

Pacific Health Journal

Vol. VII.

Oakland, Cal., October, 1892.

No. 9. 10

Pacific Health Journal.

A 32-PAGE MONTHLY.

SUBSCRIPTION PRICE, : : \$1.00 PER YEAR.

Entered at the Post Office in Oakland, Cal.

W. H. MAXSON, M. D., } *Editors.*
M. C. WILCOX, }

All Drafts or Money Orders should be addressed and made payable to, PACIFIC HEALTH JOURNAL, St. Helena, Cal. All Business Communications should be sent to the same address.

CHOLERA.

ASIATIC cholera has been from time prehistoric a scourge most dreaded. Its native home is in India, where, from time to time, it assumes a virulent type, and is quite likely to spread through the great lines of human intercourse to other countries and often extend over a large portion of the inhabited parts of the world. It carries with it a higher rate of mortality than any other epidemic, amounting to seventy-five per cent in some localities, at the beginning of the outbreak, after which its virulency abates somewhat, seemingly having spent its force.

This present outbreak is no exception to the rule, and just now menaces our larger and overcrowded cities with imminent peril to life. Indeed, it will be only by the most active and stringent measures put forth by the local authorities and health boards of the seaport cities that will check its progress or confine it to our quarantine stations. Already the messenger of death has claimed a score or more on our shores, a fact

that sends a thrill of horror throughout our domain as we remember or are reminded of some of the former incursions of the disease. It has now visited our country about seven times, attacking thousands in our large cities. The year 1873 was the date of the last visitation, and it was then less virulent than on any former occasion. In England over 53,000 succumbed to its fearful ravages; in 1848 and six years later 20,000 more fell victims to the same.

Asiatic cholera is a specific germ disease; the germ having been isolated of late has been found to possess an ordinary grade of vitality, rendered inactive for the time being by freezing but not destroyed; by recent observations by Dr. Koch, it is thought that it will stand one hundred and forty degrees of heat. The best authorities say that the germ is safely destroyed by boiling one-half hour. It often passes the cold season latent, only waiting for the genial rays of the sun in the springtime to warm it into life again. Although in the past there has been much controversy as to the origin of the germ of cholera, or cholerine, as it is sometimes called, it is now settled beyond a doubt that the germs are communicated to otherwise healthy people through the *ejecta* of patients suffering from the disease. Like the typhoid fever germ, the cholera germs are disseminated and taken into the system usually by drinking water, in fact, by anything swallowed which has been contaminated by the organic matter passed by cholera patients.

In rooms that are not thoroughly ventilated, the air is liable to be so impregnated with the emanations from the patient that the disease is often communicated to the nurse or other members of the family. In a dried state, the organic

poison contained in cholera *excreta* will retain its poisonous properties for a long time under favorable conditions.

The localities most liable to the spread of cholera, other things being equal, are those which are low, moist, and filthy, or in the most densely settled portions of the cities. All experience has shown that the existence of decomposing organic material in the soil and the air favors the propagation and spread of the disease, probably by furnishing a *pabulum* or nourishment for the development of the poison. The persons most likely to be attacked are the intemperate, the destitute, the filthy, the vicious, the feeble, and last, but not least, the terrified; however, when the poison is active and abundant, no class of people can claim an exemption from its ravages.

ITS SYMPTOMS.

The disease is peculiar in itself and presents so many well-defined symptoms that there is little danger of mistaking it for any other disease. It is usually characterized by violent vomiting and purging, with rice-water evacuations, cramps, prostration, and collapse. It usually runs a rapid course and tends strongly to a fatal termination.

Some writers, speaking of it symptomatically, divide its course into four stages. The first is the premonitory stage, marked by general lassitude, a dull pain in the frontal region, disturbed digestion, coated tongue, sometimes with a spasm of the muscles of the legs and diarrhea. This premonitory diarrhea is usually painless and watery, and may continue from a few hours to as many days before the full development of the disease. The second stage is characterized by active vomiting and purging of a fluid resembling rice water, great thirst, and coldness of the surface of the body. It is always accompanied with severe cramps in the abdomen and extremities. The surface of the body becomes shrunken and more or less blue, on account of the great loss of the fluid of the body. This stage may be only a few hours in duration or it may be several days. If, however, the case terminates favorably, reaction soon sets in and the case may make a speedy recovery. If no reaction occurs, the sufferer passes into the third stage, or collapse. This is marked by labored respiration and loss of circulation. The skin is livid and bathed in cold perspiration, and a suspension of nearly all

the vital functions shows that the end is near. The temperature of the body is gradually lowered through the first three stages, often reaching ninety-four degrees, four and one-half degrees below the normal temperature. In the fourth stage there are evidences of some fever, due to inflammation of the mucous membrane of the intestines, also brain and spinal marrow, the temperature usually rising for some time after death; the latter, however, puts an end to the suffering, and is a grateful sequence in the course of such a scourge.

While a general understanding of the course and symptoms of the disease may be interesting from more than one standpoint in the midst of a cholera epidemic, however, the all-absorbing theme must be to evade an attack and render valuable service to those who are so unfortunate as to be stricken with cholera. The experience of the profession in dealing with this dreaded disease thus far proves their efforts fruitless in virulent cases, unless the case is seen in the easy stages of the disease. Preventative measures should be the main consideration and cannot be overestimated, for thousands of lives can be guarded from an attack where one can be safely carried through after once infected.

There is a small Moravian colony called Sarepta, situated in a bend of the river Elb, in the midst of the Kalmuck hordes, eulogized by all travelers for its remarkable industry and minute cleanliness. The cholera seems to respect this spot, passing by it in 1830 and in 1848 without inflicting on it the least evil. This fact, corroborated as it is by the multitudes of others of like character, speaks volumes on the subject of prevention; and the success which has attended the various sanitary measures in Europe, and, so far, in this country, during the recent visitations of the disease, confirms these views. If the inhabited globe were a Sarepta, this terrible scourge would disappear from it forever. The conditions for the origin, multiplication, and extension of the poison would cease to exist, and there would be no subjects favorable to its attacks.

Filth, and, especially, the presence of decomposing organic matter, furnish the most favorable condition for the propagation of the cholera poison. Hence in absolute cleanliness of the body and its surroundings lies the greatest advantage in this unequal contest. The dwellings should be carefully disinfected from cellar to

garret, and any mould or vegetable decomposition carefully removed and disinfectants freely used. Great care should be exercised in reference to privy vaults and cesspools, and, where practicable, the latter should be abandoned. In the cities imperfect sewerage is a most fruitful source of contamination. Cholera depends upon the germ being received into the alimentary canal, consequently the great danger arises from the food and fluids taken into the system. Musty flour, putrescent meat, decomposing vegetables and fruit should be avoided at all times, and especially so when cholera is epidemic. The source of the family water supply, to be above suspicion, must not, if spring or well, have a source of contamination nearer than six hundred feet if the soil be sandy, and all cesspools and privies should be located below the water source. In localities where the cholera is raging, no water, from whatever source, should be taken into the system without first being thoroughly boiled.

Filth from without the body is not the only danger, as it is now quite a generally-accepted view that retained effete matters within the body may serve as a matrix for the cholera germ. This condition may arise from several sources, undue degeneration of tissues, either from excessive muscular exercise or suppurating tissue. Imperfect oxidation or elimination renders the body more susceptible, and thus invites germ propagation. Here we may add also the depressing effects from fear as no small consideration in the list of unfavorable conditions.

All the laws of health upon which health depends should be carefully guarded. Plenty of sleep in a well-ventilated room, regular eating of simple foods, and healthful exercise, with a cheerful frame of mind, will do much to ward off the dangers of the infection.

Just a word about the little that can be done in a well-developed case of cholera which may be timely in case the disease obtains a footing in American soil. In the first stages of the disease, before the characteristic prostration of the nervous system occurs, the use of treatments and remedies to check the griping and evacuations from the bowels should receive first attention. Fomentations, mustard compresses to the bowels, and hot enemas, as hot as can be borne, should be administered. Energetic rubbing of the limbs will serve to mitigate the force of the spasm in the legs. One to three grains of

opium with two grains of gum camphor, repeated if necessary to obtain the desired effect, will serve to check the discharges that are so rapidly depleting the system. Cups may be applied along the spine and abdomen.

The treatment later must be of the most supporting nature. Bland diet, if it can be borne in the stomach at all, should be given; there should be perfect quiet; some stimulants and warm cloths should be applied to the surface of the body with a view to keeping the patient warm. All authors agree that water must not be allowed under any consideration. Ice in small pieces may be swallowed "*ad lib.*" Tonic doses of quinine have been used with beneficial effect. Keeping up the temperature and bringing the blood to the surface should be always kept in mind. The ejected material both from the stomach and bowels should be immediately disinfected by the use of a saturated solution of bichromate of potash and a five per cent solution of carbolic acid, as follows: The potash solution should cover the bottom of the chamber to be used, after which the carbolic acid solution may be sprinkled upon the excreta. If the sewer is in a good condition, it may be emptied into it. Otherwise, it should be carried a good distance from the dwelling, and buried in a deep hole in the soil.

W. H. M.

NOTES ON THIS, THAT, AND THE OTHER.

POPE has said that "the proper study of mankind is man." We regret that our columns are so full this month of articles previously furnished or put in type as to crowd out an excellent paper by Elder G. K. Owen on "Man." It will, no providence preventing, appear next month, and will be followed by others.

A LADY who is working in the great and needy field of health and temperance sends us, with her subscription, the following encouraging and sunshiny note. May God bless her in her work.

"Chance has thrown in my way a copy of your journal of health and advocate of temperance. I greet it as having met an old friend, for I am an advocate of both principles, and have been a worker in the cause for the latter for many years. And as a token of my pleasure and appreciation, I send subscription for one year as a prophecy for the future. It should be in every household, and

I will help to put it there. Send me a sample copy and I will send you 'copy.'

"We give you joyous greeting,
Ye toilers in the field,
Who, the right with faithful working,
Will never justice yield.
"Fraternally."

A CORRESPONDENT writes that he has met with a discovery, which he characterizes as "Everybody's Bath." This is simply a sponge bath every morning, with a good coarse towel, a bucket of water, and plenty of elbow grease. He says after practicing it awhile he "feels like a new man." He thinks that part of our "breathing" is through our skin, and that the skin ought to be clean. And we think so too. His bath is not new to many, especially the English; and yet it is, we presume, unknown to many. Strange that people will deprive themselves of the blessed privilege of a bath, occasionally, at least, when it can be had so cheaply. Let our correspondent go on in the good way and enlighten others also.

ANOTHER correspondent, who is laboring in the field, and has good opportunities for observation, suggests that the HEALTH JOURNAL say more on the subject of cleanliness as conducive to health. He says:—

"I am a firm believer in the saying that cleanliness is next to godliness. I am fully convinced that I have seen persons who had contracted disease from no other cause than downright nastiness. It does seem that some people do not know the difference between filth and cleanliness. I have not eaten pork for seventeen years, and never expect to, but what is the difference between eating pork neatly and cleanly prepared and eating rice or oatmeal cooked in a positively dirty vessel?"

"There is death in many a dish rag. The milk pail and milk pans are frequently not properly cleaned. They should be cleaned with scalding water every time they are used. But some people seldom ever scald a milk vessel, and some people will go out of a morning and milk a cow without first washing their hands, and then strain the milk through a cloth scarcely fit to dry their hands on. I could mention many other things of like import, but have not time to speak of them. Not long ago the JOURNAL had a nice article on cleanliness of the body and how to care for it externally, but nothing about how to keep the inside in a healthy and cleanly condition. In the language of our

Saviour, I would say, 'These ought ye to have done, and not to leave the other undone.'"

Our brother's strictures, or suggestions, are all right, though we think that he has not read the JOURNAL carefully for the last year. There have been several articles on cleanliness, though perhaps none so detailed in suggestion as our correspondent's letter is. We will stir up our conductors of the Housekeeper on this point.

STILL another writes upon the subject of tobacco poisoning, which we will be compelled to pass over till next month. It is always a timely topic.

EATING OVERRIPE FRUIT.

It is quite important that something be said in reference to the eating of overripe fruit, which is a very common occurrence this time of year in a country so replete with almost all kinds of luscious fruits that can be named or desired. On general principles, fruit should not be relied upon for nutrition, as its nutritive properties are quite small. Such fruit as the peach, pear, nectarine, and watermelon, are composed largely of water, the pulp being made of loose stroma and meshes, which contain about all the nutritive value of the fruit.

Fruit should be used in combination with other foods, but when used extensively, it is likely to derange the digestive functions. In the congenial rays and heat of the sun it ripens very quickly, and it is a well-known universal law that that which ripens quickly decomposes quickly. J. G. Holland's expression, "Soon ripe, soon rotten," expresses a principle which runs through all organic life, both animal and vegetable. While it may not be so apparent in animal life, its confines admit of the greatest extremes in the vegetable world. The mushroom springs into existence between the evening and the morning sun like a trickster who wishes to present something new to the gaze of wondering eyes at earliest dawn; but the tender structure stands only an hour of sunshine, or several hours at most, while the sturdy oak sinks its rootlets deeper and deeper into the parent soil, and, as the days and years go by, lives to cast its friendly shadow over the way of the weary traveler for several generations, a centenarian, perhaps several times, which proves the stability

and permanency of slow development. With this thought in mind we are better able to study the question from a health standpoint.

Much has been said to guard the public against taking the products of animal decomposition, which are very common in the form of diseased meats, oils, etc., but the baneful result of taking diseased vegetables and fruits into the system has been underestimated, and is a matter upon which very little has been said. The decomposition of vegetable matter is as truly swarming with germ life as pernicious to life and health as is the decomposition of animal matter, and should be as carefully avoided. A portion of a peach was brought into the laboratory only yesterday which would have been considered simply "overripe," a section of which being placed under the microscope proved to be swarming with bacteria full of life, romping quickly in and out among the meshes of the soft fruit. This taken into the system carries with it a whole swarm of energetic bacteria into a grand field, where they have full play upon the debris of food contained in the alimentary canal, and from these arise different kinds of fermentation in the alimentary canal according to the kind of food elements therein contained, depending somewhat also upon the condition of the digestive juices present. This fermentation is accompanied by many symptoms, sometimes distressing in their nature.

In hotels and boarding places we often see a large number, perhaps one-third, of the guests taken down with about the same symptoms, due to a fermentation in the digestive tract. The usual run of the symptoms are griping pain and tenderness in the bowels, headache for a time, diarrhea, and even fever. While it is not usually fatal, yet the trouble is of such a character as to admonish us that we cannot be too careful in the selection of fruit and vegetables for the table.

Fruit that is stung is apt to have around the sting, reaching to the stone or pit of the fruit, a disease, which spreads around the pit; and the poison from the diseased fruit cannot be otherwise regarded than a simple ulceration of the pulp of the fruit, which is analogous to the putrefactive changes which result in an abscess in animal tissue. This poison in a short time spreads and permeates the whole structure of the peach, pear, or whatever kind of fruit it may be, and, from a microscopical standpoint, would be nothing less than repulsive to any taste. Fruit from

a diseased tree partakes of the disease of the tree to a greater or less extent. Fruit for table use should be carefully selected from trees that are healthy, and great care should be observed lest fruit or vegetables which are overripe be taken into the stomach.

We have under our care several patients who are suffering from no other cause than taking large quantities of overripe fruit. The symptoms of these cases run nearly in the same channel, and some of the symptoms are quite pronounced. Patients suffering from this trouble should be instructed to take no fruit into the stomach for some time afterwards; the food in every respect should be bland, and such medication employed as will counteract the putrefactive changes set up by the bacteria.

We think when this question is thoroughly understood much suffering will be relieved and sometimes death averted by a careful selection of table fruits and vegetables. Presumably digestive disturbances caused from overripe fruit occur much oftener in California than in cooler and more Eastern States, for the reason that the fruit grows and ripens much more rapidly here than East and in cooler climates, and is consequently less dense in its structure and makeup, from which fact it is more easily decomposed.

We hope these few words will induce others to investigate this point, which we believe will be the means of lessening suffering, and adding much to the pleasure of those who love fruit.

W. H. M.

"SOUR GRAPES"

ARE those at the top of the vine, out of reach of the fox. Are mineral springs "sour grapes" to the managers of the Rural Health Retreat? Do they use pure water because they have no mineral water to use? Some have thought so. The following testimony from an eminent authority, Professor Steele, will show that the managers of the Retreat are not the only ones who doubt the efficacy of mineral baths: "Mineral baths are of doubtful utility, as the skin is not an absorbent of minerals. The skin will allow the passage outward of such substances, but *not inward*. Such baths are *no benefit above a simple water bath*." Dr. Potter advises mineral baths in some cases, but attributes their benefit largely to the change in surroundings, pure air, etc., and to the patient's imagination. H.

Cooper Medical College, San Francisco, Cal.



USE AND ABUSE OF THE LUNGS.

BY A. J. SANDERSON, M. D.

VIEWED from the standpoint of health, there is no question so filled with vital interest in all the physical makeup of man as the one before us. If you take away the breath, you at once take away the life. All other supplies to the human system may be suspended for a longer or shorter time, and the body suffer but little, but not so with this.

Again viewed from the standpoint of disease, it is none the less important, as it is at this point that the destructive enemy of man most often begins its deceitful and least-suspected work. Hence, as it is interesting to know about the lungs in their position, relation, and structure, it is more important to learn the use of the same, and how that use can be best nourished and preserved.

The object in breathing is to provide oxygen for the blood in sufficient quantity so that all the tissues of the body can be supplied with an abundance of this gaseous food, and also to remove carbonic acid gas and other waste products with which the blood is charged when it returns to the lungs.

These organs, as we have seen, with their fifteen hundred square feet or more of mucous membrane, upon which the air and blood come in such close contact as to readily give an interchange of their gaseous substances, are amply able to do this most important work through life, providing that they are not abused, and nature is allowed to use them as she would. That this may be accomplished, some conditions must be observed.

1. We must live in a pure atmosphere. We should never shut ourselves up in poorly ventilated rooms, and die for the want of that which exists everywhere except in these places where it is denied the privilege of entering. We cannot consider air

pure that is filled with anything not natural to it, as concentrated tobacco smoke, dust, etc.

Again, we should not live in an atmosphere that is unusually exposed to disease germs. Though we have seen, in our study of the air passages, how they are provided with sentinels whose duty it is to forbid the harmful entry of germs or foreign matter, yet, if these exist in excess, and we continue to live in such atmosphere, the army of invaders may outnumber and overpower the sentinels, and the battle will be lost. This sad truth is demonstrated in the spread of contagious diseases, and by the dreadful fate of the consumptive who has sacrificed health by the loving but unwise care of some cherished one that has gone the way before them. Upon this subject many things of value might be said, but space in this article will not permit.

2. We should not overwork the lungs. Nature has provided a great reserve of forces here, but we should not abuse it. In this place temperance teaches us one of its most important lessons. When we take into our system more food than is needed, a corresponding excess of oxygen is needed to help consume it. Especially is this true of sugars and carbonaceous food, and even more so in respect to intemperate drinking habits, wherein not only is more oxygen required, but much of the waste products has to be eliminated by these organs.

3. Do not interfere in any way with the lungs in their action. Never bind the chest so as to hinder its fullest expansion. Take such exercise as will keep the muscles of the chest, abdomen, and shoulders in healthful condition. This is necessary not only because some of the muscles are auxiliary to the involuntary muscles of respiration, but their development is essential to proper size and shape of the chest, which is very important in order to have good, healthy lungs.

4. We should learn correct habits of breathing,

as the ones we have are not always what nature would indicate, but have been perverted by wrong modes of life. Women are inclined too exclusively to use the upper part of the lungs, and would be benefited by cultivating abdominal breathing. On the other hand, there are those whose habits of life have been the very opposite, usually men, whose breathing is almost wholly abdominal. These should practice intercostal breathing. Let nature have free use of her whole wise arrangement in this most important work. We will endeavor at some other time to speak of the value and different modes of exercise by which this may be best accomplished.

We never use all our lungs at the same time. While the entire lung capacity is three hundred and twenty cubic inches, only about twenty inches of air go in and out at an ordinary respiration. After we inhale naturally, we can always take in several times as much more by a little effort. Also in common exhaling our breath, much remains that we can force out. Again, there is quite an amount of air remaining in that we cannot force out of the normal lung. This is necessary because the heart sends blood there to get oxygen about four times as often as we breathe. From this we see a necessity of practicing deep breathing quite frequently, for there is a tendency for air to remain unchanged in portions of the lungs that are least used. Sighing is a call of nature for this same purpose. Deep breathing is most refreshing when taken in the open air, with shoulders raised and thrown back, and chest forward. There is a possibility, on the other hand, of using the lungs with too great violence in forcible expansion, and thus causing injury to the delicate air cells. Such difficulties are most often seen by those using wind instruments.

BRAINS THE DOCTOR NEEDS, NOT MEDICAL LAW.

A PROMINENT physician of Boston is said to have appeared before the Legislature, expecting him to say, "Yes, gentlemen, we want a medical law." He was asked the question, "Don't you want a medical law?" That great man of the Boston University, almost a rival in brains of a Humboldt, paused a moment, and looked over the doctors that were asking for it, and saw as sickly and paralytic a set intellectually as he ever set eyes upon. "No, gentlemen, you do not need a medical law; you need brains."—*EX.*

MY EXPERIENCE.

"DOCTOR, I am suffering intensely, and have for several days and nights. Can you not give me something to relieve me beside those treatments? Of course I know the treatments are just what I need, and will, in a short time, bring the desired result, but can you not give me something that will bring speedy relief? You see I need sleep very badly."

"Yes, I can give you a hypodermic of morphine. Do you desire it?"

With this insinuated reply, my sense of propriety is quite shocked. The doctor knows I am a conscientious person, and have at least a limited knowledge of the woful results of morphine dosing; accordingly, with becoming air of offended dignity, I reply with no little sarcasm:—

"No; you may send me some powders, just simple harmless powders, that will induce sleep and quiet my nerves and stop my pain and headache."

"Very well," my physician replied, as he took his departure, no doubt feeling the force of my intended rebuke.

Left alone with no company but that terrible pain, mental cogitations now begin, in which conscience takes an active part and eloquently pleads: "Spare, oh, spare this poor body and these already overtaxed nerves a further strain! You know, as does also the doctor, that such a powder must of necessity contain morphine or some other nerve paralyzing element, and you know you will feel more miserable and your pain be none the less on awakening from the drug-induced sleep. Then why persist in a course you know to be wrong and very harmful, and dangerous as well?" But just then a nervous tap at my door disturbs this very interesting conversation with conscience, and I, glad to be relieved from such an unpleasant situation, only too eagerly cry out, "Come in." My visitor proves to be the very person I would rather not have seen just at that moment, even one who is a wreck physically because of the drug; for she, though only a girl in her teens, is a pitiful example of one who for years has sought relief from divers pains and troubles in frequent sly visits to the drug store, whence was procured the fatal opiate.

With a newly-awakened interest I now carefully

observe every emotion of my visitor. Nervous, restless, impatient, now here, now there, moving from chair to chair, now laughing, now weeping hysterically, her face flushing, then paling. She has told me of her struggles to overcome her terrible appetite for that which seems destined to prove the ruin of health and life. Often have I plead, entreated, prayed for and with her that she might gain the mastery over this, her bitterest enemy, and now she declares for the one hundredth time that she will be no more tempted, only to yield to the temptation the first time it is presented. Thus unstable, double-minded, weak, untrusty, the girl who might otherwise have been noble, beautiful, trustworthy, and a blessing to many, only for the baneful use of a soul-and-body-destroying drug.

As these thoughts are revolving in my mind, a second tap at the door announces that my powders are at hand. I eagerly grasp them, saying as I do so, "Of course there is no morphine in these powders, and if there was just a little, am I not justified in taking them when I am suffering so?" Again conscience interrupts, "Look at the subject before you," and I look to see the dark, flashing eyes turned with an almost fiendish eagerness toward the powders, which I now hold tightly in my hand. "What," she says, "is it morphine?" "Oh, no," I answered, "it is only headache powders!" "Are you sure?" she replied. "Oh, let me taste them and see!" Then, in quick tones, which are almost startling, she cries out with a struggle which is agonizing, "Oh, do not let me even see them or I shall take them every one from you and take them myself!" Again I assure her they are only headache powders, meanwhile placing them out of her reach. Never can I forget the expression. Oh, pity the youth or the sage who is a victim to such a habit as taking morphine, which, morally transposed, means more fiend! She explains that she is nervous, and I advise her to go to bed and sleep, which she finally consents to do, and bids me a nervous "good-night."

I again find the powders and resolve to take one. I tip the powder on my tongue and take a sip of water and lay me down. The effect is magical, and I know I shall now soon be unconscious in sleep. Unconscious, did I say?—Well, yes, unconscious of pain, but, oh, what is this? Although I experience a pleasant, numb, go-to-sleep, don't-care, happy sensation, yet I begin to

hear thunderings in my head like the dashing, deafening roar of a cataract. Now it comes, now it goes; now I sink, now I rise; my head seems flying through space or falling from dizzy heights. Yet what matters? I am asleep; my pain is gone; I arouse enough to realize this and feel hilarious. I sing, talk, then sleep some more. Arousing again, I remember I have no pain; but, with a strange feeling of recklessness that cares very little for anything or anybody, I again drop off into a doze, with a growing feeling of weariness and recklessness. The next thing I am conscious of is the whistles blowing, which announces that it is six o'clock, when I open my eyes, but my vision is blurred, my head aches, a dull throbbing ache, my flesh seems twitching, my pain is all back, only intensified, and I am wretched, to say the least, and am sure nobody cares for me. Oh, that I were dead!

Now I understand what my young friend meant when she told me she always wished herself dead after taking morphine, and had often anticipated taking her own life, thus putting an end to her wretched existence. Either that or more morphine was the problem continually before her. "Experience is the best teacher," and my body, soul, and spirit say, "No more morphine for me," and I hear the doctor say, "Wise conclusion."

A PATIENT.

A SOUND BODY. NO. 5.

BY A. J. SANDERSON, M. D.

If we should take the most direct course in following the blood current from the heart, we would go up the left side of the neck to that half of the brain. And this fact explains why this part is best and easiest developed, and doubtless is the reason why we get into the habit of using the right arm more readily than we do the left, as the nerve supply to the right side of the body comes from the left half of the brain.

But, not wishing to get to our journey's end the quickest way, we will pass by these vessels going to the left side of the neck, head, and left arm as we have already those to the right, and follow the great aorta as it bends its way downward in the back part of the chest and goes down through the abdominal cavity, being just in front and a little to the left side of the spinal column, all the way giving off branches to the various

organs and tissues, sending to them fresh supplies of blood, for their life, health, and the performance of the special function of each. And it is an interesting fact to notice that each tissue takes from the blood just such elements as are adapted to its special use and nourishment, and leaves the rest to pass along. The organs also do the same, as, for instance, when the blood comes to the stomach, it selects only those things that are needful for the support of its tissue and to make up the juices that it secretes. These facts we will notice further as we come to study the various organs and tissues.

Continuing our course downward as we began, we pass the stomach, liver, pancreas, kidneys, and their associated organs, each of which we notice is perfectly and faithfully performing its varied functions. We soon get down to the lower limbs, which have in their possession all man's power of locomotion. Many inventions of man have come into use for the same purpose, but none so upright, and none that can move unless these faithful members bring man to their aid.

As we reach the terminus of the arteries it is interesting to notice how they run into each other, thus giving the blood a freer circulation, thus providing against the evil effects of injuries to the blood vessels, and blessing the surgeon's work; for when a vessel is obstructed, the part beyond is usually filled by blood coming in the other direction.

As we have mentioned, the blood passes from the arteries into a very fine set of vessels, called the capillaries, so fine that some investigators have thought that they were simply channels running between the cellular elements of the tissues. At any rate, they are so thoroughly distributed that each cell of the body can take what it needs for its own building up, and the rest passes along, gathering up by the way some of the waste material that has been cast aside by the tissue builders. The blood is then gathered up by the veins that everywhere meet the capillaries and convey the blood from them to the heart.

These veins in going to the heart follow much the same course the arteries did in coming from the heart, and in many respects are similar to them. They both have around them three coats, the middle being muscular in nature and much thicker in the arteries than in the veins.

This constitutes their chief difference, and it makes the walls of the artery firmer, while that of the vein is lax and falls together when the vessel is empty.

The force from behind that drives the blood on in the veins is but little compared with that in the artery, much of it being lost in going through the finer vessels. There are other things which help to bring the blood back to the heart. The organ itself after each contraction expands and the fluid from the veins rushes in to fill the space. The expansion of the chest at each respiration also draws in the blood from both above and below. Then all the muscular contractions and movements of the body cause pressure to be exerted on the veins and greatly aids in the onward flow of the blood. This force might tend to force the blood backward were it not for the fact that in such places where it might do this the veins are furnished with valves that allow the blood to pass in only one direction. That this needed force and circulation may be maintained requires that everybody should take a normal amount of exercise.

The venous system of vessels we do not find so thoroughly united as was the arterial, which came from the heart in only one main trunk. The veins from above and below enter the heart separately, also the veins from most of the abdominal organs unite and form a system by themselves, called the portal circulation, of which we will have more to say later. This, however, after passing through the liver, unites with the large vein that comes up from the lower extremities. Thus the blood gets back to the heart and enters the right auricle, from which it goes down into the right ventricle. Then a contraction sends it to the lungs, where we first found it, having made the complete circuit through the body in a little more than half a minute.

MALARIA IN WATER.

WE have quoted from year to year many instances transpiring of severe intermittent fevers as the result of drinking, or even bathing in, vegetation-contaminated waters, such as most physicians have been in the habit of indorsing as perfectly harmless. Of the terrible African fever, Surgeon Parke, the companion of Stanley, writes (*Lancet*, May 28): "Perhaps the sharpest attack experienced during this part of the journey was my own,

which followed a 'ducking' received in crossing a tributary of the Kongo. My donkey slipped accidentally and completely submerged me. This was but the first of a long series of experiences, in which I found that every wetting in equatorial Africa meant a subsequent attack of intermittent fever. Another lesson soon learned, and for which I was still less prepared, was the fact that our donkeys after each corresponding drenching developed febrile symptoms exactly corresponding to those of their human fellow-travelers."—*Sanitary Era*.

CONSUMPTION CATCHING.

PROFESSOR TYNDALL relates the following: "It is an easy excursion from my cottage in the Alps to the remarkable promontory called the 'Nessel,' on which stands a cluster of huts occupied by peasants during the summer months. On visiting the Nessel three years ago I was requested to look into a hut occupied by a man suffering from a racking cough, with copious expectoration. I did so. It was easy to see that the poor fellow was the victim of advanced lung disease. In the same hut lived his daughter, who, when I first saw her, presented the appearance of blooming health and vigor.

"Acquainted as I was with Koch's discoveries, I remarked to a friend who accompanied me that the girl lived in the midst of peril. We had here the precise conditions noticed by Cornet,—spitting on the floor, drying of the sputum, and the subsequent treading of the infectious matter into dust. Whenever the hut was swept, this dust mingled freely with the air, and was, of course, inhaled. I warned the girl against the danger to which she was exposed, but it is sometimes difficult to make even cultivated people comprehend the magnitude of this danger, or take the necessary precautions.

"A year afterwards I visited the same hut. The father was standing in the midst of the room—a well-built man, nearly six feet high, and as straight as an arrow. He was wheezing heavily, being at intervals bowed down by the violence of his cough. On a stool in the same room sat his daughter, who a year previously had presented such a picture of Alpine strength and beauty. Her appearance shocked me. The light had gone out of her eyes, while the pallor of her face and her panting breath showed only too plainly that she also had been grasped by the destroyer. There are thousands at this moment in England in the position which I then occupied, standing helpless in the presence of

a calamity that might have been avoided. Last summer I learned that both father and daughter were dead, the daughter having been the first to succumb."—*Sel.*

SAFE AND PERILOUS OCCUPATIONS.

BY JOHN C. SUNDBERG, M. D.

SOMEONE has facetiously observed that of all occupations that of the assassin is the most conducive to longevity. Certain it is that no sooner is a person known to have committed murder than all the safeguards that human ingenuity can devise are thrown around him, and everything possible is done to prolong his days on earth in comfort, ease, and even luxury. If the vast sums of money, the valuable time, the brilliant talent, the profound learning, the resistless energy, and the nauseating sympathy now wasted on murderers were applied to improve the sanitary condition of our schools, it would be more humane, and the result would be increased health, wisdom, and morality. There were twenty-nine homicides recorded in this city [San Francisco] last year, and the number not recorded probably reached up into the hundreds, for there are many here who live by taking human life, and advertise their bloody trade openly in the newspapers; yet we feel sure that it would be a profitable business venture for any insurance company to issue policies at reduced rates on the lives of this great army of assassins, from the bold and venturesome highwayman to the sneaking and cowardly abortionist.

Among the learned professions, that of pointing the way to heaven keeps its votaries longest on earth, while those who engage in holding others back, or smoothing their path, if go they must, glide swiftly on themselves and soon lose their feeble grip on worldly things; thus, according to English statistics, the death rate among physicians, between twenty-five and sixty-five years of age, is more than twice that of clergymen of the same age, lawyers keeping about equally distant in the race for immortality between those who preach and those who practice. Of course, it is easy to see why medical men die young; irregular habits, loss of food and sleep, exposure to the extremes of weather, jolting and shaking over rough roads, inhaling microbe-laden dust, or the foul air of a close carriage,

the constant mental strain of weighing diagnostic symptoms and therapeutic indications, with the fear of erring where human lives are at stake, and, last but not least, alas! with many of us, the worry expressly forbidden by the Master, according to Matt. 6: 25-34—all these various agencies speed our journey.

Of manual toilers, those whose occupation keeps them outdoors are, with some few exceptions, the longest lived, the exceptions being due to other causes, as overwork, especially sudden muscular efforts and strains, liability to accident, and exposure to inhalation of dust and poisonous vapors. Thus, gardeners, farmers, and fishermen are exceptionally long-lived, and sailors would be so but for the poor quality of food, insufficient and frequently bad water, and the cramped-up, damp, dingy sleeping quarters furnished them. In these respects there has been a great improvement of late years, but much remains yet to be done. Jack's riotous living ashore and too often insufficient clothing at sea are also responsible for many of his ailments.

Carpenters and masons, whose work keeps them mostly in cities, where the air is less pure than in the country or at sea, are not as healthy as farmers or fishermen, and painters and plumbers, who are almost constantly exposed to noxious vapors and suffer more or less at all times from chronic poisoning, die comparatively young.

Tailors and shoemakers, who not only live in a foul atmosphere, but also sit all day in such a cramped position that respiration and digestion are interfered with, as well as drapers, wool and cotton workers, cutlers, file makers, and printers, are liable to phthisis.

Liquor sellers and hotel waiters are extremely short lived, their death rate being respectively two and three-fourths and four times as great as that of clergymen.

Railroading and other occupations, requiring one to be more or less constantly on the road, are extra hazardous, not so much because of the accidents to which one is exposed, as because of the continued jarring, the superheated and foul air in the car, and severe drafts every time a door or window is opened, and the fine dust, which settles not only in the air passages, but almost completely clogs up the pores of the skin, throwing extra work on the kidneys and giving rise to the so-called "railroad kidney." For this

reason, as well as for the broken sleep and irregular meals, commercial travelers are undesirable life-insurance risks.

To be a capitalist, whether busy or idle, is somewhat risky; for, besides being a target for dynamite bomb throwers, if busy, the physical wear and tear and the mental strain and anxiety of speculations will soon shatter both your mind and body, consigning you either to the madhouse or a premature grave, and, if idle, dissipation or *ennui* are apt to finish you early.

This being a general election year, we should fail in our duty to the public if we did not remind our readers that they may also in their official capacity warn the people of the dangers to which the politician is exposed. On this subject we cannot do better than to quote an editorial in the *Medical Press and Circular*, June 22, 1892:—

"The excitement associated with an approaching general election possesses a distinctly medical interest, as practitioners all over the country will shortly have another opportunity of ascertaining for themselves. Apart from the surgical injuries and solutions of cutaneous continuity caused by the impact of brickbats and missiles of a similar description, to be treated *sec. art.*, the excitement and the exhausting physical exertions which canvassing and electioneering entail upon the candidate and his chief agents, determine a tangible proportion of breakdowns. It has often been noticed that the election is barely over before a certain number of the candidates collapse and are forced to retire from active political life. Indeed, one is surprised that life assurance companies do not insert into the conditions of the grant of a policy a saving clause relieving them from all responsibility during the electoral period. Given a mature age and a sturdy determination to succeed, the position of a parliamentary candidate certainly falls within the category of dangerous occupations. The wonder, indeed, is that a larger number do not give way under the strain, but the effects cannot be measured by the immediate mortality. The moment seems opportune to advocate the value of blood letting in heart failure. Such an operation carried out on a public platform with promptitude and dispatch on a syncopal chairman or lecturer would be enough to secure a popular reputation for the operator, especially if by good luck the victim survived the ordeal."

Several defeated presidential candidates have

lain down and died shortly after their defeat, and Generals Garfield and Arthur might have been alive to-day had they left politics alone.

From what we have said it follows that if you would enjoy a happy life, as well as a long one, and be prepared to go to a better place when your time comes, practice not, but rather preach; spend not your days in houses built by man, but under God's fair sky; seek not wealth, for "it is easier for a camel to go through the eye of a needle than for a rich man to enter the kingdom of heaven;" keep the ten commandments and read and heed daily the divine injunction: "Take no thought for your life, what ye shall eat, or what ye shall drink; nor yet for your body, what ye shall put on."—*Pacific Medical Journal*.

USE OF WATER AND THE MEDICAL PROFESSION.

BY G. H. HEALD.

It has afforded pleasure to the writer to note a growing sentiment among the members of the medical profession in favor of the use of water and other simple agencies, in the treatment of disease.

Chas. N. Steele, A. M., M. D., professor of materia medica and therapeutics, Cooper Medical College, includes in his course a number of lectures on exercise, massage, and water treatment. He says these remedial measures have received too little attention in the text-books. The following expressions from the doctor's lectures may be of interest to the readers of the JOURNAL:—

"My purpose is to teach you how to do the least possible harm with drugs and allow nature to perform the cure."

"The use of drugs is mostly empiricism. The least important of a doctor's duties is the administration of drugs."

"Cold baths constitute one of the best tonics that we have."

"I have used water extensively and can recommend it as the *best* agent for reducing fever."

Jos. O. Hirschfelder, M. D., professor of clinical medicine, Cooper Medical College, says: "For the high temperature in typhoid fever, cold-water treatment is much better than expectant or other treatment. Cold baths cause no trouble, are easily applied, and patient always improves after each bath. The temperature may again rise after the bath, necessitating another bath, but I have

never seen any ill results from the use of water."

"My observation has been that antipyretics protract the course of the disease. Water, on the other hand, has a permanent effect in reducing the temperature, and a more marked effect, perhaps, in stimulating the patient."

Many statements of a like nature are made by these and other professors, but, being in impromptu conversational style, not intended for publication, it is not easy to make extracts.

Cooper Medical College, San Francisco, Cal.

FIGHTING MICE WITH A BACILLUS.

PROFESSOR LOEFFLER'S bacillary crusade against the field mice of the Thessalian plain has ended in victory. The latest reports announce that the fields are strewn with the corpses of mice. It will be remembered that Professor Loeffler discovered some time ago a new bacillus, the "bacillus typhi murium," which has the power of producing a certain disease in mice, and in mice alone. A plague of field mice, threatening to destroy the harvest, having appeared in Thessaly, he was appealed to by the Greek Government, and immediately started for Athens. He began his experiments by treating field mice in the laboratory with injections of his bacillus cultivation, and when these experiments showed his method to be undoubtedly the right one, he started for Thessaly with a staff of Greek doctors. Bread crumbs saturated with the bacillary substance were strewn broadcast over certain fields, and as early as a week later the results were visible. Success being now assured, Professor Loeffler will return to Germany, and the bacillus cultivation will be carried on at the seat of war itself.—*Scientific American*.

FOR MOUTH BREATHERS.—An old writer informs us that "it is a known fact that man can inhale through his nose for a certain time mephitic air, in the bottom of a well, without harm; but if he opens his mouth to answer a question, or calls for help, in that position, his lungs are closed and he expires. Most animals are able to inhale the same for a considerable time without destruction of life, and, no doubt, solely from the fact that their respiration is through the nostrils, in which the poisonous effluvia are arrested."

THE wise patient will not always choose the famous and popular physician. Notoriety is usually better for the practitioner than for the patient.—*Medical News*.



THE MEASURE OF LIFE.

THEY err who measure life by years,
 With false or thoughtless tongue ;
 Some hearts grow old before their time,
 Others are always young.
 'Tis not the number of the lines
 On life's fast-filling page ;
 'Tis not the pulses' added throbs
 Which constitute their age.

Some souls are serfs among the free,
 While others nobly thrive ;
 They stand just where their fathers stood,
 Dead, even while they live.
 Others, all spirit, heart, and sense—
 Theirs the mysterious power
 To live in thrills of joy or woe,
 A twelvemonth in an hour !

Seize, then, the minutes as they pass—
 The woof of life is thought ;
 Warm up the colors ; let them glow
 With fire or fancy fraught.
 Live to some purpose ; make thy life
 A gift of use to thee,
 A joy, a good, a golden hope,
 A heavenly argosy.

—Selected.

ACTION OF ALCOHOL IN THE STOMACH.

CERTAIN elements contained in food are digested in the stomach; they consist usually of the albuminous kind. Eggs, meats, some vegetables and milk contain albumen, and this element is taken hold of by the digestive liquor secreted by the glands of the stomach. This liquor is called gastric juice, and its most important chemical agent is pepsin. Pepsin is so largely contained in the mucous lining of the healthy stomach that it is recovered from the stomachs of animals, and manufactured into the medicine known as pepsin, which is so extensively used as an aid to weak digestion. There also takes place in the stomach during digestion a movement of the food, which is rolled about and broken up into a semi-liquid state; in

this form it passes from the stomach by absorption through its walls and also by an opening into the bowels, where other ingredients of the food, such as fats, oils, starches, and cheese particles are further digested. Natural digestion of food, so far as the stomach is concerned, is performed in a period of time varying from one to four or five hours, depending upon the character of the food and the condition in which it is received. If the food has been well cut and ground to a pulp by the teeth, stomach digestion is accomplished much quicker, and consequently its nutritive influence is sooner accomplished. This is why soups, milk, and liquid foods are always given to invalids and those suffering from hunger, or from weak digestion. In the normal healthy stomach digestion proceeds with regular order, and no discomfort is experienced.

Now in what particular does alcohol affect this stomach digestion? I have discovered, which only goes to prove the vast amount of scientific investigation, that if a teaspoonful of alcoholic liquor is taken into the empty stomach, instantly an irritation is set up and gastric juice is secreted quite freely. If this be followed by food of a proper character, normal digestion may follow. If, however, a larger quantity of alcoholic liquor be taken—say an ordinary barroom glass of whisky, the effect will be to throw the membranous lining into a more active state of irritation, and considerable weeping of gastric juice will follow, just as tears follow irritation of the eye. But the action of the strong alcoholic liquor on the gastric juice will be peculiar, it will separate the pepsin from it and destroy its power as a digestive agent. If, immediately after this larger drink of alcoholic liquor is taken, food be received, its normal digestion will be delayed for just the length of time it takes the stomach to rid itself of the alcohol, so that normal digestive gastric juice may again be secreted. This time may be a half hour, or hours, depending upon the quantity

of alcohol drunk before food is taken, or with the food during the meal. I have tried this experiment several times, by taking my ordinary dinner without a drop of alcoholic liquor. My natural feelings would indicate that the food was fully digested and passed on out of the stomach in ordinary time, say one to four or five hours, according to the kind and condition of the food. On the other hand, I have taken a good-sized drink of whisky before dinner, and drank whisky or brandy or the less powerful liquors called wines, with the dinner, and only in such quantity as would be considered decent and permissible at a table of the most refined person. In a period varying from one to three hours after the dinner I have taken an emetic and brought to light once more almost all the solid food I had swallowed, which showed very slight digestive change. I have seen two dogs fed on exactly the same food; to one was given a moderate quantity of whisky, while the other was allowed to pursue the digestion of his dinner normally. At the end of four hours both dogs were killed. In the whiskied stomach was found the food, with but very slight change, while the other dog exhibited an empty stomach.

CONCLUSION.—Alcoholic liquors delay digestion in the stomach, first, by coagulating albuminous substances, rendering them difficult of digestion; and, second, by destroying the active principle of the gastric juice, pepsin, and paralyzing nervous and muscular vitality.—*Alcoholism, Its Cause and Cure*, by "Joe Brown" Doctor.

A UNIVERSAL CURSE.

IT is a notable and significant fact that the drink curse has been acknowledged as one of the chief factors in two great evils which now overshadow the civilized world, and that it was also one of the moving causes in a recent event which threatened at one time to plunge two nations into the horrors of war. We refer to the famine in Russia, the ruin and degradation of the natives of Africa, and the quarrel with Chile. In a recent interview with Count Tolstoi, published in the *World*, of this city, the Russian philanthropist distinctly mentions drunkenness as one of three things which have led to the present distress. The other two things are improvidence and despair.

The Russian correspondent of the *New York Times*, and others who have investigated the

famine districts, bear testimony to the same facts. The terrible vodka, the Russian drink, is at the bottom of a large part of the misery. As for what rum is doing for the natives of Africa, all the world knows the shameful story. We are rightfully indignant at the hideous cruelties practiced by the Arab slave dealers in carrying on their traffic among the poor negroes of the Dark Continent, but it may be doubted whether the rum imported from Christian nations, and largely from our own country, has not been, in recent years, as heavy a curse upon these heathen people as the Arab slave trade.

Slavery may have affected a much larger number of people, but it is not an evil that takes hold of the blood. Rum not only curses those who drink to-day, but it reaches out with deadly and paralyzing grasp upon future generations. We may put an end to slavery by force, but bayonets and cannon will not eliminate the rum poison which we have put into the veins of the African negro. And then as to the Chilean quarrel, it is a generally conceded fact that the riot in Valparaiso, which started all the trouble, had its occasion partly, if not chiefly, in the drunken antics of some American sailors.

And so it is all around. Whichever way we turn in our effort to ameliorate the condition of mankind, whether it be in its social, political, or industrial status, we find this drink curse in the way.—*Christian at Work*.

RUM IN THE WORLD'S BIGGEST CITY.

LONDON has 8,325 miles of streets and a population of 5,837,000—more than the whole of Scotland or of Ireland. It has only 439 church buildings. It has about 8,500 people to the square mile; 145,000 paupers, one-third of whom are children; London has over 36,000 registered habitual criminals. There are over 14,000 policemen, which cost the city over \$7,000,000 a year. London has also 14,000 grogshops. How much these cost nobody can figure up. Never will there be any way out of "darkest" London, or the bottomless miseries and degradation of any other city, so long as the grogshop curse is tolerated.—*Advance*.

"WHAT'S this card in your pocket, John?" asked his wife. "That? Oh, before I went to lunch that was a bill of fare. Now it's my table of contents."



SLIPPING AWAY.

THEY are slipping away,—these sweet, swift years,
Like a leaf on the current cast;
With never a break in the rapid flow,
We watch them, as one by one they go
Into the beautiful past.

One after another we see them pass
Down the dim-lighted stair;
We hear the sound of their heavy tread
In the steps of the centuries long since dead,
As beautiful and fair,

There are only a few years left to love;
Shall we waste them in idle strife?
Shall we trample under our ruthless feet
Those beautiful blossoms, rare and sweet,
By the dusky way of life?

There are only a few swift years,—ah! let
No envious taunts be heard;
Make life's fair pattern of rare design,
And fill up the measure with love's sweet wine,
But never an angry word.

—Selected.

HER HUSBAND IS KNOWN IN THE GATES.

BY FANNIE BOLTON.

(Concluded.)

“WENDELL PHILLIPS deemed that his life would be a failure without the presence of his frail, invalid loved one. When she acknowledged her love for him, and pleaded that he would leave her to her lifelong prison house, he had declared that he would bring the world to her, and persisted in taking vows upon him to cherish her for better or for worse, in sickness and in health; and why should I, a woman young and vigorous, capable of caring for myself and him, desert him in his hour of need? In my heart I knew that I would rather be with Ernest, sick or dying, than marry a Ceresus; and so I married my poor, nervous, broken boy. Slowly I

nursed him back to health. Long days and longer nights found me beside him, bearing not only his sickness, but his doubt of my love, and everything a disordered brain could conjure up to try my faith and patience. But by and by he was restored to health. Then he said he should go into the ministry, for he felt that God had called him to this sacred work. I believed in him. Ever beside what he was I saw what he might, what he would be, and my heart was ever throbbing with aspiration and hope for him. He offered himself to the Rock River Conference, but an incredulous smile was the only answer to the statement of his earnest convictions. The ministers of the Conference declared his call from heaven a delusion and a snare, and told him he would never make a preacher. They refused to give him any chance whatever. Doubt came in then, a heavier sickness than physical sickness had been, and I fought for his faith. Everything seemed going; the waves seemed almost to overwhelm his soul. But I told him God had called him, I knew it, and that the voices of men would all be silenced yet to hear the divine call.

“An old minister who had heard of our discouragements offered Ernest a position under him to do evangelistic work among people who were hardened by sin, who lived hard, poverty-stricken lives. The poor and the uncultured were our associates, but Ernest believed that the Lord was leading him, and took courage, going zealously into the work. I had no school here to teach, and my husband's salary was a mere pittance. We were very poor, but, resolving to help my husband, I undertook the care of a large family, and worked far beyond my strength that he might have books and helps and comforts in his work. I hid my feelings from him. No word of complaint did I utter, and, manlike, he did not notice that I was grow-

ing white and thin, till suddenly I was smitten with fever, and for weeks lay in delirium or stupor. Then it was that the tables began to be turned. I had nursed and babied him until he depended upon me as a child upon its mother, but now his long-believed-in manhood began to assert itself. Patient, tender, strong was my nurse, and whatever he suffered, only the hopeful side was presented to me. I was weak and querulous, and he had to bear from me what I had borne from him, and when I came back to life some of its heaviest burdens were on his strong shoulders instead of upon mine.

"He had preached his first sermon while I lay in the fever, yet it was with many misgivings I went to hear him present the gospel to the poor, and these misgivings were turned into mortification as I saw how far he fell short of my ideal minister. But, chagrined as I was at his mistakes, I knew it would not do to show my disappointment, but rather to inspire and help him. Gently I told him where his excellencies might lie, and where his misfortunes in expressions, subject matter, and gestures were; and night after night, as he preached to the people, I kept his flagging voice from failing and motioned energy into his manner, till he felt as if he could not preach unless I was before him to encourage or disapprove.

"A fellow worker said to him, 'You are not usually a selfish man, Mr. Davenant, but in one thing you are intolerably selfish. You insist on your poor little wife dragging herself to meeting night after night, when she is wholly unable to bear the strain of these continued services.' Then Ernest relieved me, and fell back on his own energies. His success as a minister soon became assured, and, as you know, he has been called from one position of usefulness and honor to higher positions, and the very Conference that rejected his first offers would now gladly welcome him to the highest places in its ranks. But I ever keep before him a higher place, not of worldly position and honor, but of character, attainment, and life. You know what success is his. You know that he speaks in demonstration of the Spirit and with power, for he is a man that God can use. People call him a man of humility, and so he is, for ever before him is an unattained height, so far above that which he has gained that his position always looks low, although it is far above the ordinary preacher's

height; and, so far as it lies in my power, it shall always be so. I only praise him for encouragement, and rebuke him for love, as he does me, and so we love, and therefore help each other. Some day you will see him bearing far heavier responsibilities in the work of God than he does now, even standing in a leading position among God's watchmen; for God has a great work for him to do, and it is my work to help him on."

"How do you do this, simply by presenting to him the goal you hope him to reach?"

"No, not altogether; I know all his correspondents, and they are not few, I assure you, and I help him answer his letters. I know his people. I visit with and without him. I go through his books and mark paragraphs; I cull selections from the magazines and papers for his use. We talk over the needs of the people, and search the Bible together for what will meet their wants. We bear the same burden to the throne of grace. Oh, I am a busy woman, for, finding I cannot trust to servants to do our cooking, as so much depends on wholesome food, I do our cooking, and oversee the housework, and I am, beside, his private secretary and adviser, and his most ardent admirer and lover! Not the smallest of my work is the good loving I give him at every favorable opportunity, and so our romance has never died out."

"You are certainly a happy woman," said Mrs. Aimes, "but I have grown so indifferent to everything, and my husband has also, that I fear no amount of work or love would ever win him back to be what he once was, no amount of ambition ever stir him to change his course of action."

"Have you been careful to make your ways as sweet to him, as attractive to him, as when you were a girl? Do you preserve the same modesty and reserve? Have you a holy sanctuary in your soul where only the High Priest enters? and does the incense of your prayers make your whole tabernacle fragrant? All exaltation, all the reward of love, is the result of love's sacrifice, and she who would be great in the eyes of her husband must be his minister to help and urge him on. Does your love for him burn up all the coarse and selfish dependence that becomes burdensome?"

Mrs. Aimes looked at Mrs. Davenant and shook her head, saying: "No; I have been a fretful, selfish wife. I have felt bitterly towards

my husband, because I thought him selfish and unreasonable. It is a long time since I have really tried to please him, or to love anybody, and the glory of life has departed. Even mother love has become sordid in its kind, and, though my children are clothed and fed, they are in reality poor, neglected creatures, for their moral and intellectual natures are sorely uncultivated. How can I make anything of myself, or my husband and children? It is all too late now."

"No, never," said Mrs. Davenant. "The Lord says: 'I will come down as rain upon the mown grass,' 'I will be as the dew unto Israel. He shall grow as the lily;' 'they that dwell under his shadow shall return, they shall revive as the corn;' 'for from me is thy fruit found.'"

Mrs. Aimes had her hand to her face, and the slow tears were creeping through her fingers.

"Poor, dear, tired woman," said Mrs. Davenant, in gentle sympathy, "the Divine One, who is all love, calls to you to come unto him and rest. Learn to be meek and lowly of heart. The glory of life is gone, like the bloom and fragrance of a flower touched by fevered hands, when love is fled, when we have no holy cause for which to live and work unselfishly. The secret of health of body and mind to a great extent lies in a cause for which we can forget ourselves; but all you need even now to make your home the ideal home, to put a touch of life to every common-place duty, is the presence of Christ, and he says, 'Behold, I stand at the door, and knock.' Let us just kneel down and ask him to let his own divine, unselfish love come in."

And the three ladies knelt down to ask for what was already given, to feel the inflowing of a tender, melting spirit, and the beginning of warm affection one for another. Then they arose, and bade each other good-by and God-speed.

When Mr. Aimes came home that night, the parlor was lighted up, the children were clean and playing peacefully together, a tempting supper was on the dining room table, while Mrs. Aimes looked so happy and neat in a dress long put by in the closet, that her husband met her smiling eyes with a smile, and said, "Seems to me, Maria, you are looking ten years younger than you did this morning;" and she answered, "Am I? I feel a hundred years younger."

And whatever may be said of a woman's in-

fluence, at least that evening there was some new aspirations in the Aimes' household.

THE NECESSITY OF GRACEFUL BEARING.

How few women know how to stand up erect and yet to preserve the slenderness of their figures and the graceful *contours!* This is one of the most important of social arts. By standing well is meant the throwing upward and forward of the chest, flattening the back, and keeping the shoulder blades in their proper places. Women should be "set up," just as cadets are at West Point or Annapolis.

No women in the world carry themselves so well as the English women and girls of high birth. This "setting up" drill is gone through by them from their earliest childhood, and much of their stately beauty is due to the care their mothers take in this respect. A great deal of our English girls' beauty lies in their proud carriage, the delicate erectness of their figures, and the dainty poise of the head.

This aristocratic bearing and carriage is within reach of any girl, if she will but believe it, and take the pains to have it. It is but the question of constant watchfulness on the part of the mother and the girl herself. Whether sitting or standing she must always preserve the graceful, erect position. This system of training is also of great good. It preserves the perfection of the figure, because the muscles are always firm and well strung, and prevents the flesh from sinking down the waist and hips, which is so common among women who permit a slouchy manner, and which is so easily avoided.

Another habit women should avoid: In going upstairs they bend forward and contract the chest. This induces round shoulders, besides spoiling the figure and doing great injury to the heart and lungs. There are so many little things which, if women will but consider, will preserve their beauty a decade longer than it now lasts.—*Selected.*

THE *Popular Science News* gives an excellent method of protecting plants from frost. A successful amateur plant grower fills a gallon jug with hot water, sets it upon a table, and places her plants around it, first coating the jug with several layers of paper, to keep in and also modify the heat. Over the whole she throws something light and large—a sheet, for instance—and the plants are safely protected.

Mother's Helper

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

CHRIST AND THE LITTLE ONES.

"THE Master has come over Jordan,"
Saith Hannah, the mother, one day;
"He is healing the people who throng him,
With the touch of his finger, they say.
And now I shall carry the children,
Little Rachel, and Samuel, and John;
I shall carry the baby Esther,
For the Lord to look upon."

The father looked at her kindly,
But he shook his head and smiled:
"Now who but a doting mother
Would think of a thing so wild?
If the children were tortured by demons,
Or dying of fever, 'twere well,
Or had they the taint of the leper,
Like many in Israel."

"Nay, do not hinder me, Nathan;
I feel such a burden of care.
If I carry it to the Master,
Perhaps I shall leave it there.
If he lay his hands on the children,
My heart will be lighter, I know;
For a blessing forever and ever
Will follow them as they go."

So over the hills of Judah,
Along by the vine rows green,
With Esther asleep on her bosom,
And Rachel her brothers between;
'Mong the people who hung on his teaching
Or waited his touch and his word,
Through the row of proud Pharisees listening,
She pressed to the feet of the Lord.

"Now, why shouldst thou hinder the Master,"
Said Peter, "with children like these?
Seest not how, from morning till evening,
He toucheth and healeth disease?"
Then Christ said, "Forbid not the children,
Permit them to come unto me!"
And he took in his arms little Esther,
And Rachel he sat on his knee;
And the heavy heart of the mother
Was lifted all earth care above,

And he laid his hands on the brothers,
And blest them with tenderest love;
And he said of the babes in his bosom,
"Of such are the kingdom of heaven;"
And strength for all duty and trial
That hour to her spirit was given.

—Selected.

QUESTION BOX.

1. WHEN should a child be put in short clothes?

In considering this question, we might mention that it is never well to put a child in very long clothes. The weight of excessively long skirts can but do great harm in dragging upon the shoulders of the tender infant, if, indeed, it be so fortunate as to have them supported from the shoulders, and more still if they pull upon the bands pinned tightly about the body, which for healthy development demands freedom of motion and space to expand. The time for shortening the clothing should be governed by the condition of the child and the season of the year. In a healthy, well-developed child the time may vary, according to the season of the year, from six weeks to three or four months.

2. What treatment may be used by mothers to abort the catarrh which frequently follows acute colds in infants?

If taken in time, we believe the condition may be controlled in a few days in the following manner: Dissolve a pinch of borax or boracic acid in a half a cup of warm water, place the child across the lap and allow the head to drop slightly, then pour a teaspoonful of the liquid into each nostril. This treatment should be repeated once or twice each day until the trouble is removed?

3. What is the proper age for weaning a child?

Only in exceptional cases should a child be nursed longer than twelve months.

SOME OF THE CAUSES OF SUMMER COMPLAINT IN CHILDREN.

WHEN it is to be remembered that fully one-half of all children born, die before they reach the age of ten years old, and that by far the greater part of these die of intestinal disturbances, it becomes a question of great moment to every mother, How shall I protect my little ones from this fatal malady? Diarrhea in young children may take on various forms, as simple diarrhea, dysentery, cholera infantum; but the causes are one and the same, and may be considered under one head.

There is no doubt that heat is a large factor in the production of the disease. Numerous facts, however, prove that heat of itself is not the cause of the trouble, but, being favorable to the process of purification in its various forms, or, rather, the development of the germs, it proves to be the occasion rather than the direct cause of the trouble. Dentition, by lowering the tone of the digestive powers, no doubt favors indigestion, and again by reflex influence causes increased peristaltic action; but, generally speaking, children who suffer from acute diarrhea become sick either through improper food or improper feeding. Under improper food should be classed: *First*, the milk of a woman suffering from any form of severe acute or chronic disease; a violent fit of passion or sudden or intense emotion of any kind on the part of the mother has been known even to cause death to the nursing child. Nursing when very weary or overheated may be the means of causing digestional disturbance. We have known children to suffer from severe indigestion attended with vomiting, frequent acid stools and colic in consequence of the nurse indulging in a meal of any very rich food, particularly of vegetables and fruit. All children are not equally affected by the diet of the nurse, but some can bear only the most simple diet. The use of artificial foods is by far the greatest cause of indigestion among children. It is stated by an eminent authority that "very many children with whom artificial feeding is attempted, die of indigestion in the numerous forms; very few indeed escape frequent attacks of one or another of these diseases. Much depends upon the selection and preparation of the food. It may be stated as a well-established fact that a diet consisting wholly, or in great part, of farinaceous substances rarely fails to disagree with the child, and to produce indigestion or other disorders of the digestive system which

often prove fatal, while one into which cows' or goats' milk enters as the principal ingredient, although inferior to the natural food, and often productive of indigestion, is far less injurious than the other."

Another point to be borne constantly in mind is the fact that no food of any kind is safe to be taken by young children, unless thoroughly sterilized; this also applies to water. All water taken by children, however free from contamination its source may be supposed to be, should first be boiled fifteen minutes.

Too frequent feeding is another prolific cause of trouble, both in children who are nursed and those who are artificially fed. Regularity in feeding and care in the selection of foods are alike necessary, especially for children in the second and third years. Milk and well-cooked grains should, as a rule, constitute most of the diet until the third summer is past. A few well-cooked vegetables may be allowed, and some of the more easily digested fruits. Cherries and apricots may be mentioned as especially liable to produce intestinal troubles.

When we consider the indiscriminate diet which is allowed young children in most American homes, the wonder is not that so many die, but that so many live.

TRAINING A CHILD'S APPETITE.

WHAT a grown person likes to eat or drink depends largely on what that person was trained to eat or drink while a child. And a child can be trained to like almost any sort of food or drink, either good or bad. No small responsibility, therefore, for both the health and the enjoyment of a child, devolves on him who has in hand the training of a child's appetite.

That a child inherits tastes in the matter of food and drink cannot be questioned; but that fact does not forbid the training of a child's tastes away from its inborn tendencies; it merely adds an element to be considered in the training process. A child born in the Tropics soon learns to like the luscious fruits which are given to it freely; while a child born in the Arctic regions learns with the same rapidity to like the grosser diet of fish and oil, which is its chief supply of food. In one region the people live mainly on roots and berries; in another they devour raw flesh or drink fresh blood; in yet another they eat dried locusts or grasshoppers; in yet another

it is milk or honey which is their chief means of sustaining life. In every region the children are easily trained to enjoy the eating of that which they have to eat, and if a child is taken at an early age from one region to another, it quickly adapts itself to its new conditions, and learns to like that which is given to it as its means of satisfying hunger. All of which goes to show that the natural appetite of a child does not demand one kind of food above another to that extent which forbids the training of a child to enjoy that which it can have and which it ought to use.

As a rule very little attention is given to the training of a child's appetite. The child is supplied with that food which is easiest obtained, and which the child is readiest to take. If the parents are tender-hearted and loving toward their children, they are quite likely to show favor by giving to them those things which please a child's palate, or which are favorites with the parents themselves. Finding, for example, that a child likes sugar, a parent is tempted to give a bit of sugar to a child who is not ready to take anything else at its meal-time, even though that bit of sugar may destroy the child's appetite for the hour or disturb the stomach for all day. Again, seeing that the child is glad to try any article of food which his parent enjoys, the parent, perhaps, proffers from his own plate that which he deems a delicacy, although it may be of all things the least suited to the child's state of health or condition of being. And so it is that the child is trained in wrong ways of eating at the very time when it most needs training in the right way.

A child is quite likely to have its freaks and fancies of appetite, which a kind parent is tempted to indulge instead of checking. One child would eat only the softer part of bread, while rejecting its crust. One would eat meat without vegetables, another would refuse one kind of meat, or of vegetables, while eating all others freely, and so on. The more these peculiarities are beyond the child's control, the more they seem to be accepted as inevitable by the parents, instead of realizing as they should their personal responsibility for the continuance or the removal of them.

"Your boy ought to eat less meat and more farinaceous food," says a physician to a mother, whose boy is in the doctor's hands. "Let him

have oatmeal and milk for breakfast, and see to it that he eats meat only once a day, and sparingly at that." "Johnny is a great hand for meat," is the answer, "and he can't take oatmeal." And in that answer the mother shows that all the blame in the case rests on herself and not on her Johnny. Johnny ought to have been trained to eat what is good for him, instead of indulging his personal whims in the eating line. When a mother says, "My boy won't eat potatoes," or, "He won't eat tomatoes," or, "He must have plenty of beefsteak," she simply confesses to her culpable failure of duty in the training of her boy's appetite. If she were to say that she did not approve of one of those things, or of the other, and therefore she would not give it to him, that would be one thing; but when she says that he will not take it even though she thinks it best for him, that is quite another thing; and there is where the blame comes in.

Of course, it is to be understood that there are articles of food in familiar use which, here and there, a child cannot eat with safety. On the seashore, for example, the clam, which is eaten freely by most persons, seems to be as poison to certain individuals. It is not that these persons do not like the clam, but it is that their systems recoil from it, and that its eating is sure to bring on a serious illness. A child can be trained to like whatever he ought to eat, and to refrain from the eating of whatever is not best for him. And herein is the principle of wise training in the realm of a child's appetite.

A prominent American educator put this principle into practice in his own family, consisting of four boys and four girls. He was a man of limited means, and he felt the necessity of training his children to eat such food as he deemed good for them, and as he could afford to supply. His choice of food for his family table was wisely made, to begin with, and then he showed wisdom in his mode of pressing it upon his children. If they deemed a dish distasteful, they were privileged to wait until they were willing to eat it. There was no undue pressure brought to bear on them. They could simply eat it or let it alone. If they went without it that meal, the same dish or a similar one was before them for the next meal, and so on until hunger gave them the zest to eat it with unfeigned heartiness. By this means those children learned to eat what

they ought to eat, and when they had come to years of maturity they realized the value of this training, which had made them the rulers of their appetite instead of being its slaves.

On every side we see persons who are subject to the whims and caprices of their appetite, because their appetite was never trained to be subject to them. And in one or the other of these two directions the upbringing of every child is tending to-day.

Peculiarly in the use of candy and of condiments is a child's appetite likely to be untrained, or trained amiss. Neither the one nor the other of these articles is suited to the needs; but both of them are allowed regardless of what is best for him. The candy is given because the child fancies it. The condiments are given because the parents fancy them. There are parents who train their children not to eat candy between meals, nor to use condiments at meals. These parents are wiser than the average, and their children are both healthier and happier. There ought to be more of such parents and more of such children. The difficulty in the way is always with the parents instead of with the children.

It is affirmed as a fact that some Shetland ponies which were brought to America had been accustomed to eat fish, and that for a time they refused to eat hay, but finally were trained to its eating, until they seemed to enjoy it as heartily as other ponies. Children to whom cod-liver oil was most distasteful when it was first given to them as a medicine, have been trained to like cod-liver oil as well as they liked syrup. It is for the parents to decide, with the help of good medical counsel, what their children ought to like, and then train them to like it.

It is by no means an easy matter for a parent to train a child's appetite; but it is a very important matter, nevertheless. Nothing that is worth doing in this world is an easy matter, and whatever is really worth doing is worth all that its doing costs—and more. In spite of all its difficulties the training of any child's appetite can be compassed, by God's blessing, and compassed it ought to be, whatever are its difficulties. It is for the parent to decide what a child shall eat, as it is for the parent to decide what he shall wear.

The parent who holds himself responsible for what a child shall put on, but who shirks his re-

sponsibility for what that child shall take in, would seem to have more regard for the child's external appearance than for his upbuilding from within.—*American Kindergarten Magazine.*

PROGRAM FOR MOTHERS' MEETING.

THE following is merely suggestive:—

Scripture reading.*

Prayer.

Reading of paper or selection (subject, "Consecrated Parenthood").†

Discussion of subject.

Poem—"Christ and the Little Ones."

Question box.

Subject for November meeting, "Reverence."

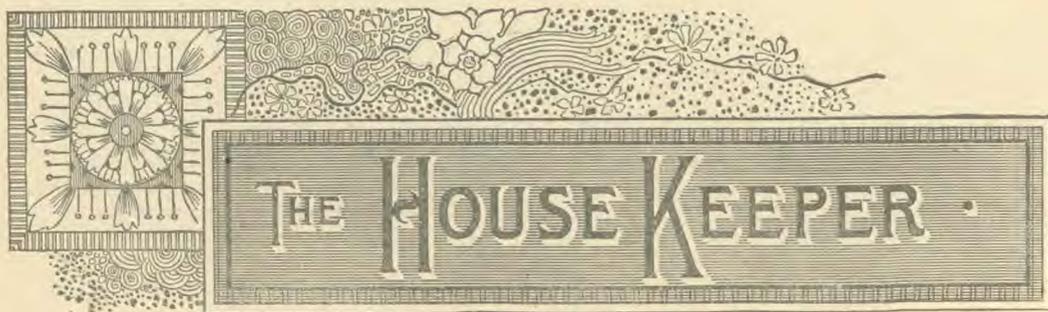
IN God's mind stands an ideal of every human life, and this ideal is the highest possible development of all its faculties, physical, mental, spiritual. To realize this ideal, parents must be coworkers with God in a very exalted sense. To them is intrusted, in large measure, the working of his plans; on them it greatly depends whether God's ideal of manhood or womanhood shall be realized by that soul, or whether, dwarfed by neglect, deformed by sin, it shall become only a maimed, distorted caricature. Impress upon all parents a sense of the solemn responsibility, as well as the glad privilege, which the coming of each child brings them, and neglected childhood, whether neglected through the frivolity of fashion, the pressure of business resulting from undue haste to be rich, or from overburdening care and labor for the meat that perisheth, will cease to be. The life will be recognized as more than meat, and the body than raiment.—*Childhood, Its Care and Culture.*

WHITTIER says: "From the Infinite Heart a sacred presence has gone forth and filled the earth with the sweetness of immortal infancy. Not once in history alone, but every day and always, Christ sets the little child in the midst of us, as the truest reminder of himself, teaching us the secret of happiness, and leading us into the kingdom by the way of humility and tenderness."

BUT one upon earth is more beautiful and better than the wife—that is the mother.—*L. Schefer.*

*We would suggest the following text: 1 Sam. 1:9-28; 2:1-10.

† A valuable leaflet, entitled "Let Us Live with Our Children," bearing upon this subject, may be obtained for the sum of two cents by addressing W. C. T. U. Headquarters, 132 McAllister Street, San Francisco. We would suggest that a number be obtained for distribution. They may be obtained at the rate of 100 for \$1.50.



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

THE BOY WHO HELPS HIS MOTHER.

As I went down the street to-day
 I saw a little lad
 Whose face was just the kind of face
 To make a person glad,
 It was so plump and rosy-cheeked,
 So cheerful and so bright,
 It made me think of apple-time,
 And filled me with delight.

I saw him busily at work,
 While, blithe as blackbird's song,
 His merry, mellow whistle rang
 The pleasant street along,
 "Oh, that's the kind of lad I like,"
 I thought, as I passed by;
 "These busy, cheery, whistling boys
 Make grand men by and by."

Just then a playmate came along
 And leaned across the gate,
 A plan that promised lots of fun
 And frolic to relate.
 "The boys are waiting for us now,
 So hurry up!" he cried;
 My little whistler shook his head,
 And, "Can't come," he replied.

"Can't come? Why not, I'd like to know?
 What hinders?" asked the other.
 "Why, don't you see?" came the reply,
 "I'm busy helping mother.
 She's lots to do, and so I like
 To help her all I can;
 So I've no time for fun just now,"
 Said this dear little man.

"I like to hear you talk like that,"
 I told the little lad;
 "Help mother all you can, and make
 Her kind heart light and glad."
 It does me good to think of him,
 And know that there are others
 Who, like this manly little boy,
 Take hold and help their mothers.

—Golden Days.

PERFECT FOODS.

FOOD is any substance which, when taken into the body, replenishes its wastes and supplies heat, force, and energy.

All foods, however, are not perfectly adapted to the needs of the body. A perfect food is one that contains the right proportion of the food elements, that is, about one part of the nitrogenous elements to every seven of the carbonaceous. But to a certain extent, our bodies adapt themselves to foods that are not the best, else we should oftener suffer. But in order to have the greatest amount of vigor—mental, physical, and moral—we must have food that will build up the nerves, muscles, and brain, as well as that which will produce heat, force, and energy.

Every time we breathe or think or move, force or energy is expended and tissues of the body are broken down. Certain portions of the carbonaceous elements of our food have been stored up in the muscles, in a form known as *glycogen*, and when these combine with the oxygen carried to them in the blood, heat or force is produced, but the impulse which causes this combination is sent by the nerve, and the carrying of the impulse causes a waste of the cells of the nerve itself, which must also be built up.

To illustrate, we might compare the *glycogen* and oxygen to the elements contained in gunpowder. These elements are in close contact, but it requires the third power, or the fuse, to unite them and cause an explosion. So in the body the nerve is this third power—the fuse, if you please. And when force is evolved, not only is the powder—the glycogen and the oxygen—used up, but the fuse itself—the nerve—is to some extent wasted away.

Were there no means of replenishing these, in a short time we would use them up and there

would be no more force or life remaining than there is in the inert matter of the earth, but along comes the blood—the good Samaritan of the body—and heals a wound here and supplies a lack there, keeping the muscles and nerves strong and healthy, and bringing a new supply of heat and force producing material.

Unlike our illustration, the pulse in our body does not burn up, it only needs repair. Hence a smaller amount of material is needed for this than is required for the production of heat and force. We call the former material the nitrogenous element and the latter the carbonaceous, and they are needed by the body in about the proportion of one part of the nitrogenous to seven of the carbonaceous.

Under the nitrogenous elements are classed the albumen or white of eggs, the casein of milk, the casein of peas, beans, and lentils, the fibrin of meat, the gluten of wheat, etc.

The carbonaceous element, which is by far the largest class, includes starch, sugar, and fats in their various forms.

Besides these two classes are the salts, which are associated with the nitrogenous elements and are contained to a greater or less extent in all the foods we eat. They are used in the body mostly for building up its bony structure, but the amount of these elements is very small in comparison with the carbonaceous and nitrogenous elements.

If we take into our bodies a greater proportion of the nitrogenous elements than it can use, these have to be thrown off as waste, and the eliminative organs, which, under natural conditions, have enough to do, are thereby overworked and in time become diseased. The same is true if an excess of the carbonaceous elements is taken, though of the two the body can more readily dispose of an excess of the latter than of the former.

For these reasons it becomes a matter of importance to every one of us to know of what elements our foods are composed, and how we may combine them in order to have a perfect food.

L. C. B.

COMBINATION OF FOODS.

EVERY thought and action and all the toils and cares of life destroy some tissue, break down some part of the human mechanism. To supply the means of building up these broken-down tissues, and to facilitate the healthy growth of all organs of the body, we have the foods with which the earth furnishes us in such great abundance, and by combining them properly, we have ample variety for these purposes.

The elements needed for food are all found abundantly stored in the grains, fruits, and vegetables which grow so luxuriously in most all countries. The different food elements are: starch, sugar, fat, albumen, and mineral or indigestible substances. For convenience they have been grouped under three heads, as follows: Carbonaceous—including starch, sugar, and fat; nitrogenous—including albumen, casein, gluten, and fibrin; inorganic, or mineral.

By careful study physiologists have found that it takes six parts of carbonaceous and one part of nitrogenous matter to make a perfect food, so then, by knowing what elements constitute the different vegetables, fruits, and grains which we use as food, we can combine them in such a way as to have the proper amount of nutrition to build up the system. Many articles of food do not contain the needed amount of nutritive elements, though they may contain the proper amount of bulk; to supply the elements they lack they must be combined with foods that contain the properties they do not have. For example, take the potato. It is composed of two and five-tenths per cent nitrogenous matter, twenty per cent starch, and seventy-four per cent water; other ingredients, three and five-tenths per cent. To be a perfect food it should have one-seventh part nitrogenous matter. If we were to try to subsist wholly on potatoes, we would have to eat a great many to get the necessary amount of nourishment. The bean is composed of twenty-five and five-tenths per cent nitrogenous matter, fifty-five and seven-tenths per cent starch, and other ingredients, eighteen and eight-tenths per cent. While the potato contained too much starch and not enough nitrogenous matter, the bean has not enough starch and too much nitrogenous matter. By combining these two at one meal, we would have the food elements in nearly the proper pro-

“THE strength of posterity is in the womanly sense of the present. All that we do and think, even to the dressing of our bodies, generations are powerless to eradicate.”

portion. Other combinations can be made with other articles of food, giving a combination just as desirable and also having the proper amount of food elements. Wheat, rye, barley, and Indian corn contain the food elements in about the right proportion—that is, in them we have about one part of nitrogenous matter to six parts carbonaceous, and can therefore call them a perfect food.

After we have the proper combination of food elements, the relation of the different kinds of foods to each other which go to make up the meal must be considered. Many foods which are digested easily when eaten alone or with other foods with which they agree, create quite a disturbance when taken with articles of food with which they are incompatible.

On this point Mrs. Kellogg, in "Science in the Kitchen," says: "The following food combinations are among the best, the relative excellence of each being indicated by the order in which they are named: Milk and grains; grains and eggs; grains and vegetables, or meats; grains and fruits." "Persons with sound stomachs and vigorous digestion will seldom experience inconvenience in making use of other and more varied combinations, but dyspeptics and persons troubled with slow digestion will find it to their advantage to select from the bill of fare such articles as best accord with each other, and to avoid such combinations as fruits and vegetables; milk and vegetables; milk and meats; sugar and milk; meat or vegetables; fats with fruits, meats, or vegetables, or cooked with grains."

The following rules on the combinations of foods we quote from "Health in the Household," by Dr. Susanna Dodds, of St. Louis:—

"1. Fruits and vegetables should not, as a rule, be eaten together, that is, at the same meal; if they are so eaten, persons with feeble digestive organs will usually suffer.

"2. The Irish potato seems to be an exception among vegetables; it is so unaggressive in its nature that it seldom quarrels with anything. It may therefore be eaten (by most persons) with either fruit or vegetables; and always does well with grains.

"3. Fruits and cereals are particularly suited to the morning and evening meals; and very little other food is required.

"4. A good rule, when suppers are eaten, is

to make the meal of bread and fruit only, these being taken in limited quantities; and eaten at an early hour.

"5. Fruits, if eaten raw, should be ripe, and of good quality; persons with feeble stomachs digest them more easily at the beginning of the meal; this is particularly true when warm foods make a part of the repast.

"6. Fruits raw or cooked may be eaten at dinner, provided no vegetables (unless it be potatoes) are taken. But if raw, they should be eaten first, particularly if there are warm foods to follow.

"7. Some persons cannot digest certain kinds of raw fruits for supper, or late in the day; let them take these on sitting down to the breakfast table, or the first thing at dinner, unless there are vegetables at this meal.

"8. If meats are eaten—a debatable question between strict hygienists and 'other people'—take them at the noonday meal, with or without vegetables, and in cold weather rather than warm.

"9. The grains digest well with other foods, though some persons cannot eat them in the form of mushes. They should always be thoroughly cooked.

"10. Persons with feeble digestion should, as a rule, confine themselves to a single kind of fruit at a meal; they can make the changes from one meal to another.

"11. Those who find it difficult to digest vegetables should not attempt more than one kind at a given meal, until the digestion is improved, and often it is best to leave them off entirely for a time.

"12. In selecting vegetables for a single meal, do not, if there are several varieties, have all of them of the watery or juicy kinds, as cabbage, asparagus, white turnips, etc.; nor all of the drier sorts, as baked beans, winter squashes, sweet potatoes, etc.; but blend the more or less nutritious kinds in a judicious manner. Or, if you have only the watery ones at hand, be content with not more than two varieties, prepare a side dish of something rather nutritious, and then add a dish of warm corn bread, as an accompaniment, particularly if it be a cold day.

"13. If you have for dinner a thin vegetable soup, follow with something more substantial, as baked potatoes (sweet or Irish), or corn bread; but if you have bean or split-pea soup, let the other vegetables be of a kind less hearty.

"14. On a very cold day have a warm dinner of good nutritious articles; select mainly solid foods with grains, rather than thin soups and watery vegetables.

"15. On a warm day make the breakfast largely of fruits, with a moderate supply of cereals. The dinner may be of young vegetables (or fruits), a dish of grains if you like, and a little bread. Eat lightly, and you will suffer less from heat, particularly if no seasonings are taken. For supper a glass of cold grape juice and a slice of loaf bread is fine in hot weather.

"16. In very cold weather, take the chill off your stewed fruit, fruit pies, or other dishes, before serving them. Pastries, if used, are best at the midday meal, and so are puddings.

"17. Never have too great a variety at a single meal; have few dishes, well prepared, and make the changes from one meal to another; this will please better on the whole, and it will not rapidly exhaust your limited supplies."

C. E. L. J.

HOUSEWORK AS AN EXERCISE.

"To keep the complexion and spirits good, to preserve grace, strength, and agility of motion, there is no gymnasium so valuable, no exercise more beneficent in result, than sweeping, dusting, making beds, washing dishes, and the polishing of brass and silver," says the *Medical Record*. One year of such muscular effort within doors, together with regular exercise in open air, will do more for a woman's complexion than all the lotions and pomades that were ever invented. Perhaps the reason why housework does so much more for women than games is the fact that exercise which is immediately productive cheers the spirit. It gives women courage to go on living and makes things seem really worth while.—*Ladies' Home Journal*.

TO CLEAN CHAMOIS SKINS.

CHAMOIS skins that have been used for cleaning silver, brass, etc., can be made as soft and clean as new by following these directions: Put six tablespoonfuls of household ammonia into a bowl with a quart of tepid water. Let the chamois skin soak in this water for one hour. Work it about with a spoon, pressing out as much of the dirt as possible; then lift it into a large basin of tepid water, and rub well with the hands. Rinse in fresh water until clean, then dry in the shade. When dry, rub

between the hands. Chamois jackets can be washed in the same manner, except that there should be two quarts of water to the six tablespoonfuls of ammonia. Pull into shape before drying.

If you find grease spots on wall paper, put powdered French chalk, wet with cold water, over the places, and let it remain for twelve hours or more. When you brush off the chalk, if the grease spots have not disappeared, put on more chalk, place a piece of coarse brown paper or blotting paper on this, and press for a few minutes with a warm flat-iron.—*Selected*.

HOUSEHOLD HINTS.

ALMOND meal is very softening and whitening to the skin.

To clean brass fixtures, rub them with slices of lemon, then wash in hot water.

CAYENNE pepper is highly recommended for driving away ants. It should be sprinkled about their haunts.

WASH white flannels in cold water with suds made of white soap, and they will not shrink much nor look yellow.

To keep flies away from gilt frames, boil four or five onions in a pint of water and put it on with a soft brush.

CASTOR oil has not failed in any case to remove warts to which it has been applied once a day for two to six weeks.

To prevent colored stockings from fading, put a tablespoonful of black pepper into the water in which they are rinsed.

By rubbing with a flannel dipped in whiting the brown discolorations may be taken off cups which have been used in baking.

It is claimed that white spots on varnished furniture will disappear if a hot plate from the stove is held over them.

PURE beeswax and clean, unsalted butter make an excellent substitute for creams and balms.

SAGE tea or oatmeal gruel sweetened with honey are good for chapped hands or any sort of roughness.

A SLICE of apple or tomato rubbed over the hands will remove ink or berry stains.



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

A CONVENIENT AND HEALTHFUL MODE OF DRESS.

A MOST comfortable, convenient, and neat style of dressing may be made to consist only of three pieces. These may be arranged in such a manner as to consume very little time in either putting on or taking off. The first garment, a combination undersuit, should be of sufficient weight to furnish nearly all the warmth required by the limbs; this may be obtained to include the stockings as well, otherwise the stockings may be separate and be supported by the shoulder-brace hose supporter, or, if this be objectionable, as it is to some, they may be attached by a short supporter to the under surface of the next garment. The second garment should consist of a simple skirt, preferably cut from the divided skirt pattern, which may be combined with a waist of the same material, or, if preferred, a waist may be cut to fit the person comfortably and extend four or five inches below the waist line, to which the skirt may be attached by buttons set about three or four inches apart. The skirt is better made of light material, the warmth required by the limbs being furnished by the first garment. The outer garment, or dress, should by all means consist of but one piece. Of this style of dress at the present time there are many patterns, both hygienic and artistic. Fashion plates of this style of dress are to be found in nearly all the most approved magazines of the present day.

The patterns themselves may be obtained in their greatest perfection, doubtless from the proprietor of the *Jenness Miller Magazine*. They may be obtained also by addressing Mrs. M. H. Ober, of Sutter Street, San Francisco, or San Pablo Avenue, Oakland. The divided skirt pattern may be obtained from the Sanitarium for the sum of twenty-five cents and postage.

SENSIBLE DRESSING.

BY GRACE A. PRESTON, A. M., M. D.

[Professor of physiology and anatomy, and college physician, at Smith College, Northampton, Mass.]

THE history of woman's dress during the last half century is a profitable subject for reflection to the woman of to-day. Let us avail ourselves of past experiences in order to gain the wisdom needful for planning a perfect style of dress. It is true that some women have learned to clothe themselves in a manner which combines the hygienic and the æsthetic in a marked degree, so that for them their is little left to be desired; but the many are still suffering under the burdens of conventional, fashionable dress. Working women, in particular, are, most of them, led by custom to wear clothing that is a hindrance to health and the performance of the daily duties, and, indeed, they are quite ignorant of the possibility of something better.

Let us call to recollection a few past errors. There was a time, back somewhere in the sixties or earlier, when every woman wore a hoop skirt. Patiently the poor victims set themselves to the task of acquiring the skill necessary for the management of the ungainly thing. Unconscious martyrs, they endured the cold draughts of winter that circulated about their slightly protected limbs, apparently never dreaming of the possible warmth and comfort of a closer fitting style of dress. Even the wee girlies were tortured under the same inquisition. To the eyes of the woman of the present year, it is evident that the hoop skirt is unattractive. Furthermore, it is out of style—that which seems to constitute the strongest and most undeniable objection to its use.

Some years later there was an era of tied-back skirts, whose ugliness we remember with a blush.

How everybody struggled to accomplish the feat of locomotion while her limbs were bound together throughout their entire length! Not long after, trained skirts became fashionable, and brought great inconvenience with them. So a woman had to carry her skirt in one hand, or else allow it to sweep the floors and sidewalks, and to be stepped upon by the unwary. We are not really much better off now, for our dressmakers give us gowns that barely clear the ground, and we are forced to raise them in wet weather. What a boon it would be if it should become the style to wear skirts two inches shorter! It is true that each woman may control the length of her dresses, and have them made to suit her convenience, but few have the moral courage requisite to being out of style.

There was a period in which it was next to impossible to purchase shoes with low heels. We were made to balance ourselves upon our toes, and incurred much misery in consequence. Many a corn and bunion originated in those days. The reaction against high heels was decided, and brought about the introduction of the so-called "common sense" shoes.

Passing over many other trials, let us recall for a moment the discomfort caused by the tight sleeves a few years ago. They were made as nearly skin tight as possible, so that they had to be turned inside out in order to come off. In regard to sleeves as well as shoes we seem now to be wiser than formerly.

Once more, let us allude to that recent abomination—the bustle. Destitute of all artistic claims, ugly in appearance, troublesome of adjustment, productive of backaches unnumbered, it nevertheless victimized womankind. Now that the fashion has passed away, we are able to look at it in a different light and recognize its unattractiveness.

Through all these years the corset has held sway, but of late its claims have been vigorously disputed. A woman who has an intelligent knowledge of her body, and who knows when she feels and looks well in the highest sense of the word, is unwilling to enclasp herself in a stiff case, such as a corset. She does not wish to hang her skirts by several superimposed bands about the waist that is compressed even in a slight degree. She realizes that the corset must always constrict when worn tightly enough to hold its place and serve the purpose of supporting the skirts, and that therefore it is hurtful to the internal organs and hinders the free action of the muscles of the trunk.

Are we not convinced, after this hasty look over the past, that it is not safe to follow fashions blindly? We must keep our eyes open and think twice before we take up any new styles. Just at present it is possible to dress fashionably and yet sensibly at the same time.

What principles shall guide us in the selection of clothing? The following may be named as most important:—

1. The whole body, limbs as well as trunk, should be kept at an even temperature. Wool is the best of all materials for underwear, and the loosely-woven combination suit presents the best fashioned article as yet offered.

2. The weight of the clothing should be supported by the shoulders, rather than by the waist. The plan suggested of uniting upper with lower garments, so far as possible, is of decided advantage.

3. The clothing should not constrict any part of the body, because it would thereby interfere with the circulation, weaken muscles, or perhaps do injury to the vital organs.

4. The clothing should not interfere in any degree with the free action of the muscles.

The best health of woman demands that she should have a good development of the muscular system and that she should take a certain amount of daily exercise. The schools of physical culture aim at increasing the strength, symmetry, and gracefulness of the body. When we shall learn so to clothe the body that it shall be free in every part and no longer bound in servitude, there will be greater pleasure in activity, and each day will bring us a training in nature's school for physical culture.

The American Sentinel

AN EIGHT-PAGE WEEKLY JOURNAL,

DEVOTED TO

The defense of American Institutions, the preservation of the United States Constitution as it is, so far as regards religion or religious tests, and the maintenance of human rights, both civil and religious.

It will ever be uncompromisingly opposed to anything tending toward a union of Church and State, either in name or in fact.

Single Copy, Per Year, post-paid, - \$1.00
 In clubs of 2 to 100 copies, per year, each, - 90c.
 In clubs of 100 or more copies, per year, each, - 75c.
 To foreign countries, single subscription, postpaid, 5s.

Address AMERICAN SENTINEL,
 43 Bond Street, New York

Publishers' Department.

1. REMIT by Bank Draft, P. O. Money Order, or Express Order.
 2. If Postal Note or paper money is sent, register the letter.
 3. Drafts should be made payable to the PACIFIC PRESS PUBLISHING Co., on New York, Chicago, or San Francisco banks. Those written on other banks cost us exchange.

POSTAGE STAMPS.—Please do not send postage stamps, as we have more now than we can use, and they often get stuck together in the mails, and are useless when received. Canadian and other foreign moneys cannot be used by us.

RECEIPT.—The change of figures on the address labels will be in all cases a sufficient receipt for money sent for the paper. If these changes do not appear in due time, and if books ordered by mail are not received promptly, please notify us.

CHANGE OF ADDRESS.—Subscribers desiring the address of their paper changed, will please state in their communication both the old and new address.

EXPIRATION OF SUBSCRIPTION.—All papers are discontinued at the expiration of the time paid for. The date opposite your name on the printed address label shows when the subscription expires. Please forward your money in ample time for renewal if you desire unbroken files, as we cannot always furnish back numbers.

NOTICE—SPECIAL.

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.

HEALTH RETREAT ITEMS.

—The arrivals for the past month have exceeded those of any month for the past year.

—Rev. Ledford departed, Monday, August 8, leaving many warm friends made at the Retreat during his short stay.

—Students for the Institute and Nurses' Course are already arriving. An interesting and profitable time is looked for by all.

—Mr. Edward Borle returned to Oakland the first part of September, to resume his duties at the Pacific Press, much pleased with his short visit.

—Mrs. Dan. T. Jones, one of the conductors of the Housekeeper's department of the HEALTH JOURNAL, accompanied her husband on one of his business trips to the Retreat the latter part of August.

—Dr. M. G. Kellogg, formerly of the Sanitarium, made the institution a couple of weeks' visit. The doctor is now engaged in behalf of the HEALTH JOURNAL. While here he gave some very interesting and instructive talks to our patients. Doubtless the doctor will give us an account of his labors soon through the columns of the JOURNAL.

—A party consisting of Mr. G. Gump and Mr. S. Marks, of San Francisco, accompanied by their families, made the Retreat a short but a very profitable call. Mr. Marks' intentions are soon to engage rooms in one of our cottages and rest for a time from business. All were charmed with our situation; especially was this so with Mr. Gump, whose business has made him an able critic in this direction.

—Prof. F. S. Hafford, who has been engaged for some years on the coast in the interest of educational work, delivered a lecture before the patients and young people the evening of August 22. The professor no doubt left considerable of his knowledge with our friends, but in return relieved them of a goodly sum in behalf of the work he represents.

—Lawyer Hate, of San Francisco, after visiting his wife and son for a few days, returned on the noon stage of August 15. Mr. Hate, like all of our visitors, expressed himself highly delighted with our scenery and climate. Mrs. Hate returned a week later, much improved from the short course of treatment. Master Hate continues his treatment for some time yet.

—Supt. Fulton and Dr. Maxson have interchanged trips to Oakland with Directors Saunders, Jones, and Haskell, to consider plans for furthering the work. The corporation has just recently purchased twenty-five acres adjoining their hillside, and with their present corps of florists they are in hopes to have the hill terraced and beautified with a network of flora.

—Among our distinguished visitors, on the afternoon of August 10, was Mrs. Dr. Crane, of St. Helena, accompanied by her friends, Colonel Gray and wife, from Arizona. The afternoon was mild, and a view of the beautiful scenery was a treat to our Arizonian neighbors. Our new friends departed much pleased with their visit, vowing our Retreat will get their patronage when medical aid is needed.

—Prof. W. C. Grainger, of Healdsburg, with a part of his family and friends of the College, drove over August 9, leaving his daughter Margie for treatment, returning next day. Before returning Professor Grainger arranged with the Retreat Food Co. to supply the College Home with foods. No one of our leading educators realizes the importance of well-prepared foods for young minds more than the professor.

LITERARY AND OTHER NOTES.

We are happy to announce to the public the completion of a very valuable work by Mrs. E. E. Kellogg, of the merits of which too much cannot be said. It is a large work, of some five hundred pages, and handsomely bound, the contents of which we trust will be a timely blessing to the majority of housekeepers. As we peruse its pages and notice the subject matter which it contains, we are led to believe that it will be hailed with joy, inasmuch as it dwells upon points relative to healthful cooking and the mixing of the food elements in a manner not only healthful but palatable. The cookbooks of the past have been mainly theoretical in their make-up, with the special aim of pampering to the appetite, be it ever so fastidious, as many dyspeptics know to their sorrow. The matter contained in Mrs. E. E. Kellogg's "Science in the Kitchen" is gotten up with a view of simplicity in diet, and in perfect harmony with the laws of health, without sacrificing the pleasure of the most capricious taste, with the exception, it might be well to add, that no alcoholic stimulants are used in food preparations in this work. The author is well known in literary and scientific circles, and has had exceptional advantages in the art of preparing food from a scientific standpoint, understanding as she does

the food elements and the digestive changes in the elaboration of the same into healthful tissue. While she has been associated with the Battle Creek Sanitarium as leader in the cooking department, her advantages have been beyond question better than most others in the same line. This voluminous work is the sum total of long years of arduous work. It is written clearly and tersely, and a scientific reason given for each course laid down, making it a complete and admirable text-book for the use of those conducting cooking schools. Her chapter on foods is very interesting and instructive. We believe this work is entitled to a large circulation, and that in the matter of circulation its success is already assured. It can be obtained by sending to the Rural Health Retreat. Price, bound in oilcloth, \$2.90, and in muslin, \$3.50.

"Report on Abdominal and Pelvic Surgery, Including Thirty-two Successful Cases of Laparotomy," is a 32-page pamphlet sent us by the courtesy of William H. Walter, M. D., of Louisville, Ky. Dr. Walter is professor of abdominal surgery and gynecology in the Kentucky School of Medicine. His report will be of interest to the physician.

Received the Abstract of the Minutes of the Meeting of the Illinois State Board of Health held in Chicago, July 27, 1892. State Board of Health, Springfield, Ill.

Physical Education is the name of a bright new magazine, No. 5 of which has reached us, published by the Triangle Publishing Co., Springfield, Mass. It takes for its motto the following very appropriate lines from O. W. Holmes' "Wonderful One-Hoss Shay":—

"T's mighty plain
That the weakes' place must stand the strain;
'N' the way t' fix it, uz, I maintain,
Is only just
T' make that place as strong as the rest."

The *Weekly Bulletin of Newspaper and Periodical Literature*, published at 5 Somerset Street, Boston, is now twice its former size, containing a classified index of 1,300 articles from recent numbers of the periodical press. The *Bulletin* catalogues the important articles in the leading daily and weekly papers and the monthly magazines of the United States and Canada, including the PACIFIC HEALTH JOURNAL. Its value to readers, writers, and students is sufficiently indicated by its title, and, although still in its first volume, its success, as evidenced by the current issue, is a surprise to no one acquainted with its plan and purpose.

Ten almond trees in full bearing will be transplanted to the Exposition grounds at Chicago from San Joaquin County, California. They will be furnished by P. B. Armstrong, president of the Armstrong Fruit and Nut Company, which owns an orchard of 1,015 acres—one of the largest in the world. Mr. Armstrong will also make a display of peaches, no one of which will be less than a foot in circumference.

Bids for the souvenir coins are being received by the treasurer of the World's Columbian Exposition, the lowest bid being at the rate of one dollar for each coin of fifty cents. Several offers for the entire issue of five million coins are recorded. For the first coin turned out from the mint the bidding has reached into the hundreds of dollars. The disposition of these souvenirs is under consideration by the Finance Committee.

Mrs. Joplin, of Santa Ana, a specialist as a jelly maker, suggests an idea that will prove valuable to other jelly makers throughout the State. She boils the juices of the fruit, then incloses them in air-tight bottles, and later in the season, when more time is at her disposal, she adds the requisite amount of sugar, and makes the jelly from the fruit juice.

A San Diego woman 130 years old and two Indian men aged respectively 120 and 125 years, have promised to visit Chicago next year during the Exposition and give an exhibition of their native-dances.

COAL OIL, OR KEROSENE.—This fluid has been found more satisfactory than any other yet tried for preserving strawberries for exhibition. Being lighter than water, the berries sink in the fluid, and their natural form and appearance may thus be well preserved. It has also been found useful for Blackcap raspberries. Fruit preserved in this fluid should be free from drops of water (dew or rain) on the outside.

A Philadelphian will display at the Exposition what is said to be the largest steer in the world. The animal is six years old, and lacks but two inches of being six feet in height.

Montana has just mined the largest sample of gold quartz ever secured in the State, the weight being 1,785 pounds.

The September number of *Jenness Miller Illustrated Monthly* is quite up to its usual standard of excellence. The words and music of a charming song, "The Lullaby Sung Me by Mother," form a prominent feature. The words are by Foster Coates, and the music by Stephen Massett. Mrs. Jenness Miller has an instructive article on "How to Become a Picture in Your Clothes." There are sketches and portraits of two famous foreigners, the Empress of Germany and Jean Ingelow. Mabel Jenness writes of "Art in Repose and Motion." A dozen other well-known writers have timely and instructive articles. Price, \$1.00 a year, 10 cents a copy, of all news agents. Jenness Miller Co., 114 Fifth Avenue, New York City.

Mrs. Jenness Miller writes that her new book, "Mother and Babe," is now ready. Further notice will be given on receipt of the book.

Bulletin of the American Academy of Medicine, No. 10, for August, 1892, contains the president's (P. S. Connor, M. D., LL.D.) address on "Essentials and Nonessentials in Medical Education," and a symposium by Elbert Wing, A. M., M. D., and Walter D. Bidwell, A. M., M. D., on the "Value of Academical Education Preparatory to the Study of Medicine."

The *American Agriculturist* for September contains over twenty-five useful and interesting articles in its varied field. This is one of the best if not the best journal in its line that we know. Orange Judd Company, 52 and 54 Lafayette Place, New York. \$1.50 a year.

The California Building will be an excellent place to display the work of wood carvers in California. The State of Washington will send more than 200 panels of native woods to Chicago, which panels will enter into the interior decoration of the Washington World's Fair building. California should not be behind her Northern neighbor.

HEALTH AND TEMPERANCE PUBLICATIONS.

ESTABLISHED 1850.

INCORPORATED 1888

BOUND BOOKS.

- Digestion and Dyspepsia.**—An exhaustive treatise on the "Great American Malady." By J. H. Kellogg, M. D. 176 pp., 12mo, with colored plate. Price... 75c
- Nasal Catarrh.**—By J. H. Kellogg, M. D. Ten lectures on this "Great American Malady." Its Nature, Causes, Prevention and Cure, and Diseases of the Throat, Eye and Ear, due to Nasal Catarrh; with a chapter of Choice Prescriptions.
The work is embellished with a colored frontispiece and six beautifully colored plates, besides many illustrative cuts of the throat and nasal cavity in health and disease. 120 pps. Price.....75c
- Practical Manual of Health and Temperance,** embracing the treatment of common diseases, accidents and emergencies; the alcohol and tobacco habits; useful hints and recipes; the cooking school, etc.—By J. H. Kellogg, M. D. New edition revised and enlarged. 320 pp., 12mo. Price.....75c
- Uses of Water** in Health and Disease.—A practical treatise on the bath, its history and uses. By J. H. Kellogg, M. D., 136 pp. 12mo. Price.....40c

BOOKS IN PAPER COVERS.

- Alcoholic Poison:** Its Physical, Moral, and Social Effects as a Beverage and as a Medicine.—By J. H. Kellogg, M. D. 128 pp. Price.....25c
- Diphtheria:** Its Nature, Causes, Prevention, and Treatment.—By J. H. Kellogg, M. D. 64 pp., with colored plates. Price.....25c
- Dyspepsia.**—Abridged edition. 80 pp. Price.....25c
- Evils of Fashionable Dress,** and How to Dress Healthfully.—By J. H. Kellogg, M. D. 40 pp. Price.....10c
- Health and Diseases of Women.**—By R. T. Trall, M. D. 64 pp. Price.....10c
- Hygienic System.**—By R. T. Trall, M. D. 84 pp. Price.....10c
- Lectures on the Science of Human Life,** comprising three of Dr. Sylvester Graham's valuable lectures on the above topic. 184 pp. Price.....25c
- Nasal Catarrh.**—By J. H. Kellogg, M. D. Same contents as bound book. 120 pp. Price.....30c
- Proper Diet for Man.**—A summary of vegetarian arguments, based on anatomy, physiology, and practical experience. 48 pp. Price.....10c
- Social Purity.**—An address by J. H. Kellogg, M. D. 64 pp. New and enlarged edition. Price.....15c
- Uses of Water.**—Same contents as in board covers. 136 pp. Price.....25c

Any of the Above Books Sent Postpaid on Receipt of Price.

RETREAT SUPPLY CO.,
St. Helena, Cal.

Langley & Michaels Co,

WHOLESALE DRUGGISTS

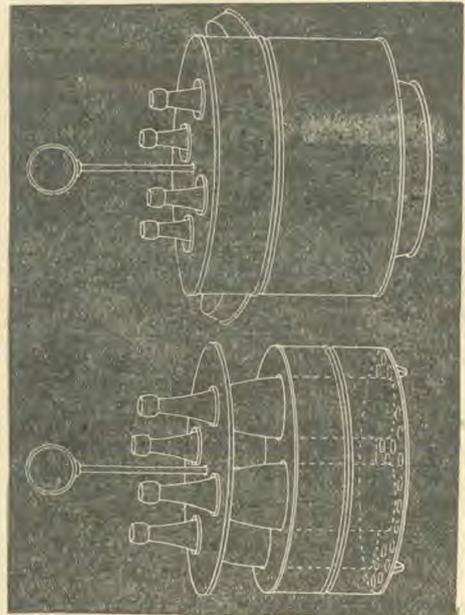
AND

MANUFACTURING CHEMISTS.

34, 36, 38, 40 First St. - - San Francisco, Cal.

Est. Market and Mission.

THE SANITARIUM MILK STERILIZER.



With the above apparatus, milk can be sterilized so that it will keep for years, when tightly sealed in a bottle or can.

This apparatus complete, including one-half dozen bottles, will be sent by express, on receipt of \$5.50.

The ordinary method employed for sterilizing milk will not preserve it against fermentation for more than three or four days. By this method IT WILL KEEP INDEFINITELY.

RETREAT FOOD CO., St. Helena, Cal.



SAFE, DURABLE FENCE; ONLY \$80 PER MILE.
LAND-OWNERS save one-half the cost avoid dangerous barbs
Agents make \$200.00 per month and expenses Cash
The best local and traveling agents wanted everywhere. Write at once for circulars and choice territory; address A. G. Hulbert, Patentee, care of Hulbert, Tona & Co., 604 OLIVE STREET, St. Louis, Mo.
Factory Catalogue with 200 engraved designs and prices, sent free to any who want fancy iron and wire work or city, cemetery and farm fences, etc.

GRANOLA

A HEALTHFUL FOOD.



AN INVALID FOOD prepared by a combination of grains so treated as to retain in the preparation the Highest Degree of Nutrient Qualities, while eliminating every element of an irritating character.

Thoroughly Cooked and Partially Digested,

This food preparation is admirably adapted to the use of all persons with weak digestion, defective assimilation, general or nervous debility, brain workers, feeble children, and invalids generally, as well as travelers and excursionists, who often need to carry the Largest Amount of Nutriment in the Smallest Bulk, which is afforded by Granola in a pre-eminent degree.

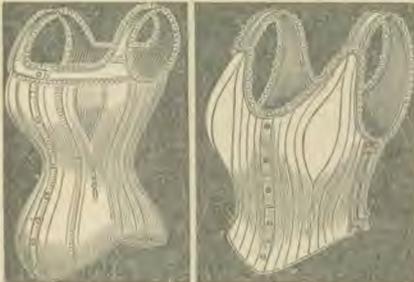
One Pound More than Equals Three Pounds of Best Beef

In nutrient value, as determined by chemical analysis, besides affording a better quality of nutriment. Thoroughly cooked and ready for use in one minute.

Send for illustrated and descriptive circular of Granola and other healthful foods to the

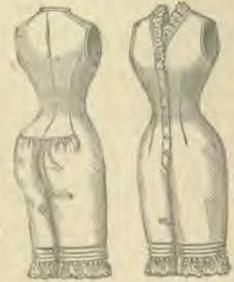
RETREAT FOOD CO., St. Helena, Cal.

BY PERMISSION OF SANITARIUM FOOD CO.



How to Dress
Healthfully.

WITH ILLUSTRATED DESCRIPTION OF LADIES' AND CHILDREN'S



Artistic Sanitary Underwear,

CONSTRUCTED ON DRESS REFORM AND HYGIENIC PRINCIPLES.

FOR DESCRIPTION AND CIRCULARS, ADDRESS

RETREAT SUPPLY CO.,
ST. HELENA, CAL.

Scientific American
Agency for

PATENTS

CAVEATS,
TRADE MARKS,
DESIGN PATENTS
COPYRIGHTS, etc.

For information and free Handbook write to
MUNN & CO., 361 BROADWAY, NEW YORK.
Oldest bureau for securing patents in America.
Every patent taken out by us is brought before
the public by a notice given free of charge in the

Scientific American

Largest circulation of any scientific paper in the
world. Splendidly illustrated. No intelligent
man should be without it. Weekly, \$3.00 a
year; \$1.50 six months. Address MUNN & CO.,
PUBLISHERS, 361 Broadway, New York.

PATENT OR
NO
FEE

A 48 page book free. Address,
W. T. Fitz Gerald, Att'y-at-Law.
Cor. 8th and F Sts., Washington, D. C.

The St. Louis Hygienic College

Of Physicians and Surgeons

Will begin its Sixth Annual Course of Instruction,
Thursday, September 29, 1892. Men and women
are admitted. This is the

ONLY HYGIENIC COLLEGE

— IN EXISTENCE. —

It has a full three years' course, embracing all the
branches taught in other medical colleges; also Hygieio-
Therapy, Sanitary Engineering, and Physical Culture.
Address for announcement,

S. W. Dodds, M. D., Dean,

2826 WASHINGTON AVENUE,

St. Louis, Mo.

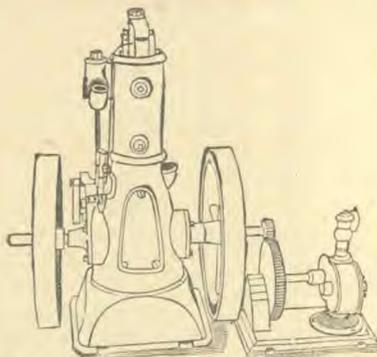
MOTIVE POWER

HERCULES Gas and Gasoline ENGINES.

Have fewer parts, and are there-
fore less likely to get out of order than any other gas
or gasoline engines now built. Just light the burner,
turn the wheel, and it runs all day.

MAKES NO SMELL OR DIRT.

No double or false explosions, so frequent with the
unreliable spark.



For Simplicity it Beats the World.

It Oils Itself Automatically.

No Batteries or Electric Spark.

It runs with a Cheaper Grade of Gasoline than any
other Engine.

FOR DESCRIPTIVE CIRCULARS APPLY TO

PALMER & REY, Manufacturers.
San Francisco, Cal. and Portland, Or.

The American Sentinel,

AN EIGHT-PAGE WEEKLY JOURNAL,
DEVOTED TO

The defense of American Institutions, the preservation of the United
States Constitution as it is, so far as regards religion or re-
ligious tests, and the maintenance of human rights
both civil and religious.

It will ever be uncompromisingly opposed to anything tending
toward a union of Church and State, either in name or in fact.

Single Copy, Per Year, postpaid, - - - \$1.00
In clubs of 2 to 100 copies, per year each, - - - 90c.
In clubs of 100 or more copies, per year, each, - - - 75c.
To foreign countries, single subscription, postpaid, - - - 5s.
Address,

AMERICAN SENTINEL,

43 Bond Street, New York.