbor?"

"Certainly," said Mrs. Aimes. "Is this the woman that you say justifies your theory of husband making?"

"Yes; do you not know her? It is that sweet little Mrs. Davenant. Her husband is known in the gates."

"Oh," said Mrs. Aimes, "but he is a minister!

Of course one expects a minister to be known in the gates. Ministers and ministers' wives have the advantage of common mortals."

"Do let me bring her to see you and hear her experience from her own lips, and maybe you will change your mind."

"Very well," said Mrs. Aimes. "I go to Mr. Davenant's church occasionally, that is, when I go anywhere, and I really think him to be a superior man in intellectual and spiritual power. There come the children. My, what a whirlwind! Do be still, children! There, Mrs. Lee, wait till you have a houseful like that, and then we will see what your inspiration and aspiration amount to."

"Mrs. Aimes, allow me to introduce you to Mrs. Davenant," said Mrs. Lee to Mrs. Aimes a week later, as she ushered the minister's wife into Mrs. Aimes' parlor. Mrs. Aimes looked at her with interest, for she had heard of her gentleness and efficiency, and stood a little in awe of such a paragon of perfection as the minister's wife appeared to be.

"I am glad to meet you," said Mrs. Davenant, "for Mrs. Lee tells me that you attend our church, and believe in my husband as a sincere Christian."

"Indeed I do," said Mrs. Aimes, "and since I have learned that you have been the making of such a man, I take unwonted interest in you. What a brave little tug you must be to bring to such a harbor so magnificent a craft!"

"Ah, Mrs. Aimes, I fear you are speaking sarcastically! I have not made my husband, but simply done what all women should do, helped him to make himself, through the grace of God."

"Well, indeed, you have reason to be a proud and grateful woman."

"And so I am," said Mrs. Davenant, "for, of course, like every loyal wife, I think I have the one man in all the world."

"That is the secret of every wife's power over her husband, isn't it?" said Mrs. Lee.

"I believe it is," said Mrs. Davenant. "Not that I see no faults in my husband, but I believe in his possibilities, and seek to inspire him with faith to reach on and give wings to his upward desires. Of course it is natural for me, who can do so little in this world, to want to find fulfilled in his life work enough for both of us. But, speaking of the secret of woman's power, I do believe it is real, unselfish devotion for her companion that ever seeks his development and true exaltation. Through the

anointing of love, a wife ought to see far more in and for her husband than anyone else can see. Phoebe Cary says:—

"I think true love is never blind,
But rather gives an added sight,
An inner vision, quick to find
True beauties hid from common sight."

"But do you not think, Mrs. Davenant, that your husband might have been all that he is without your aid at all? Do you think that the illustration of the tug and the steamer is altogether fitting? Do not all things bring forth after their kind?"

"Well, to answer your first question, of course I cannot tell what he might have been. But do we not all know from experience that there are times when we lose heart in ourselves, doubt our ability, lose faith in our mission, and say: 'What is the use? Better give up.' And we would sink into commonplace, driven beings, puppets to fate, if some voice of cheer did not speak to us, if some believing love did not point out our possibilities, and say: 'It is not all over yet. Forgetting the things that are behind, press on; for there is an immortal crown ahead.' To me it has been given many times to strengthen the weak hands, and confirm the feeble knees, and say to him that is of a fearful heart, Be strong, fear not; behold, God will save you."

Mrs. Davenant was lost for a moment in remembrance of hours when she had to fight for her husband's courage and pray for his triumph.

"Well, come, Mrs. Davenant, tell us some of the definite steps by which you have become a real helpmeet," said Mrs. Aimes. And Mrs. Lee joined in with, "Yes, tell us the whole story from the very beginning."

"Well, you must not think me an egotist or an enthusiast, will you? You see I have known my husband always, for we lived in the same neighborhood since we were children. He fell in love with me when he was a mere boy, but I did not think of him until I was a young woman grown. Mother and father were strict, Puritanical people, and at home I was kept very much secluded from society, lest I should become contaminated by association with the world. But never was there a girl more full of life and fun than was I. At seventeen I went away from home to teach school, and when restraint was removed, I resolved to have all the gay times the world could give me. The reaction from my Puritanical life was seen in the wild, fun-loving girl who reveled in that strange city. I

learned to dance, and had no lack of beaux and lovers, for I proved the truth of the saying, 'Laugh and the world laughs with you.' Yet in all my gayety I ever felt the influence of my early training, and knew in my heart that I was not spending my life worthily in following the fashions and adopting the customs of the pleasure-loving world. Every night I knelt at my bedside, and acknowledged to the Lord that my ways were not what he would have them to be. Yet I pleaded with him to bear with me, and care for me, and I promised that the time would come when I would be a true Christian, and live for what was worthy. Underlying all my fun-loving propensities was a deep conviction that life was meant to be real and earnest, and so it came about that the young men of my acquaintance fell short of my measurement of what my husband should be. They were well enough for playfellows, but for life companions—never.

"During my vacations I came home, and gay friends sought my society. Little did I know that my husband, who was then but a great, half-grown fellow, was looking on with interest such as lovers feel, and saw me much in the society of young men who exceeded him in good looks and attainments; no, scarcely in attainments, for he was steadily, patiently bearing the yoke in his youth, and, instead of living for pleasure, was doggedly doing his duty. I have asked him since if he were not jealous of my companions, but he answered, 'No, for I felt in my heart that you would be mine some day.' So it went on till I was about twenty; then it began to dawn on me that there were grand possibilities in Ernest. His honest face was grave and noble, and, although he had not had the advantage of a college education, he was intelligent in a fine, common-sense way, and was touched with just enough of the poetical insight and spirituality to make him something of a mystery to me, who am of a practical turn. I appreciated his delicacy of manner, his fineness of feeling, his beauty-loving instinct, and saw deep into his soul, and knew that there was a manhood there that ought to be of much worth to this world, and be fitted for a crown in the next, so I began to love him, that was all, and to aspire for him, and, in consequence, to inspire him.

"You ought to make something of yourself for God and humanity," I said. "Your abilities must be developed for no worldly ambition, but that you may really do good."

"Well, we became lovers, and he went away to college, intending to graduate before we were married. But an accident happened—I say happened, but, of course, nothing happens, since even the hairs of our head are all numbered, and the Father knoweth what we have need of before we ask him. Ernest came home to me in a condition from which no one gave hope that he would recover. It was then that I was tested. Mother and father both urged me to give him up. A young man, a former intimate associate of mine, came to my home offering himself and a large fortune, and Ernest himself sought to release me from my obligations to him; but every womanly sense of chivalry was aroused in me, and I could not think of deserting him."

(To be continued.)

"KNOW THY OPPORTUNITY."

BY ERNEST GILMORE.

THE above words composed one of the mottoes on the walls of the temple at Delphos. It is sad to think how many there are who fail to recognize these flitting opportunities, and they are lost forever. It is painful even to those who are endeavoring to serve the Master faithfully to remember the "cups of water" they might have offered and yet did not.

"The poor ye have always with you is a wonderfully comprehensive sermon—the good and the wise give it their thoughtful attention. Every sorrowful or weary creature that crosses our path is a God-given opportunity which it would be wrong to neglect. "Inasmuch," said our Lord, "as ye did it not to one of the least of these, ye did it not to me."

The noble souls are all compassionate ones.

"You cannot begin too early to recognize your opportunities," said a mother to a daughter, and the girl remembered the instruction. One day as she was passing along the street a little child tumbled down and began crying. She picked him up, wiped the blood and dust and tears from his face, gave him a candy ball, and, after kissing him, sent him on his way rejoicing. A friend was with her, and was vexed because she stopped.

"I wish, Dora," she said petulantly, "that you wouldn't bother with the dirty little fellow; he'd no business to fall."

Someone may think that the cup of water just spoken of was too simple an act to be recorded; but the result of it I think you will enjoy listening

to. The little boy has become a young man. The young girl is now a mother of three dear little girls. The young man has never forgotten the kindly act of years ago. Speaking of it one day, he said:—

"It has influenced my whole life. I don't know as I ever see a hurt or grieved child that I do not recall that incident. I was really hurt, too, for my knee was bleeding from a cut, but that delicious candy ball, those gentle words, that tender kiss, were a panacea for all my troubles. It is a joy to me to bring smiles into sad faces, but I learned my lesson from Mrs. Temple—bless her!"

An old man, bent and weary, was struggling through a storm of wind and snow to reach the home of his son, who was very sick. He was bewildered and so seemed unable to comprehend the directions which had been given him. He inquired of one and another as he passed along, his questions varying slightly.

"Do you know where Henry lives?" "Could you tell me which is my son's house?" "Where's No. 614?" "Is this Cambridge Street?" "Are you sure I'm right?"

Some laughed and did not answer. They thought the old man was in his dotage, which was true. Others replied carelessly, so much so that the feeble mind failed to be enlightened.

"Do you know where Henry lives?" He asked the question this time of several well-dressed school-boys who were homeward bound. They laughed derisively, and one said, as if it were a praise-worthy joke:—

"Is it Henry the Eighth you refer to, my good fellow?"

"My son Henry," faltered the quivering lips.

"I haven't the pleasure of knowing him," said the boy mockingly.

And they passed on, not hearing the Voice say reprovingly, "Inasmuch as ye did it *not* to one of the least of these, ye did it not to me."

But help was coming. Another young student was hurrying homeward, a bright, cheery-faced lad, whose rosy cheeks were tingling with the cold. A detaining hand touched him, and a voice, tremulous with age and anxiety, asked:—

"Could you tell me which is my son's house?"

"I hope so, sir. Tell me his name, if you please."

"Henry."

"Mr. Henry?"

"No, not *Mr.* Henry. Henry is his first name."

"And his last name—what is that?"

The old man rubbed his forehead in a distressed way. "It's strange," he said huskily, "but I can't seem to think; I'm so tired, you know."

The boy looked at him with eyes tender with compassion.

"What is *your* name?" he asked gently.

"Dunbar—Cyrus Dunbar," the weary, perplexed brow cleared somewhat—"and so my Henry's name is Dunbar of course—Henry Dunbar. Do you know him?"

"I will find him," was the reassuring reply. "Does he live on Cambridge Street?"

"Yes, 614."

"All right, sir; I will go with you there. Take my arm, please, and I will hold my umbrella over you."

It was a long, weary walk to 614, but they reached it at last. The old father, whose coming was a complete surprise, was greeted with exclamations of joy, and the kindly boy with expressions of gratitude.

"God bless you forever," the old man said fervently; "there aren't many boys who would go out of their way like this to serve a wayworn pilgrim."

Many years have passed since then, and the lad who improved that golden opportunity is now the renowned Judge H. Someone spoke to him one day of hearing of the above story from some member of the Dunbar family, and he replied with feeling:—

"It was only a small service I rendered—only a cup of cold water, but I have felt that old man's blessing all my life long."—*Advance.*

PROGRESS OF TRUTH.—When a great truth is to be revealed, it does not flash at once on the race, but dawns and brightens on a superior understanding, from which it is to emanate and to illuminate future ages. On the faithfulness of great minds to this awful function, the progress and happiness of men chiefly depend. The most illustrious benefactors of the race have been men who, having risen to great truths, have held them as a sacred trust for their kind, and have borne witness to them amidst general darkness, under scorn and persecution, perhaps in the face of death. Such men, indeed, have not always made contributions to literature, for their condition has not allowed them to be authors; but we owe the transmission, perpetuity, and immortal power of their new and high thoughts to kindred spirits, which have concentrated and fixed them in books.

Mother's Helper

CONDUCTED BY MRS. H. S. MAXON, M. D.

MAKE CHILDHOOD SWEET.

Wait not till the little hands are at rest
Ere you fill them full of flowers;
Wait not for the crowning tuberoses
To make sweet the last sad hours;
But while in the busy household band,
Your darlings still need your guiding hand,
Oh, fill their lives with sweetness!

Wait not till the little hearts are still,
For the loving look and phrase;
But while you gently chide a fault,
The good deed kindly praise;
The word you would speak beside the bier
Falls sweeter far on the listening ear.
Oh, fill the young lives with sweetness!

Ah, what are kisses on cold clay lips
To the rosy mouth we press,
When our wee one flies to her mother's arms,
For love's tenderest caress!
Let never a worldly bauble keep
Your heart from the joy each day should reap,
Circling young lives with sweetness.

Give thanks each morn for the sturdy boys,
Give thanks for the fairy girls;
With a dower of wealth like this at home,
Would you rifle the earth for pearls?
Wait not for death to gem love's crown,
But daily shower life's blessings down,
And fill young hearts with sweetness.

Remember the homes where the light has fled,
Where the rose has faded away;
And the love that glows in youthful hearts,
Oh, cherish it while you may!
And make your home a garden of flowers,
Where joy shall bloom through childhood's hours,
And fill young lives with sweetness.

—*Christian Register.*

"A LABORATORY has been established in Boston for supplying to physicians and others choice milk, modified to order according to any formula prescribed, as to percentages of any of the several constituents, and sterilized or otherwise."

MOTHERS' MEETINGS, THEIR OBJECT AND IMPORTANCE.

THERE is a prophecy in the Scriptures that in some age of the world's history the hearts of the parents shall be turned to the children, and *vice versa*. Are we not now seeing the bright showers of the gracious rain of that glorious time? It has seemed to us that the widespread interest manifested in the care and culture of the young children by men and women of intelligence all over the world is an evidence of its near approach—everywhere. A gentle and unseen influence, a spirit of earnestness, seems to be resting upon the hearts of mothers, and many are crying out in anguish as they realize their incompetency to guide their charge safely through the snares that beset the feet of their little ones.

The general thirst for knowledge on this important subject is proved by the large amount of excellent literature which has been lately produced, and also by the various methods which have recently been devised for the instruction of mothers in duties and privileges of maternity. Foremost among them, and the one that seems to us to promise the most help to the greatest number, is the "mothers' meetings," which are now being held in many large communities, and which might profitably be held in many other places. It occurs to us that some busy mothers among the readers of the *HEALTH JOURNAL* may not have had their attention called to these things, and, while struggling to discharge the solemn trust given to them in the proper training of their little ones, they have missed the helping hand that has been extended to them from so many lovers of children and children's mothers. Let us discuss the matter for a little while; it may be we shall find in it a gem of rare value, which shall add wealth to our own store of knowledge and enable us to impart to others that which

shall not only make their way brighter and easier, but may be the means of saving many a citizen to our nation and many souls for eternity.

The object of the mothers' meeting is: 1. The interchange of thought and experience which shall be of mutual benefit to the mothers interested. As our duties have called us into many homes, we have been exceedingly interested to observe the different ways in which the mother instinct has prompted different mothers in the training of their children, and as we have observed the unique and original methods used by some, where sunshine seemed always to pervade the home, we have thought, Oh, if others also might have the benefit of this mother's tact and experience! To afford an opportunity for this is one of the objects of the mothers' meetings.

2. To obtain information from those who have given special study and thought to the subjects pertaining to maternity, such as heredity and the training of children from earliest infancy until the parental influence ceases, which, of course, is only at the death of the individual.

3. To be taught from the Book of books the many things few of us realize are therein written concerning this most important matter. It may be asked: Why is it necessary to organize meetings for this purpose? Is not every mother with the gift of maternity endowed with an instinct that should guide her in training her child? Walk along the streets of our towns and cities and visit the playgrounds of any country school and ask yourself the question. We ladies form societies for the study of literature and less important subjects; we band ourselves together to make garments for the poor in our midst; how much more should we lay plans for clothing our children in the garments of righteousness! Agriculturists form local, State, and national societies and publish papers and magazines to the end that they may the better know how to make the earth yield her richest fruit; and wealth has accrued to our nation, and many luxuries in the form of luscious fruits, grains, and vegetables to us all individually, as a result of their study. Stock raisers have done the same thing, and animals, beautiful to look upon and most valuable for strength, gentleness, and speed, prove the benefit of their efforts. Shall we do less as we contemplate the grandest and most intricate work given to mankind, and work to which so many illy prepared

are called? Shall we not all strive to make ourselves capable of doing this work? and shall not the strong and well-informed help to bear the burdens of their weaker and less-informed sisters?

Where should mothers' meetings be held?—Everywhere; in every city, town, hamlet, and country place, wherever girls and boys may be found. The appropriate place for meetings is the church parlor, or, better still, perhaps, the sitting room, or kitchen if there be no sitting room, of an interested mother—wherever two or three may be found with hearts agreeing upon the importance of the most important of all important subjects. They should be attended by every mother and by everyone who may possibly become such at any future time, and especially mothers of marriageable daughters, upon whose choice of companionship for life depends so largely, not only their own happiness, but the happiness and intelligence of their offspring. We have found many mothers hungering and thirsting for just such information, but who feel that they do not know how to conduct mothers' meetings or know where to find the information referred to. There are many valuable helps that can be obtained at a slight cost, which would aid very materially in work of this kind, and it is the purpose of the editor of the *HEALTH JOURNAL* to furnish each month a program for such a meeting, with references for helps on the subjects to be considered. This will be for the benefit, not only of those who can meet with their neighbors and friends in conference, but for isolated mothers who have not this privilege.

We trust a large family of workers who shall be stimulated by our efforts to take part with us in this work will reap a glorious harvest of souls in that day when it shall be proved that the promise, "Train up a child in the way he should go, and when he is old he will not depart from it," is just as solemnly true as any other portion of God's written word.

H. S. M.

OBJECT OF THE QUESTION BOX.

THERE is no mother in whose daily experience there does not frequently arise many perplexing questions which she would fain put to someone of larger experience. It has been truly said that a mother, in order to do her full duty by her family, needs to be at once a philosopher, an artist, and a musician, as well as a housekeeper, teacher, and physician. Of course it is impossible for any one

person to be proficient in all the arts and sciences, even though she enjoy all the best opportunities for study, but to the careful, earnest mother there will arise many questions concerning the moral and mental, as well as the physical, care of her children which would require much thought and study in answering. It is the object of the question box to encourage the consideration of such questions. The questions should be handed to the leader or placed in the proper receptacle at a meeting previous to the one at which they are expected to be answered. The consideration of them should be assigned to some one of the interested number, who should make it her duty to seek to answer them as intelligently as possible, making use of all available aids in obtaining correct information upon the subject under consideration.

Many questions which would naturally arise could be answered best by a physician, and it might be well to consult the family doctor upon such points; few would be found who would not gladly impart the desired information, and some might be found who would be so interested as to be willing to give talks at some of the meetings. To the isolated ones and those who desire to do so, we will add that any request of this kind would be most gladly considered by the writer, and any communications concerning anything pertaining to the subject will receive prompt and careful attention.

Address Sanitarium, St. Helena, Cal.

H. S. M.

HINTS ABOUT ORGANIZING MOTHERS' MEETINGS.

IN answer to the question which we anticipate from many, as to just the manner in which mothers' meetings shall be started and conducted, we make the following suggestions:—

Let the first woman whose heart is stirred with a desire to gain more knowledge for herself and to help others in this way, speak of her desire to a friend or neighbor; let these call to their consultation a few more friends, and let these appoint from their number someone to act, for the time, as superintendent, and then these together can arrange a program for the first meeting. If thought best, the one given in this department may be used. This, then, can be neatly printed or written on slips and some one or two or more of the interested ones canvass the society or community and labor personally with the mothers on the impor-

ance of mothers' meetings and their duty to support them.

When once the audience has been secured, the next object to be attained is to make the meeting so interesting and instructive that no mother will stay away when she can possibly attend. Let the time and place of meeting be definitely fixed, that there may be no mistake of place or date. The different parts of the program should be assigned to different individuals, and the subjects chosen and assigned at least a month in advance, that plenty of time may be had for their preparation. The meeting should be opened by a short but appropriate Scripture lesson and prayer. The subject for the day may be presented by the one to whom it has been assigned, either in a carefully written paper, in a talk, or by reading some choice selection bearing upon the subject. The presentation of the subject should be followed by a free discussion of the same, by those present. In conducting this exercise, all gossip and personal inferences should be religiously avoided, as also everything that would detract from the high and holy character of the meeting.

As regards the frequency of the meetings, we would suggest that they be held not too often, for the reason that if we would keep our busy mothers interested, we must not overtax them. We believe it is better not to hold these meetings oftener than semimonthly, and perhaps better still monthly.

Do not allow the exercise to be prolonged beyond the appointed hour for closing. Remember that your audience is composed of busy mothers.

H. S. M.

PROGRAM FOR MOTHERS' MEETING.

THE following program is only suggestive:—

1. Reading of Scripture lesson and prayer.
2. Subject for the day—Mothers' Meetings; Their Object and Importance.
3. Discussion of subject by members present.
4. Poem—subject, "Make Childhood Sweet."
5. Opening of question box and discussion of questions.
6. Closing—either by prayer, song, or otherwise, as may be thought best.

We would suggest as the Bible reading at the first meeting the following texts: Luke 18:15-17; Prov. 23:6; Eph. 6:1-4; 2 Tim. 2:14, 15.

To prevent flatirons from rusting, wipe with a cloth dampened with kerosene.

MOTHERS' QUESTION BOX.

I. FLANNEL BANDAGE.

WHEN should a baby cease to wear a flannel bandage about the abdomen?

This varies with circumstances. Ordinarily the band should serve only to retain in place the stump of the navel cord, and to protect it from injury. When this purpose is served, provided the infant is sufficiently well clothed, it can be dispensed with. The abdomen of an infant, however, furnishes a large surface, which parts with its heat readily, and should be well protected with flannel. If the baby shows a tendency to frequent diarrhea, it is advisable to continue the use of the band, loosely applied, even through the second year. At no time should the band be worn tight.

2. THE NAVEL CORD.

What is the proper method of dressing the stump of the navel cord?

This is in reality a most important matter. Many children are sacrificed yearly to maltreatment in this respect. In the first place, the cord should be tied with a silk or linen cord that has previously been made aseptic; then the navel cord should be cut with scissors that are aseptic; the stump should then be made dry, and a dry powder of bismuth or boracic acid, or both combined, applied, and a piece of dry, absorbent cotton or scorched linen be bound about it. If it can be kept free from moisture, it is better to do so. When the cord is removed, the surface should be washed with boiled water and sprinkled with the above-mentioned powder, and covered with a compress of clear linen or absorbent cotton.

3. PREVENTION FROM DIPHThERIA.

Is there any measure from which we may hope for success whereby to protect our children in time of epidemic of diphtheria?

Yes. First, keep your child in as healthy condition as possible, by regulation of diet, hours of sleep, etc. Second, protect from colds as far as possible. Third, since the disease is due to the presence of a germ, much good may be hoped for from the use of proper disinfectants for the mouth and nostrils. For this purpose a two per cent solution of boracic acid has been advised. This should also be applied to the nostrils. If the child is old enough, it will soon learn to gargle and sniff the water; if not, the mouth and throat may be swabbed, and the solution turned into the nose from a spoon.

HOW TO BATHE THE BABY.

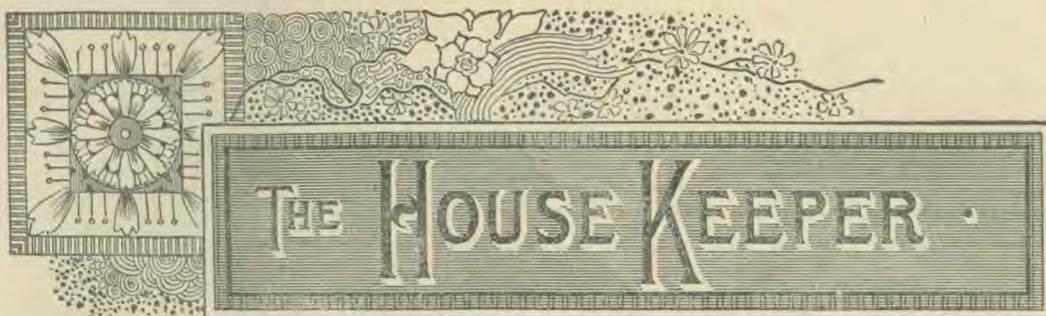
BY MARGARET WALLACE.

THERE should be a thermometer in every nursery for the regulation of the bath. For very young children a sponge bath is preferred; the temperature of the water should be ninety-five degrees. The work should be done lightly, gently, and quickly. It should be sponged under the protection of a soft baby blanket, keeping covered as far as may be. Once a day will be sufficient until it is a little older and stronger. Then it may be immersed in water at a temperature of ninety degrees. Subject it, however, to no shock; let the plunge be a very gradual one, cooing and cajoling the little one into a fondness for the bath. Let the cleansing be thorough but not lengthy. It should be thoroughly dried with a soft towel, and the surface be brought into a glow by gentle friction with the hand. At this age there may be a gentle sponging at bedtime, temperature at from ninety to ninety-five degrees, according to the child's constitution.

Unless it be what is termed a "brainy" child (that is, of an excitable disposition, the progeny of intellectual parents or those who depend upon their brains for a livelihood), this will be sufficient. In this case let the *sponge* bath accompany its morning toilet and reserve the *plunge* bath for bedtime, making the water ninety-five degrees to get its full sedative influence. It draws the blood from the brain, equalizing the circulation, and induces sound and delicious sleep, giving rest to both mother and child.—*Good Form.*

CLEANLINESS.

HISTORY shows that by cleanliness epidemics may be checked, many of them at least; that police regulations, disinfection, and isolation are potential factors in stamping out the invasion of epidemic diseases; all this too without the least regard to the relative position of "Jupiter and Saturn." This is what should be fastened upon the public. Let all theories of epidemics go. Get clean and remain clean; see that overcrowding is avoided, that streets are cleaned, that back alleys and cellars are dry and clean; bathe regularly, disinfect privy vaults and all questionable places; these matters well attended to and epidemics will at least lose one of their favorite foods, filth.—*Texas Health Journal.*



CONDUCTED BY MISS LAURA C. BEE AND MRS. C. E. L. JONES.

A SONNET TO HYGIENE.

WHO cometh over the hills,
Her garments with morning sweet,
The dance of a thousand rills
Making music before her feet?
Her presence freshens the air;
Sunshine steals light from her face;
The leaden footsteps of care
Leap to the tune of her pace.
Fairness of all that is fair,
Grace at the heart of all grace!
Sweet'ner of hut and of hall,
Bringer of life out of naught—
Hygiea, oh, fairest of all!
The daughter of Time and Thought.
—*Boston Medical and Surgical Journal.*

IMPORTANCE OF SCIENTIFIC COOKERY.

MAN has beautifully been called the masterpiece of God, standing as he does at the head of the animal creation, over which he was once given dominion, created in the image of God, made a little lower than the angels. At the time that he was created God looked upon him, with the rest of his created works, and pronounced him "very good."

Perfect in body, perfect in mind, no trace of the curse had yet fallen upon him, and had he not yielded to the tempter, who caused him to sin through the wrong indulgence of appetite, he might still have remained the same—pure, holy, and happy. But the temptation came; our first parents yielded, and from that time to the present the sin and misery that have been brought into our world have been through this cause.

We see the mother begin the same lesson with the infant in her arms, in urging it to taste the sweets she offers it because it *tastes* good. And all through life we too often see things eaten simply because they "taste good," without any reference to whether they are best for us or not.

Instead of this our object should be to eat that which will make the best blood, the best brains, and the best bodies, thus best fitting us to endure life's duties and responsibilities, and the burdens that sooner or later come to everyone.

Our bodies are made up largely of the food we eat, and if we would have them good and sound, this building material must be of the best quality. If every article that we eat were a perfect food in itself, we would need to use less care in its preparation.

No doubt the original bill of fare that God gave to man, in Gen. 1:29, has never been improved upon, and is still the one best suited to his needs; but as mankind became scattered over the earth, under the threefold curse of sin, in climates less favorable, his appetite became more and more perverted, and he chose for his food that which was less adapted to his needs, and hence a poorer quality. His foods now need greater care in their combination and preparation in order that they may contain the necessary food elements in the right proportion as nearly as possible and be easily digested and assimilated; and in order to know how to combine our foods we must know what food elements they contain, and what proportion of these elements the body needs.

This, of course, will require some time and thought, as well as an intelligent cook; but it is not necessary to spend all one's time at this work, nor even the greater part of it. We should study to have our diet simple, nourishing, and palatable, and what nobler work can woman do than to thus labor for the health and happiness of those around her. We all know that, in order to be well and feel well, we must have sound bodies; and unless the body is sound, the mind cannot reach that development which it otherwise could.

Instead of making cooking a menial service, left

to the care of an ignorant servant, let our mothers and daughters ennoble it by making it a study and a pleasure.

We send the boys to school to learn the art of agriculture; why not teach the girls the science of cookery? Is it any more important to know what substances there should be in the soil in order to raise good grains, fruits, and vegetables than it is to know what elements there are in those grains, fruits, and vegetables that will make strong, healthy men and women, with clear minds and good characters? Or is science needed any more in the running of dead machinery than in the building and sustaining of the vital machinery of our bodies?

It is said that indigestion has caused many a family jar and ruined many a sweet temper; and many a drunkard has learned his first lesson in the indulgence of appetite at his mother's table.

Looking at it from this standpoint, what questions are of greater importance to every mother and daughter than, What shall we eat? and how shall it be prepared? How can we build up bodies best fitted for the Master's use, and such as may be temples for the Holy Spirit, and of which it may be said that whether we eat or drink or whatsoever we do, all is done to the glory of God?

L. C. B.

THE HOME BEAUTIFUL.

THE ideal home beautiful is attained rather by avoiding errors of taste than by the adoption of dogmas of art. For my own part, if I have any dogmas to preach, they may fairly be condensed in this rule: "Avoid shams and affectations of all kinds."

Don't mistake some prettiness for beauty; millinery, for instance, is out of place in the home beautiful.

Don't attach to your chairs and sofa cushions meaningless bows of ribbon, which tie nothing.

Don't dress up your toilet table in muslin petticoats stiffened with crinoline or colored calico.

Don't scatter startling white "tidies" about chairs and sofas, as if, on so many bushes, you were hanging out the wash to dry.

Don't display on your walls china plates and dishes. They were never meant to go there. An exception may be made now and then in favor of a piece of fine color to help light up the room, or where a delicate china painting is worthy of careful

examination. Don't hang up ordinary domestic china.

Don't hang small pictures so that their beauty is lost to anyone under eight feet high. If a picture is not seen from the same position that the artist saw it when he painted it, the drawing will appear foreshortened, and the general effect consequently falsified.

Don't hang any picture in the home which has not the impress of elegance, purity, and cheerfulness.

Don't give place to representations of corpses, tortured saints, or anything occasioning painful emotions. And, above all, having such pictures and wanting them downstairs, don't banish them to the nursery, schoolroom, or bedroom.

Some things I would relegate to the bedroom, out of the way somewhere—in locked drawers, for instance. I mean mementoes of seaweed and dried ferns or flowers and wretched daubs on china, canvas, or paper, the crude efforts of youthful members of the family. No true lover of the home beautiful will inflict these on his family and friends and compel them to violate truth by pretending to like them.

Don't admit into the home beautiful any piece of furniture or implement of everyday life which does not honestly serve its purpose—no light, flimsy chairs, which an able-bodied man dare not sit upon; no puffy, debilitated sofas, all wind and springs; no burnished, brass-sheeted fire-irons, bought only to be looked at, and giving place to the ugly little black poker and shovel when coal is to be broken or ashes are to be removed.—*Journal of Decorative Art.*

THEORY AND PRACTICE.

IN teaching scientific cookery one is sometimes met with the objection, "Oh, that is all very well in theory, but it is not practical!" We believe that the two should be equally combined. The following, from the pen of James Freeman Clarke, is well worth our consideration:—

"We are in danger of going too far in this direction, and of undervaluing theory in its proper limits. People often eulogize *practice* when they only mean *routine*, boasting themselves as practical teachers, intending thereby that they only do what always has been done, and do not mean to do any better to-morrow than they did yesterday. Practice and theory must go together.

Theory without practice to test it, to verify it, to correct it, is idle speculation, but practice without theory to animate it is mere mechanism. In every art and business *theory is the soul and practice the body*. The soul without a body is indeed only a ghost, but the body without a soul is only a corpse. All success depends on practice, but all improvement on theory. Let neither despise the other."

EATING FOR STRENGTH.

THE following table, taken from the "Statistical Account of the Seven Colonies of Australasia," shows the amount of the leading articles of diet that is consumed, *per capita*, in the principal countries of the world. The daily energy received from the same is shown in the last column, and is measured by the average amount it would enable the individual to lift one foot high, and is called foot tons:—

Country.	lbs. per Inhabitant.						Tea and Coffee— Ounces.	Daily Energy— Foot Tons.
	Grain.	Meat.	Sugar.	Butter and Cheese.	Potatoes.	Salt.		
United Kingdom	378	109	75	10	380	40	91	3,739
France.....	540	77	20	8	570	20	66	3,993
Germany.....	550	64	18	8	1,020	17	78	4,708
Russia.....	635	51	11	5	180	19	6	3,532
Austria.....	460	61	18	7	560	14	28	3,502
Italy.....	450	26	8	4	50	15	20	2,152
Spain.....	480	71	6	3	20	17	6	3,597
Portugal.....	500	49	12	3	40	17	18	3,650
Sweden.....	560	62	22	11	500	28	112	4,012
Norway.....	440	78	13	14	500	40	144	3,627
Denmark.....	560	64	22	22	410	25	140	4,071
Holland.....	560	57	15	15	820	20	940	4,035
Belgium.....	590	95	27	13	1,050	..	142	5,034
Switzerland..	440	62	26	11	140	..	110	2,765
Roumania.....	400	82	4	9	80	..	8	2,414
Servia.....	400	84	4	9	80	..	8	2,422
United States..	370	150	53	20	170	39	162	3,415
Canada.....	400	90	45	22	600	40	72	4,013
Australasia..	352	270	96	21	288	16	115	4,470

It will be observed that the inhabitants of Belgium have the largest amount of energy, expressed by 5,034 foot tons. They consume on an average about 65 pounds of meat per year, but take 590 pounds of grain, and 1,050 pounds of potatoes. The next highest in the list is the Germans, who eat but 64 pounds of meat, with 540 pounds of grain, and 1,020 pounds of potatoes. The inhabitants of the United States consume annually 150 pounds of meat, 370 pounds of grains, and 170 pounds of potatoes, *per capita*, while the inhabitants of Sweden consume 62 pounds of meat, 560 pounds of grains, and 500 pounds of potatoes; but the latter have the advantage of 597 foot tons in daily energy. A careful study of the table will

show that, as a rule, the larger the proportion of grains and potatoes in the diet of a people, the greater is their energy.

Of the 270 pounds of meat consumed by the inhabitants of Australasia, 152 pounds is beef, 107 mutton, and 11 is pork.

C. E. L. J.

HELPS BY THE WAY.

STARCH: One teaspoonful of powdered borax to one quart of boiling starch will aid in giving polish and stiffness.

DRESSING: One spoonful sweet oil, two of black ink; mix and apply with sponge to boots, black kid gloves, bags, and rusty book covers.

BORAX and sugar will disperse ants and other insects.

Sprinkle dry salt among your furs, under and on your carpets, as a prevention of moth.

Remove iron rust by applications of salt and lemon juice.

Dip spots of mildew in buttermilk, and place in the sunshine.

Fruit stains on white cloth will scald out or freeze out.

The long clinging odor of onions can be removed from knife or dish by heating them when dry.

Do not fill the room with smoke from the gridle, but "grease" it by rubbing with half of a turnip.

Use half a raw potato instead of cork to apply Bristol brick to steel knives.—*Ladies' Home Journal*.

LAST month we printed in our Literary Notices the circular sent out by Professor Hilgard, warning people against the use of the "cold process" for preserving fruits. We have since heard from correspondents who say they use nothing else, and that fruit thus preserved will keep for years. Professor Hilgard does not in anywise deny the preservative qualities of the preparation. He implies that it is well adapted for fruit designed as show specimens, but says it is deleterious to health, especially with some classes, "with whom its use would in a very short time create very serious disorders of digestion; and there are those whose digestion is stopped point blank when such 'preserves' are eaten." We think the remarks of Professor Hilgard are worth heeding.

M. C. W.



CONDUCTED BY MRS. H. S. MAXON, M. D.

DRESS FOR YOUNG GIRLS.

THE large number of invalids among the young women of America at the present day causes the wise physician to look closely to the cause of this great evil, which, if not remedied, must in a few generations sap the life of our nation, and destroy our strength as a people.

The careful observer will look for *first* causes. These are many. Among others might profitably be considered physical education in childhood, proper dietary, proper *mental* and *moral* training, especially avoiding overstudy during the important and most trying period of puberty. But not the least important among the subjects which have a bearing upon this great problem is the proper dressing of our young girls.

It is gratifying to those who have the health of the public at heart to observe that there is an improvement in this respect over a few years ago. Many mothers whose lives have been crippled through the blind following of custom on the part of their own mothers are now anxious to know how to avoid a like experience for their daughters.

The customary method of dress for children between the ages of three and twelve years has been, as regards the management of waist and skirts, comparatively free from error, but at the very age when all the organs of the abdomen and pelvis are rapidly growing to meet the demands of approaching womanhood, Dame Fashion demands that the young lady's form shall be made, and so, irrespective of every claim of a healthful physique, and hence every right of society, she imposes upon her victim the stiff, unyielding case, which, not permitting the organs of the trunk to expand, literally forces them into unnatural positions, resulting in lifelong suffering to the individual. Some of the evils of corset wearing have been considered in preceding numbers. All these are felt with double

force when the corset is applied at this peculiar age.

Side by side with the corset stands a twin evil, another danger which assaults our girls at this tender age. With the donning of the corset, the supporting waist which has been worn up to this time is dispensed with, and the skirt bands are pinned or buttoned tightly about the waist, the weight of the skirts resting entirely upon the hips and abdomen, especially upon the latter, dragging from its moorings the stomach and liver, and consequently materially aiding in the displacement of all the organs below.

It is a significant fact that the average waist measure of our young ladies of twenty is some tenths of an inch smaller than that of our girls of twelve, and that there is a corresponding increase in the invalidism among our young women and young mothers.

Oh, that women might be taught, even in childhood, the highest mission of womanhood, and make every experience of life tell to the fitting up of mind and body for the noblest work intrusted to mankind, with which she alone is honored!

H. S. M.

HYGIENIC UNDERWEAR.

IT is a matter of great regret that nearly all the health reform underwear is held at such a high price that few can afford to wear it. It is to be hoped that the spirit of love for womankind and a desire to improve her present condition will prompt the manufacturers of these goods to produce them at such a figure that the poorer classes may obtain them.

But, with a little time and ingenuity however, persons who are able to make their own underwear may regulate the matter for themselves. For instance, a combination undersuit of flannel

may be made by cutting off the lower portion of the ordinary vest, removing the band from the drawers, and sewing the one to the other. The vest, of course, should be opened and buttoned down the front. When neatly done, a combination undersuit is obtained for three dollars quite as serviceable and little less elegant than one for which you might otherwise pay five dollars and more. Likewise a waist cut to fit nicely but not snugly, made from stout muslin, and cut about three inches below the waist line, with buttons at the bottom about four inches apart, to which the large band of the skirt should be attached, furnishes a waist in fact vastly superior to many so-called health-reform waists.

H. S. M.

DANGER IN WEARING VEILS.

WOMEN, unfortunately, cannot be induced to believe that there is danger in wearing veils. Physicians and chemists, however, have often warned them against the objectionable practice. Miss Mary Humphreys, daughter of a wealthy manufacturer in London, is another sufferer from this feminine fashion. A few weeks ago she received three veils as presents from her future husband. After wearing them several times, she complained of a peculiar itching in her eyes. An oculist discovered upon examination that her eyelids were poisoned. He attempted in vain to cure them. The malady developed so rapidly that the young woman's left eye had to be removed. The veils were then sent to a chemist, who found that they had been colored with poisonous drugs. The explanation of Miss Humphreys' misfortune was simple. A suit for damages will be brought against the manufacturer of the veils, but it cannot restore the young woman's sight.—*Exchange*.

VARIETY IN LIFE.

WORK brings forth its fruit and requires rest. Have you observed that happy people work better than those who are sad? Why? The same occupation constantly, whether it be work, prayer, or amusement, would make us *stupid* and *gloomy*. You can dig in the dirt until you become a brute, pray until the habit makes you a monk, and play until you become a mere puppet, but combine the three; it will strengthen the heart and soul. Thus your work will be made more fruitful, and your religion more cheerful.—*Bjornsen*.

NOTES ON DRESS.

MRS. MARY CLEMENT LEAVITT, at the late National W. C. T. U. Convention, told of seeing a group of Chinese ladies to whom someone had given a magazine containing an American fashion plate. They were examining it with great interest, with their elaborately-decorated heads all bent over the picture together. At length one of them straightened up and said to Mrs. Leavitt: "China woman pinch foot. You say China woman velly bad. Melican woman not pinch foot; Melican woman pinch here," laying her hands on her waist. "Life here; life not in foot. Melican woman much more bad than China woman."—*Philadelphia Methodist*.

SUFFERED.

Maud—"She is a woman who has suffered a great deal for her beliefs."

Ethel—"Dear me! what are her beliefs?"

Maud—"She believes that she can wear a No. three shoe on a No. six foot, and a twenty-three-inch corset on a thirty-inch waist."—*New York Herald*.

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Will subscribers and advertisers please take notice that all business in connection with this magazine is for the present, at least, removed to St. Helena. All communications in this respect should be addressed to PACIFIC HEALTH JOURNAL, St. Helena, Cal. Communications pertaining to the editorial department should be addressed to the editor, care Pacific Press, Oakland, Cal.

LITERARY AND OTHER NOTICES.

Prof. H. A. Straight, of Mountain View, is preparing for the Santa Clara World's Fair exhibit, a fine painting of a grove of redwood trees, on a slab of redwood five feet square.

W. H. Hilliard, the New York artist, has gone to Yosemite, where he will complete a painting of the Yosemite Valley for the World's Fair. The painting will be on canvas 8x12 feet.

Orange County has just expended \$240 for glass jars, from eight inches to three feet high, that are intended for the putting up of fruit in its natural state with branches, for exhibition at the World's Fair.

The Register of the Leland Stanford Junior University for 1891-92 has come to our table. It gives much information concerning the new university. Copies of the register may be obtained by addressing the Registrar, Menlo Park Post Office, Cal.

The University of California, with its accustomed promptitude, sends out its "Annual Announcement Courses of Instruction" in the colleges at Berkeley, for the year 1892-93. All information required may be obtained by addressing the Recorder of the Faculties, Berkeley, Cal.

The "Circular of Information for 1892-93," of Bellevue Hospital Medical College, of the city of New York, has been received. It gives the names of the eminent men who compose its faculty and who are at the head of its various special departments, numbering now nearly thirty. Address the secretary of the faculty, Professor Austin Flint, Bellevue Hospital Medical College, New York City.

"One Thousand Cases of Labor and Their Lessons" is the title of a pamphlet by G. W. H. Kemper, M. D., ex-president of the Indiana State Medical Society, Muncie, Ind. The value of this report consists of a faithful report of all cases, good and bad, successful and unsuccessful. The report covers a period of 25 years' practice. Address as above.

The "Mother's Nursery Guide" (*Babyhood*) for August is an excellent number. Dr. Chapin has an article on Catarrh of the Stomach. Some Improvements in the Preparation of Infants' Foods, is an editorial article. Dr. Stanley Ward writes on Intestinal Worms, and there are many other good things too numerous to mention. Price, 20 cents a number; \$2.00 a year. Babyhood Publishing Co., 5 Beekman Street, N. Y.

The August *Demorest's Family Magazine* has for its colored plate, "On the Lagoon of Venice." Among its leading articles are Flower Missions and Their Work (illustrated), Lady Orchestras (illustrated), Pre-Adamite Silk Weavers (spiders), How to Sing without a Master, with diagrams of keyboard, music scale, tuning forks, etc., etc. The departments are up to the usual standard. Two dollars a year; single number, 20 cts. For sale by booksellers and news dealers.

We have received from the Agricultural Experiment Station of the University of California a pamphlet of 70 pages on Alkali Lands, Irrigation and Drainage in their mutual relations. This is a revised reprint from earlier documents and from the report of the tenth United States census, with an abstract of the Government Report on the alkali lands of India. As usual, this work is done under the supervision of Prof. E. W. Hilgard. It may be obtained by addressing the Recorder of the Faculties at Berkeley, Cal.

The preliminary exhibit that will be held in San Francisco next January will prove valuable both to California and to exhibitors. By gathering together the exhibits before being taken to Chicago the State Commission will be enabled to study out the most unique and attractive designs for displaying them at the great Exposition. It is an acknowledged fact that the attractiveness with which exhibits are arranged very largely determines the value they assume in the eyes of visitors. Thousands of Californians will see the aggregated display in San Francisco who will be unable to make the trip to Chicago. An exceedingly valuable premium list is being prepared, and many of the exhibitors of meritorious articles will undoubtedly receive premiums of sufficient value to return the outlay of preparing their exhibits.

A drowsy August afternoon, the light shimmering through the dense leaves of the broad-spreading beech trees, a figure lying upon the grass holding in his hand a magazine—not too heavy—just heavy enough for easy holding—the *Cosmopolitan* for August, just the sort of reading matter for a mid-summer afternoon—full of attractive illustrations; scenes and life in the far-off Philippine Islands, with an experience of an earthquake; photographs on the Atlantic beach accompanying a charming sketch of Jersey's "Salt-Water Day," by Hamlin Garland; charming Spanish bits by the artist Chase; lovely vistas and enticing groves, illustrating a Cali-

fornia Farm Village, in which Colonel Fitzsimmons describes the growth and development of a model community of fruit farms. There is an odd story of Southern Life, while Curiosities of Musical Literature will furnish a half hour's entertainment for every lover of music. English high society is always an interesting subject when discussed by one who is of it, and knows it thoroughly; Henry Arthur Herbert, of Mucross, formerly an Officer of the Guards and an M. P., gives in an entertaining way the cause of the revolution which has taken place in the society of London during the past thirty years. Even Murat Halstead's description of the Convention at Minneapolis is breezy and bright, and the beautiful photographs which illustrate an article on Bridges and Bridge Building would attract a very unscientific reader. The one heavy article of the number is that of the famous English writer on evolution, St. George Mivart. It is a part of the discussion in which he seeks to harmonize the principles of evolution with the doctrines of Christianity. For sale at all news stands.

RETREAT ITEMS.

- Warm days and cool nights at the Retreat.
- Mr. D. M. Prosser, of Reno, Nevada, arrived the 26th.
- Mrs. Attie Schwitzer, of Germantown, arrived the 25th.
- Mr. R. B. Page made the city a hasty call the latter part of July.
- Mr. and Mrs. Dowda, of Fresno, are stopping with us for treatment.
- Mr. W. S. Cull, of Haywards, made his son a short visit the 25th.
- Rev. Ledford, a revivalist and singer, stopped with us for a short time.
- Mr. Carver, of St. Helena, is stopping with us for a short treatment.
- Mr. B. F. Walton, of Yuba City, made us another short call the 22d.
- Mrs. Lucy, of Vallejo, made us a few short calls during the past month.
- Mrs. Lounour's son and wife returned to Woodland the latter part of July.
- Mrs. A. L. Gutterson, of San Francisco, arrived the 17th for treatment and rest.
- Mrs. Baker, of Napa, has made frequent visits during the past month for treatment.
- Lawyer Johnson, of Napa, and his two little daughters made a pleasant visit the 24th.
- Mr. Hunt and his little son took the Walter Spring stage to rusticate in that vicinity.
- Mr. J. S. Wright, of Mountain View, returned to continue his treatments the latter part of July.
- Judge Talcott made his usual visit the latter part of July to note the progress of his son John.
- After a week's rest and treatment, Mr. W. Burns, of San Francisco, returned to his place of business.
- Mrs. J. M. Pierce, of San Francisco, stopped a short time for rest and treatment, returning the latter part of July.
- Mr. H. S. Wallace, from the city, stopped with us for a week, returning much benefited by the treatment and rest.
- Mr. M. C. Shaw, of Napa, returned to his home the 29th, leaving his wife and daughter to remain with us for a time.
- A good degree of interest is maintained in the foods, and our bakery runs both day and night to supply the demand.
- Mr. H. Gruttner, of San Rafael, made us a short call the 27th. We expect soon to have the assistance of Mr. G. and his wife in our different departments.
- A company from Petaluma, consisting of Misses Zoe and Lizzie Fairbanks, accompanied by Mr. J. Brown and Mr. W. R. Hill, made their friends a short visit.
- Among our recent arrivals were Mrs. E. S. Butz and Mrs. Leadsworth, of Oakland, to join the cooking class. Mrs. Butz was formerly matron of the ladies' bath rooms.
- Mrs. Jamison, of San Francisco, after treating at the Retreat for some time in the past, returned to her home the 26th for a short stay, taking with her a supply of our foods.
- Dr. Elizabeth J. Corbett, of San Francisco, was the guest of Mr. and Mrs. Hunt and our medical corps. The doctor is deeply interested in the foods, and took a sample with her.
- Rev. M. C. Harris, whose wife has been stopping at the Retreat for some time, made us a very pleasant and profitable visit. Mr. Harris gave us the benefit of his Japan travels, that country being his field of labor.
- A number of the ladies have fitted themselves with gymnasium suits. Under the management of Miss Bee these exercises are proving to be beneficial to a great many, and a good interest is manifested by all in attendance.
- The wife of Dr. Lovejoy, accompanied by Mrs. Campbell, of Oakland, arrived Monday, August 1. Mrs. Lovejoy and Mrs. Campbell are highly delighted with our view from the hillside. They will remain with us for a short time.
- Our cooking school is now one of the main features of interest. Thirty-three were enrolled up to the 31st of July, and more will soon join. Reports of experiments and results will be made later. Miss L. C. Bee gives an occasional talk on dietetics.
- A party of Healdsburg friends, consisting of Mr. C. Kimball and his wife, Mrs. E. Bush, and Mrs. Haige, made our institution a short visit. Mrs. Dr. Kimball and Mrs. H. S. Maxson were associated on the medical staff at the Battle Creek Sanitarium.
- The electric system of call bells has been completed and is working satisfactorily. The electric bath tubs are also about ready for operation. When these are in running order, the Retreat bath rooms will be equal to any of this kind on the Pacific Coast.

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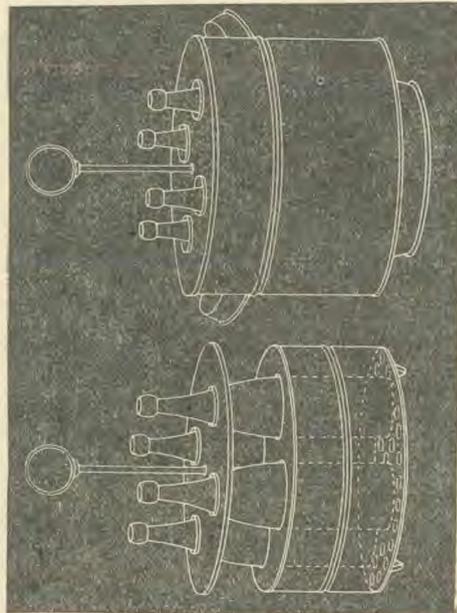
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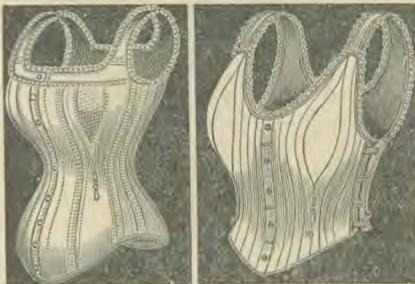
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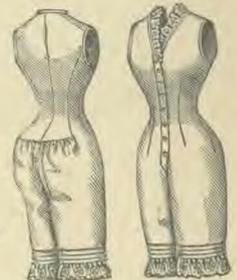
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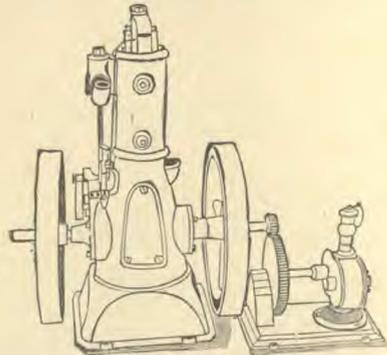
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