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GOOD



HEALTH

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BY

J. H. KELLOGG, M.D.

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AUGUST, 1896.

ZOOLOGICAL HEALTH-STUDIES.

BY F. L. OSWALD, M. D.,

Author of "Physical Education," "The Bible of Nature," etc.

8. Remedial Instincts.

THE defenders of the stimulant vice base one of their favorite arguments upon the salt-passion of several species of our instinct-guided fellow creatures. Dogs, they say, may have been drilled into their preference for cooked food, and old cats into a predilection for milk, but there is no doubt that deer, antelopes, bisons, and wild sheep share the hankering after saline condiments that makes our domestic cattle crowd about a salt-log. And is not salt a tonic, pure and simple? It contains no trace of organic nutriment; its drastic effects are undeniable. Then why should we object to red pepper and vinegar? to blue pills and alcoholic liquors?—whets, all of them, to sharpen the dull edges of the organic machinery. Does man pretend to be wiser than his all-mother Nature?

The actuality of the phenomenon itself admits, indeed, of no question. Cattle, left to the promptings of their own hygienic intuitions, will wander dozens of miles in quest of a saline spring. They will lick an old salt-tree till its surface is worn as smooth as tortoise-shell. Buck-goats will wrangle for the privilege of nibbling a piece of rock-salt like lawyers for the patent-right of a popular quack elixir.

Strange theories have been founded upon these facts. Salt, we are gravely told, is as important a component part of our daily food as fat, starch, or sugar. Its absence, one opponent of the Graham school assured his readers, leads to a state of indescribable physiological distress, and in Denmark the attempt to reduce the diet of a reformatory to

unsalted meat and bread had to be abandoned because the prisoners threatened to abandon the scene of their torture by suicide.

The fact that numerous tribes of our fellow men voluntarily abstain from salt, seems never to have occurred to these logicians, any more than the true explanation of the zoological phenomenon. That explanation can be found in the highly complex digestive apparatus of the order of mammals known as ruminants. Before entering the *rennet*, or stomach proper, of a cow or camel, their food has to pass the *rumen*, or paunch, with its strange, wart-like excrescences; the *reticulum*, or honey-bag, covered with a network of curious cells; and the *psalterium*, or manyplies, with membranes folded like the leaves of a book.

Through all these ante-chamber stomachs of a cow her *ingesta* have to advance, like the probationers of a mystic order through the preparatory grades of initiation, and then to return—"try the dark lane back again,"—to be chewed over a second time, and sometimes a third. A large quantum of vegetable semifluids is thus kept for hours under the influence of organic warmth, and to prevent its decay is a task which sometimes exceeds the resources of the organism. The mass of half-digested food threatens to sour, and the animal resorts to salt to lessen the risk of spontaneous fermentation.

Cold weather lessens that risk, and deer are apt in winter to discontinue their visits to their favorite salt-springs, even if the water chances to remain unfrozen. It is also lessened by the stimulant of

exercise, and the hard-hunted bighorns of the Rocky Mountains can dispense with salt much more easily than our domestic cattle.

The apostles of stimulation might admit that bread can be eaten on the old Jewish Passover plan, unleavened and unsalted, but will insist that as a condiment of flesh food salt is wholly indispensable. Yet it so happens that carnivorous animals not only neglect but unanimously detest the alleged means of physiological salvation. Bears, tigers, hyenas, leopards, and wildcats will not touch a shred of pickled viands if they can get the unsalted article, cooked or uncooked. Famished wolves can be made to swallow salt meat, but only in extremes of distress that would drive them to devour carrion with a supplement of strychnin. They do worry it down, but with sore reluctance, evidently suspecting mischief, and probably wondering if they have been poisoned.

Our next relations, the frugivorous four-handers of the tropics, would not meddle with a salt-spring as long as they could quench their thirst with the foulest swamp water of the coast swamps (though, of course, they would prefer a cool spring to either). A starving ape will overcome his repugnance to vegetables in a state of decay, and nibble around a rotten apple rather than prolong a distressing fast, but he will drop a salt-tainted tidbit at the first taste. Try him with some extra bitter substance, say an unripe orange soaked in sulphate of quinine, and next with a ripe banana, peeled and sprinkled with salt, and he will reject the one as quickly as the other, and with the same disapprobatory grimaces — “sold again,” or grins to that effect.

The salt habit, then, is an exceptional phenomenon altogether foreign to the inclinations of our next zoological relatives, and we might as well recommend the plan of keeping body and soul together by means of fluid caoutchouc, because the sloth evinces a fondness for the acrid leaves of the *cancho*, or *Cecropia* Peruvianis, “beast of the *Cecropia*-tree,” the Peruvian natives call an especially lazy fellow.

In the vast woodlands that cover two million square miles of tropical South America, there comes a time shortly before and two to three hours after noon, when only the occasional chirp of an insect gives any audible proof that the leafy wilderness is not entirely uninhabited. The quadrumana sit listless in the deepest shade; the squirrels retire to hollow trees; the tapirs and deer to the river jungles; the birds of a thousand species have all become invisible and inaudible.

But as the sun approaches the western horizon, all these refugees reappear, and shortly before nightfall

the woods resound with a chorus of exultant voices. The chilly air-currents preceding a storm have a similar effect; all animated nature recovers from her languor; and in moonlight nights the medley of swamp-bird screams, cat shrieks, and monkey serenades often seem to make it doubtful which part of the night or day can, *par excellence*, be called the most wide-awake time of the twenty-four hours.

How can these facts be reconciled with the assertion that “warmth is life, its absence death,” as a new European school of health summarizes its sanitary doctrine? Can a bountiful supply of the vital elixir become so suddenly life-endangering? Why do birds and beasts not revel in the glare of the noonday heat like the microbes of a stagnant pool? The truth seems to be that the dread of a high temperature is a remedial instinct, intended to counteract the incipient development of noxious microorganisms in the system of the higher animals.

For, in regard to the lower animals the motto of the new health school really holds good. Tropical lagoons swarm with microscopic horrors to a degree undreamed of by the investigators of tropical ditch-water. Lizards bask in the blaze of a Southern sun like crawling sycophants in the smile of an autocrat. Alligators sprawl on the banks of the Mexican coast rivers when the temperature is so intense that the Creoles begin to suspect that they have mistaken a holiday for a working-day, and drop their hoes to light a cigarette; the glittering dragon-flies flutter to and fro at the brink of simmering tanks where protracted exposure would seem to scorch their gauze-like wings, and mosquitoes join in the aerial dances of the midgets, content with the luxury of the inspiring warmth. From the shade of a tent in the coast hills of Yucatan I have often watched the multitude of splendid tropical butterflies swarming about a buckthorn hedge with rather malodorous white blossoms, and nearly a mile from the edge of the woods. The birds had all retired to the shelter of that forest; but their insect rivals in beauty clearly preferred the open vega, where a thermometer exposed to the rays of the vertical sun would have risen to 150° F. They flopped and circled about in an unmistakable exuberance of comfort, and became less active whenever the source of their inspiration, the fervid sun, was for a moment hidden by a cloud. Ants, too, become extra active in hot weather. Either the organism of such sun-revelers must be less infested with parasites, or their microbe-resisting ability must exceed that of their higher fellow creatures.

It is also a noteworthy fact that the greatest num-

ber and variety of those higher animals are not found in the warmest regions of our planet, but on the comparatively cool table lands of Eastern Africa, and in the terrace-hills of the great Sunda Islands. The seething coast jungles are haunted by the lowest of all mammals,—wild hogs and the various relatives of the guinea-pig. The leopard visits their wallows only on predatory excursions, and the large antelopes, the zebra, the wild dog, the lion, the fox, and the cunning baboon decidedly prefer the cool uplands. The man-apes, it is true, as well as numerous species of smaller monkeys, stick to the coast forests, but their matchless climbing talent enables them to weather the noon-hour in tree-top retreats that combine shade with airiness.

Altogether, the example of our superiors in sanitary wisdom warns us to revise our thermal code of health. Indifference to a distressing excess of warmth is at the bottom of countless summer disorders, both physical and moral—the latter including the desertion mania of overworked country boys, who fly to the city, ostensibly to try their luck for better wages, but actually to escape the midsummer martyrdom of the paternal grange. “I could stand wood-chopping and wet-ditching,” said one of these refugees, “I did not mind running errands in a sleet-storm or getting up an hour before sunrise to milk the cows, but to be waked half an hour after dinner, just as I was enjoying a peaceful nap under a shade tree, with, ‘Get up there, Will, get up and go to work’—*i. e.*, go to hoeing again in the blazing sun—‘get up, you lazy little rascal’—well, it would be of no use to deny the rascality of my temptations on such occasions, but I am sure that laziness had nothing to do with them. I felt like a weary traveler deprived of his shelter, or like a starving child interrupted at the very beginning of a much-needed meal.”

As usual in such cases, the health laws of nature are more carefully observed in the treatment of our domestic animals than in the education of our own children, and Professor C. R. Rother, in an article on the camel herds introduced into Western Texas, mentions that the guides of the caravans are instructed to insist on a good rest during the three hottest hours of every day. Farmers and factory managers should adopt a similar system, even at the risk of having to relinquish the proposed half-holiday of Saturday afternoon; and teachers, all over the Union, should try to introduce the plan of the Louisville, Ky., public schools. Instead of wasting the cool morning hours, and then fighting the drowsiness of the afternoon, the Louisville schools open

at 8 A. M. (nine tenths of the pupils appear at seven, to enjoy a romp in the school-yard), have a short recess at ten and another at twelve, and dismiss at half past one, in time for a dinner which, though a little late, can be digested in peace during the five or six remaining hours of the afternoon. The teachers themselves rarely touch a crumb of food before the close of the school hours, knowing from experience that repletion is apt to handicap the functions of the mental faculties, and that the interruption of the siesta rest defeats its purpose by making teacher and pupils listless and somnolent for the rest of the day, especially in warm weather, when not two out of a hundred animals like to exert themselves if they can help it. A siesta association of physicians and philanthropists is really more needed than a Sunday League.

Heat and moisture are the fertile parents of disease microbes, and the indifference of many animals to drenching rain-storms might appear a physiological paradox, if we did not distinguish between their habits and those of the nest-builders and pasture nomads. To the latter, the ruminants, with their thick skins and hardy nerves, a shower-bath is only a pleasant tonic, saving the trouble of a visit to distant rivers, and probably reacting on the vigor of the digestive organs.

All the rest recognize the danger of excessive dampness, and remedy it as best they can. Besides the nest-building apes, some twenty or thirty species of half monkeys, or lemurs, enjoy artificial shelter in hollow trees, lined with woolly mosses. The East African baboons pass the night in caverns, where they also seek refuge from storms, and are so sensitive to a drenching that they actually shiver on emerging from a flight through the dew-drenched grass, and then sit on sunny rocks to counteract the effects of the involuntary Kneip cure. Down in the coast-hills they would probably be less particular, but in the highlands they know hidden rock springs, and naturally prefer to take a dose of refrigeration in the form of a cool drink.

Cats and lynxes are poor nest-builders, but they are scrupulously clean, and show great skill in selecting a rain-proof lair under a projecting cliff or under the root-tangle of a fallen tree. In the cavernous uplands of the Unakas, the Hangover Mountains, as they call them in Tennessee, there are rocky dens, with floors as dry as that of a double-roofed barn, and with abundant wildcat tracks in the soft gray dust of the *penetralia*, but not a trace of defilement. To the odor of old bones scattered about their lairs, carnivorous animals are less particular;

still the *materfamilias* buries them from time to time, but cannot prevent her kittens from digging them up again.

But the most uncompromising votaries of the dry-home principle are the nest-building rodents—rather near relative of ours, if we consider the similarity in the habits of tree-climbing squirrels and monkeys. Squirrel nests are stuffed with all the soft vegetable substances discoverable by restless foragers of the greenwood paradise, and it must rain hard indeed, before the snuggeries of our domestic rodents get wet. In the attic of an old Rhineland boarding-house I was once rummaging a large dry-goods box full of miscellanies, and among a medley of joiner-tools and nine-pins, found a smaller box containing an assortment of silk rags and a doll-house,—doubtless the relics of some long-forgotten girl boarder. In that doll-house there was a mouse nest, and the tenant of the little domicile was sitting

near her hall-door, blinking, and evidently reluctant to leave her comfortable quarters, with roof over roof, and weather-shelter raised to the fourth power of completeness.

There were dried apples in that garret and plenty of cracker-crumbs, but how the little doll-house lodger shifted for the fluid part of her diet, I often wondered. In the course of her foraging trips she had possibly come across some cracks in the shingles of the eaves where rain could percolate in mouse doses, thus reversing the predicament of the Ancient Mariner:—

“No trace of water anywhere,
Except one drop to drink.”

Winter had no terrors for the inheritor of all those silks; midsummer under the sloping roof might get a little torrid, now and then; but if it takes moisture, as well as heat, to hatch disease germs, the doll-house tenant enjoyed a fourfold security from microbes.

(To be continued.)

THE HYGIENIC VALUE OF COLOR.

THAT color exerts an influence upon both mind and body is not unknown to scientists, although the fact is not generally familiar to the public. There are many instances recorded where patients suffering from brain disorders have been greatly helped by what may properly be called the color treatment. A recent example is found in the case of a melancholic patient who persisted in abstaining from all food, and who was in consequence fast wasting away. He was placed in a room that had been painted and furnished in vivid crimson. At night the room was brilliantly illuminated, and by daylight it was also bright and glaring. During the three hours that this treatment was followed, “the spirits of the patient rose until he grew almost hilarious, and, in addition, he partook of food with relish.” Another experiment was made with a raving maniac as the subject. He was confined in a blue room, where in a short time he became calm.

The blue-glass theory of the late General Pleasonton, which became such a craze a few years ago, but amounted to nothing in the end, was a valuable idea, imperfectly understood. That for some ailments of body and mind, the sun, shining through blue glass, may possess remarkable powers, need not be doubted; but it is not a panacea for all earthly ills. That blue can and does influence mind and body, just as other positive colors, and even their hues, do, is a fact well attested. Many ailments are largely under the control of the mind, and mind is,

of course, superior to the most highly organized matter. This being so, and color undoubtedly influencing the mind, it can thus, either directly or by reflex action, be made to act upon and eliminate diseases.

Most of us have experienced the depressing effects of a dull day, full of somber shadows and gloom, or of a badly lighted and worse-colored room. A recent writer has called attention to the impropriety of employing large masses of “depressing and cold French gray on the walls of schoolrooms and other public buildings,” declaring that this color exerts a baleful influence on the mind. A knowledge of the hygienic value of color upon the part of those who have such work in hand would result in an avoidance of this needless mistake. French gray is made from white and Prussian blue, a cold combination, and far from being a cheerful one. The little vermilion that may be added does not affect the result at all. Blue possesses in the greatest degree the quality technically known as *coldness*, and it communicates this quality variously to all colors with which it is compounded. It is the most retiring of the spectrum colors. It is cool, quiet, sedative. The complementary of cold blue is hot orange. It represents the maximum of heat attained by the gradually ascending series of warm colors. It is ardent, cheering, enlivening. A room done in a yellow key will impart these lively sensations to the mind. No person ever committed suicide amid such coloring.

A room done in a blue key will impart "the blues" to its inmate. No person ever indulges in mirth in such a room. My old pastor was a pessimist and his sermons were bordered in black, and I only discovered why when I saw his study, a room whose walls were done in cold-blooded Prussian blue, and whose woodwork, including the floor, was stained to imitate black walnut. My own den, where my literary work is done, is done in a yellow key, and a major key at that. The walls are creamy, and the woodwork is bright yellow-cream. Bright bits of coloring adorn the walls. Under the cheerful influence of this yellow symphony, I find it almost impossible to think seriously.

This is not fiction, but fact. I admit mine to be a very impressible temperament, and atmospheric changes influence me mentally and, of course, physically. Still, I am sure that color, properly manipulated, can be made to control less sensitive natures.

We speak of colors as being hot, warm, cold, cool, etc. As a matter of fact, as great a difference as four degrees has been found in the temperatures of violet and red by passing the prismatic colors slowly and gradually before a finely graduated thermometer at the bulb. Hence, it is not fancy, but fact, that colors are hot, cold, and so on. So with the terms "advancing," "retiring," etc. Blue is a distant or retiring color, because to the eye it seems to be so, even when near by. It is so dark in its intensest hue as to baffle the eye to distinguish its particles as the light strikes them. Yellow is near or advancing,

because it appears so to the eye. It is a very luminous color, the most luminous of all colors. Hence it is easily distinguishable, and seems near. Red is hot, apparently, and, in its effect, actually. It simulates the color of fire. Green is a restful color to gaze upon; hence nature clothes the earth with green. Though Dr. Kolbe, a Russian observer, states that red and green produce more fatigue to the eye than blue and yellow, and these again than gray and white of the same degree of whiteness, the fact is that light, being the natural stimulus of the healthy eye, is more agreeable to it than any single color. The eye will soon tire of the latter, but never of the former, except, of course, that the eye needs periods of total rest in sleep. If the eye is tired with red, then green will rest it, because green is red's complementary color. More correctly, yellow and blue, which make green, form the complementary. In hospital wards, cool grays and greens would be restful shades to the visitor, but would become monotonous if not relieved by some other colors. Still, they would be preferable to red, blue, or yellow, alone. In the invalid's room at home, attention should be paid to the matter of coloring; the walls should be in neutral tones, with pictures of a pleasing character, and wall-papers having a geometrical or intricate pattern should not be tolerated. In every house one room should be finished especially for possible cases of sickness, and why might not this room be the guest chamber?—*A. Ashmun Kelly, in Popular Science News.*

THE PROGRESSIVE EFFECT OF ALCOHOL.

THE effect of alcohol on the nervous system is progressive. Sir Benjamin Ward Richardson, as a result of his extended researches, mentions four successive stages:—

"1. *Excitement*, produced by the unusual flow of blood through the capillaries, because the nerves controlling them have become paralyzed. The resistance to the passage of the blood through their minute vessels having been partially removed, the heart responds with increased action. This is a kind of exhilaration, but no added power is really given to the body. The mind may seem a little more active, but the understanding is really dulled.

"2. *Muscular Weakness*. If more alcohol is taken, that portion of the nervous system that controls the action of the muscles is then affected. The lower lip generally falls first, the tongue thickens, and the lower limbs are affected, producing the stag-

gering, uncertain gait, while the muscles of the face lose their 'tone,' producing the idiotic expression usually found in one coming rapidly under the complete influence of alcohol.

"3. *Mental Weakness*. The cerebrum is next affected, and the mind is in a chaos. Ideas may flow rapidly, and the tongue attempt to respond more glibly, but the judgment has lost its balance. This is the time for brawls; animal instincts come to the front, revealing the hidden nature that education and social restraint had concealed.

"4. *Unconsciousness*. The brain and spinal cord are completely under the narcotic influence of the alcohol, and the victim is dead drunk. Persons in this condition have sustained serious injuries without being conscious of the fact until the effect of the alcohol has passed away."

The nerve centers that supply the heart and dia-

phragm are the slowest to be influenced, so the breathing and circulation still go on. Were this otherwise, every case of drunkenness would result in death. When the system rallies from a fit of intoxication, an aching head, sick stomach, and exhausted body are naturally the results of the congested condition of the system.

Some reliable authorities claim that "a once thoroughly intoxicated brain never fully becomes what it was before, though the outward evidence of a debauch may wholly pass away if the use of alcohol is abandoned."

When drinking is a habit, the brain becomes permanently impaired, and the nerves deranged, bringing to the individual the most serious moral consequences, as well as destroying the mental

powers, entailing disease not only on the victim himself, but on those that come after him.

The action of alcohol on the brain matter is two-fold: (1) Mechanical effect on its structures; (2) Narcotic effect.

By mechanical effect, is meant the tendency of the alcohol to change the brain matter from a soft pulpy or custard consistency to a hardened condition, by extracting the water. In the moderate use of this drug, the change is of course slight, yet it is sufficient to hinder the functions of this important organ, mental as well as physical.

The narcotic effect of alcohol is the most common, and is produced by a much smaller quantity than is necessary to occasion the physical change referred to.—*Scientific Temperance Bulletin*.

HOW TO GO TO SLEEP.

FOR occasional victims of sleeplessness in ordinary physical health, here is a simple remedy that will be found efficacious in probably five cases out of six. Do not attempt to stop the action of the mind by one supreme effort of the will. Do not *try* to go to sleep, or even to think about sleep, but stop making sentences.

As every one knows, we think and remember in sentences. The mind is continually making assertions and suggestions—saying something about something, or asking questions. The questions may be idle, their answers valueless; but the mental process goes on. We must think. The mind, when one is awake, refuses to be satisfied with nothingness. One cannot empty one's mind out like a vessel.

So, instead of trying not to think, and repeating your failures, to your further aggravation, try the possible, and break up your thoughts, so to speak, into words. Let the thinking faculty which will not rest, exercise itself with disconnected words. Take, for example, the first word that comes into your mind. We will suppose it to be the word "house." Presently another word follows; but if this word bears any grammatical or associative relation to the word "house," let it pass out of your mind without notice, and take one of a different class—such a word, for example, as "enthusiasm."

Now you have "house" and "enthusiasm," and

you may add—not exerting the will, remember, but waiting passively for the words to present themselves—until your series swells out like this: "House, enthusiasm, Great Britain, walk, twenty, tangible, beyond, superior, Washington," etc. Of course you are to avoid a succession of names and numbers, and all classifications of words, for the obvious reason that such a course would appeal to the memory and the imagination.

As the disconnected ideas flow on in your mind, you will gradually find yourself taking a mild interest in the disjointed procession. You lose your agitating self-consciousness, and fall into a passive state. In other words, you have reduced the process of thinking to a minimum. You wait with a slender thread of interest for the coming words, knowing that it will make no difference what they are. Perhaps you may feel like one sitting on the bank of a river listlessly watching the objects that float on its surface. Now it will be a leaf, now a block of wood. But your leaves and your blocks of wood all have words written on them; and one after another they appeal to your notice, and then float away down the stream.

By degrees the intervals between the passing words lengthen, syllables become mixed; there is dreamy confusion, with perhaps an incoherent fancy, and then, sleep.—*Jane Ellis Joy, in Popular Science News*.

ANIMALS feed, man eats; tell me what you eat, and how you eat, and I will tell you what you are; the man of intellect alone knows how to eat.—*Brillat Savarin*.

A FRENCH savant says that many perfumes aid health by destroying disease microbes. Thyme, lemon, mint, lavender, eucalyptus, and other scents prove very useful.

IDEAL FOOD.

My simple fare is as consistent with happiness as with health. A table set with fruit and nuts nourishes not only the body but the soul. I eat not only with the appetite of the flesh, but my soul's hunger for beauty is fed as well. When my table is set, it is a fit subject for an artist's brush. A golden muskmelon, fragrant and sweet; a bunch of purple or white grapes; a few peaches and plums; a section of watermelon, with its brilliant black seeds set like gems in the rich red tissue; a plate of ripe red tomatoes, glowing with rich color—such food as this would furnish a subject for a painting, and afterward nourish the hand and brain that wielded the brush.

Who could write a poem to a piece of pie, or an ode to a beefsteak, or compose an oration on the qualities of boiled ham? Faugh! But fruits and nuts tempt the very muses, and inspire the mind with fancies as delicate and beautiful as their own nature. Poetry may well be composed on such a diet. Who could fail to write beautifully after having dined on distilled dewdrops, crystallized sunbeams, perfumed air, tints of morning and evening?

We are told that fruits and nuts will not furnish the body sufficient nutriment, and that meats and coarse vegetables must be added. I would not decide this question for another, but it seems to me that what is purest and best in me is well nourished by fruits and nuts. If there is a beast in my craving flesh, I prefer to let him starve. He cannot die too soon for the good of my higher nature. To speak more distinctly, I believe that our diet is chiefly an indication of our habits of life and thought. If I can live purely enough, dwelling in the highest realm of my being, I believe that the daintiest and purest foods will satisfy my needs. But if I live coarsely, I must eat coarsely. The beast in me eats

only when he is active. If I can put him to sleep, he will not growl for his meat.

When my intellectual and spiritual faculties are most active, my diet is purest. I think that when the body is sufficiently dominated by the higher faculties, so that even manual labor is an intellectual and spiritual exercise, a diet of fruits and nuts will be adequate to the needs of the hardest workers. At present, manual workers seem to need a coarser diet; but this may be due to the fact that the digestive apparatus has degenerated so far as to be unable to extract sufficient nutriment from its natural food. Our bodies have been so miseducated by generation after generation of false habits, that their present demands and apparent needs are no criterion of their possibilities.

I do not advocate arbitrary methods of reform. I do not believe that character is determined by diet, but diet by character. I wish to reform the man, and then let him reform his diet. When higher ideals have taken possession of the mind, when the soul loves purity so much that impurity and uncleanness in food have become offensive, then a reform is instituted which will be lasting. But to eat from prescription, to weigh and analyze one's food, to feed by rule, I would not sanction. Do not imagine that I care what you eat, as long as you, the eater, are the same. You convert all food into yourself. If you are impure, you will extract impurity from the fairest fruits, as the bee extracts poison from the flower. If you are sensual, all food will nourish your sensuality. I speak of the qualities of food merely that you may know that there is a food as pure as your highest aspiration—a food on which your soul's best faculties may feed. By turning your thought to the subject, you are benefited, whatever food you eat; for you become purer by communion with purity.—*Rev. Solon Lauer.*

SIN AND SICKNESS.

EVERYBODY knows that certain forms of sin, when practised, will result in disease; but all do not know that sin in its incipency, in thought and in feeling, is poisonous and deadly. And yet this is true. The apostle tells us that "the minding of the flesh is death, but the minding of the Spirit is life and peace."

All life comes originally from the Spirit of God,

which brooded upon the waters, and breathed upon God's creation. So there is still a "spirit in man, and the inspiration of the Almighty giveth them understanding." The indwelling Spirit of God quickens the mortal body of the redeemed saint. Thus men are now quickened who were once "dead in trespasses and sins;" and so long as men walk in the Spirit, and do not fulfil the lusts of the flesh,

their tendencies are toward life and health. But when men become sordid, mean, sinful, the fountains of life dry up within their souls, and this inward disease manifests itself in the outward physical frame.

There are unseen elements which seriously affect our health. The odor of a flower will sometimes produce serious sickness; and emotions which flush the face, bathe the skin in perspiration, disturb the action of the heart, and set it fluttering or chill it into stagnation, must necessarily affect the health. The milk of an angry mother has sometimes sent a child into convulsions and to the grave. Fear often deranges the bodily functions, and many persons die because they are afraid to die. Unhappy emotions destroy the appetite; and when the appetite for food is gone, health goes with it, and life cannot long be maintained. Anger, malice, wrath, envy, discontent, and despondency, all are sinful and all *are deadly*. Persons fret themselves into the grave, instead of going rejoicing all their way through this world. People are wearied and worried to death, when they should be glad in the Lord's mercy, re-

joicing in his goodness. If people will look on the bright side instead of the dark, thank God for their blessings instead of poring over their troubles, look forward for the good that is to come instead of worrying over the evil that is past or that may never occur, they will find in the brightening eye, the glowing cheek, the joyous voice, the tokens of an inward health which God imparts, sustains, and blesses.

Thousands of people to-day are sinking into a murmuring, fretful, unhappy mood, which will land them in the grave. There are people who brood for months over some petty vexation or trifle, who not only fret themselves into the grave, but harass the souls of those that are around them. We should learn to fret not ourselves "because of evil-doers," and let many unpleasant things pass unnoticed. It is not wise to see everything that we *do* see, or hear everything that we *do* hear. It is well to be a little blind and a little deaf while passing through this world; and the man who is to dwell on high, safe in the sheltering care of God, is one who "stoppeth his ears from hearing of blood, and shutteth his eyes from seeing evil."—*H. L. Hastings, in the Christian.*

WORRY.

THE word "worry" is not of classical origin. It is not a Latin or a Greek word, but probably Saxon or old English. It originally meant to seize by the throat and strangle, as when a dog siezes a sheep, or even a rat. The dog worries these animals to death.

The name "wolf" was given to the creature because it always worries its prey, torments it, tires it out. Warg, the old name of the wolf, meant a strangler, or one who worried its prey to death. The cat worries the mouse. Anything that worries produces unpleasant emotions, and these prevent the healthy action of both body and brain.

In modern times the wolves and the dogs which worry us are not real wolves and real dogs, but the small cares and troubles which keep us anxious and uneasy. They do not strangle us to death, but they strangle our better selves, and often reduce the value of our lives to a minimum. Dr. Beaumont, who studied the digestive processes of a patient who had an opening into his stomach so he could see the operation of digestion, stated that when this patient was worried or angry, digestion was slow and imperfectly performed. The stomach was worried as well as the brain. The action of sorrow, anxiety, and worry is to derange and obstruct the whole of this beautiful and important process. One might as well attempt to build a house of cubes of soft, moist

clay, as to construct, or rather reconstruct, the human body with undigested food. Dyspepsia is a disease whose pains are relentless and unmanaging, and whose consequences are grievous to be borne.

In most cases, consumption, cancer of the stomach, ulcer of the stomach, and (in infants) rickets, scrofula, and general wasting are preceded by dyspeptic conditions.

Can women, who have more little cares and trials than men, go through life without worry?—Not unless they take charge of their own feelings, and keep them in their proper place. It is simply a matter of self-government and self-control. Self-control is one of the more recent requirements of the race, and is not yet so fully developed as it will be some day; but even now many can control themselves if they will. It is a matter of will, and women, it is said, are not lacking in this respect.

One of the rarities of our age is a person who is happy. The happiest people are generally those who, while cultivating habits of prudence and forethought, desiring only a comfortable independence, are indifferent to the accumulation of great wealth, and addicted to simple pleasures and home entertainments; who cherish a wholesome aversion to ostentatious hospitality and ceremonious display; who select their friends on account of their sterling

character, and never think of inquiring how much they are worth. We meet with such now and then, who at eighty retain something of their youthful freshness of feeling and warmth of heart.

If there was a wolf constantly following any of us

to worry out our lives, would we not at once try to have it destroyed? The same course should be pursued with regard to the many little wolves,—the cares and trials of life which strangle our happiness and destroy our health.—*Journal of Hygiene.*

THE OLD WORLD'S OLD FOLKS.—A German statistician has studied the census returns of Europe to learn a few things about the centenarians of the Old World. He has found, for instance, that high civilization does not favor the greatest length of life. The German empire, with 55,000,000 population, has but 78 subjects who are more than one hundred years old. France, with fewer than 40,000,000, has 213 persons who have passed their hundredth birthday. England has 146; Ireland, 578; Scotland, 46; Denmark, 2; Belgium, 5; Sweden, 10; and Norway, with 2,000,000 inhabitants, 23. Switzerland does not boast a single centenarian, but Spain, with about 18,000,000 population, has 401.

The most amazing figures found by the German statistician, says the *New York Sun*, came from that troublesome and turbulent region known as the Balkan Peninsula. Servia has 575 persons who are more than one hundred years old; Roumania, 1084; and Bulgaria, 3883. In other words, Bulgaria has a centenarian to every thousand inhabitants, and thus holds the international record for old inhabitants. In 1892 alone there died in Bulgaria 350 persons of more than one hundred years of age. In the Balkan peninsula, moreover, a person is not regarded as on the verge of the grave the moment he becomes a centenarian. For instance, in Servia there were in 1890 some 290 persons between 106 and 115 years, 123 between 115 and 125, and 18 between 126 and 135. Three were between 135 and 140.

Who is the oldest person in the world? The German statistician does not credit the recent story about a Russian 160 years old. Russia has no census, he says, and except in cases of special official investigation the figures of ages in Russia must be mistrusted. The oldest man in the world is then, in his opinion, Bruno Cotrim, a negro born in Africa, and now resident in Rio Janeiro. Cotrim is 150 years old. Next to him comes probably a retired Moscow cabman, named Kustrim, who is 140. The statistician says the oldest woman in the world is 130 years old, but neglects to give her name or address, possibly out of courtesy; or perhaps in view of the extraordinary figures which came to his hand from the Balkans, he thought a subject only 130 years old was hardly worthy of particular mention.—*Scientific American.*

KEEPING YOUNG.—It is well, from time to time' to look over the prime requirements for keeping the body long in its youthful state of bouyancy. Sleeping enough should head the list. Evenings should in the main be spent in simple and quiet ways, and so that when nature's invitation comes, one can accept promptly. When fairly slept out and awake, rise at once. The body loses tone by unnecessary repose. In the next place, be chary of all stimulants. Give them a little investigation, and they will appear less and less profitable, as you reflect on their borrowing-but-not-returning action. The third essential is that a fair amount of time be spent in exercise and in the open air. Those whose work is indoors often need to study their affairs and habits in this respect.

As for work, to many the advice seems of no avail that they should work enough but not too much; because they conceive that their duties call for certain things that must be done anyhow. The truth is that most can be accomplished by temperate work. Frequent changes in the sort of work done help the body immensely in achieving the maximum that it can do cheerfully. Many who have carried their youth into an active old age call this their secret. Such changes bring now one and then another power or function of the body into play. While one is active, the others not only rest, but get some sort of sustenance which they need from the by-products of work in the organ that is busy with the one activity. There are certain subtle reactions that come to pass in each organ of the body, through the agency of the nervous system, as a result of action in the other organs. Now the advantages of change of work are more evident. So, a bookkeeper in a store who now and then takes a hand at unloading goods has a better chance for health than one who sticks to the books.

The other factors in personal hygiene, of course, all come in the problem of keeping young. The deliberate cultivation of the habit of taking things cheerfully is to be mentioned finally, though not of least importance. That has to do with nerves, organs, and the man himself. As Robert Louis Stevenson so well said: "Cheerfulness and gentleness, these are the prime virtues."—*C. W. Lyman, M. D., in the Voice.*

THE HOME GYMNASIUM

INCORRECT ATTITUDES IN SITTING, AND THE RESULTING EVILS.

BY J. H. KELLOGG, M. D.

THE habitual attitudes assumed by an individual are as truly a mold which determines the shape and

(Fig. 1) presents the outline of the figure of a young woman in whom double curvature of the spine existed as the result of a wrong position in sitting and standing. Fig. 2 shows how curvature is readily



FIG. 1.



FIG. 2.

symmetry or asymmetry of the individual as is the bottle for the cucumber made to grow inside of it. This is especially true of young persons when engaged in study at school or employed as accountants, in sewing, or in other occupations which necessitate the maintenance of a nearly uniform attitude for some hours daily.



FIG. 3.

The bones of young persons are flexible, hence easily yield to a continuous strain placed upon them. The same is still more true of other structures. The neglect to recognize this fact is so nearly universal that among persons of sedentary habits very few are free from deformities of some kind.

Among the most common of these deformities is curvature of the spine. The accompanying figure



FIG. 4.



FIG. 5.

produced by a wrong position of sitting at a desk or table.

A difference in the level of the two shoulders is

always indicative of spinal curvature. This condition is exceedingly common among students and all classes of sedentary people. It is especially common among young women because of their less active life, their less vigorous development, and the damaging influence of the conventional mode of dress. Some years ago the writer, by request of the faculty, visited a well-known college for the purpose of making a physical examination of the students in relation to gymnastic work, which was for the first time made obligatory as a part of the daily program, a regulation which ought to exist in every school, either public or private, irrespective of grade. Of seventy-four young women examined, spinal curvature was found to exist in seventy-one, or ninety-six per cent. of the entire number. Another investigation was made of a large number of young women,—an asso-



FIG. 6.



FIG. 7.

ciation of working-girls in one of our large Western cities—which showed an equally large proportion of spinal curvatures. These curvatures were evidently the result of wrong positions in sitting, the evils of which were increased by neglect of physical exercise and incorrect modes of dress.

The body may be thrown out of poise or placed in such a position that an unusual strain is brought to bear upon any of its structures for a short time without injury; but when this strain is habitual, lasting for hours at a time, or when it is many times repeated each day, even for a brief period, distortion, displacement, or some other deformity is sure to result.

Posterior curvature of the spine, manifested by round shoulders, a flat or hollow chest, forward carriage of the head, and an unnatural straightness of the back, is much the most common of all the forms of spinal curvature, and though commonly neglected, is productive of more mischief than lateral curvature. Lateral curvature (Fig. 1) can be easily hidden by the devices of the tailor or the dressmaker, unless very extreme, but posterior curvature is so patent from the signs mentioned, that it cannot

be concealed. This form of curvature is shown in Fig. 4, also in the solid white outline of Fig. 3. Contrast these outlines with those of Fig. 5 and the



FIG. 8.



FIG. 9.

dotted line of Fig. 3. The figures shown are not diagrams, but are outlines of actual persons, made by means of a tracing apparatus over a thin garment, and represent the difference between correct and incorrect carriage of the body. The two outlines of Fig. 3 represent the same person, as do the outlines in Figs. 4 and 5. The difference in outline is simply the result of the difference in the way in which the muscles act upon the bony skeleton.

In Fig. 4 and the outline traced by the solid white lines in Fig. 3 are represented attitudes resulting from relaxation of the muscles, the weight of the upper part of the body causing posterior curvature of the spinal column. The dotted line (Fig. 3) and the outline shown in Fig. 5 represent the same individuals as those shown in Fig. 3 and the solid outline of Fig. 4, with the skeleton braced up by tense, well contracted muscles. The effect of relaxation upon the shape and symmetry of the trunk is equally great in the sitting position. Figs. 6, 7, and 8 represent the relaxed position in sitting. The correct position in sitting is represented in Fig. 9. The dif-



FIG. 10.



FIG. 11.

ference between a relaxed and an incorrect position in sitting is also well shown in Figs. 10 and 11.

The result of this abnormal position in sitting is much more serious than simply an inferior appear-

ance. A flat, hollow chest means compressed lungs, which are never for a moment free to expand to their fullest extent, and hence are more liable to consumption and other diseases than lungs which are well developed and have full play in their movements. Round shoulders resulting from posterior curvature of the upper part of the spine are always connected with a flat or hollow chest, and signify not only compressed lungs but also a depressed stomach. It is common to find the stomach displaced anywhere from three to six inches, as the result of this physical deformity. Anything which flattens the



FIG. 12.



FIG. 13.

chest or waist necessarily results in the downward displacement of the stomach or other organs.

The result of this interference with the normal relations of the vital organs is a more or less serious derangement of the general health. The compressed lungs, not being able to expand to their fullest extent, are greatly hampered in their activity. Oxygen is not received in sufficient amount, the blood becomes impure, the tissues are clogged by the over-accumulation of tissue poisons, appetite and digestion fail, the blood becomes impoverished, the complexion dingy, and the whole body is weakened, the growth and development of physical and mental activity is interfered with, and a morbid bias is given to the whole life of the individual.

The lungs and heart constitute the great vital engine by which all the vital processes are kept in active operation. Seventy-two heart-beats and eighteen respiratory movements mark the rhythmical activity which keeps in circulation the vital fluid throughout the body, and supplies to each cell and the vital fluid of the blood and tissues the life-giving oxygen necessary for their activity and repair.

A depressed chest is a weakened and inactive one. A prolapsed stomach resulting from a relaxed position in sitting or from waist constriction, or from

any other cause, is a crippled and diseased organ. A dislocated stomach, kidney, liver, or colon is a much more serious matter as regards health than a dislocated shoulder or hip.

A great share of the disorders of digestion and resulting impairment of the mental and nervous energy complained of by students, is the result of this depression of the stomach and other viscera. When the stomach is prolapsed, the food cannot readily find its way out, the organ being unnaturally lowered. The food, being thus retained for an unusual length of time, undergoes fermentation, and putrefactive processes are set up, whereby the system is not only robbed of the nutrient elements necessary for proper nourishment of the blood and repair of the tissues, but, through the conversion of a portion of the food elements into ptomaines and other poisonous substances, the whole body is contaminated.

This is the chief source of headache, of palpitation of the heart, and so-called biliousness. This condition is commonly manifested by a bad taste in the mouth, a coated tongue, inactive bowels, mental dulness, confusion of thought, inability to concentrate the mind, irritability, forgetfulness, nervousness, and allied symptoms. There are, of course, other causes of these symptoms, but the one mentioned is certainly one of the most prolific.

How quickly these symptoms disappear when an opportunity occurs for a few weeks of out-of-door vigorous activity, especially in the case of young persons! The depressed organs quickly rise to their normal place when afforded opportunity to do so, but not infrequently, especially in the case of young ladies, the evil results of relaxed sitting are aggravated by the still more actively damaging influence of the conventional dress. This fact is well shown in Fig. 14.

The more or less rigid corset, having an inward curve, presses upon the organs of the waist to an increased degree in the sitting position, especially in bending forward. Under these circumstances, it

is no matter of wonder that so large a proportion of young women students fail in health during school life. The injuries which they suffer are commonly charged to overstudy; whereas it is clear enough to the physician that the evils complained



FIG. 14.

of are due to the unwholesome conditions to which the student is subjected, especially to the vicious combination resulting from the conventional waist-

constricting dress, with the lack of muscular activity, and from injurious sitting attitudes.—*Education Extension.*

HOW TO BREATHE.

It is of the utmost importance to accustom one's self when walking to frequent intervals of conscious breathing. No involuntary action of the body is habitually so carelessly performed—so almost shirked—as this one, and upon no other does our health so largely depend. The great majority of the human race keep their lungs in a state of semi-starvation; and diseases and ailments manifold can be traced to this cause alone, since the very act which deprives one of life-giving oxygen also returns to the arteries impure blood, weighted with poisonous carbonic acid.

If the lungs be properly inflated, this act alone gives to the body a buoyancy, which greatly increases the pleasure, and lessens the exertion, of walking. Of course a mincing or languid step must be avoided. Take a free and firm, but light, stride, balancing the upper part of the body alternately upon each hip—but without swaying it perceptibly—and giving the impetus forward with a slight spring from the ball of the foot. Naturally, the mind will at first have to direct these motions; but the body responds delightfully to right ways of doing things; and if the exercise of walking can be taken where there is much of interest to divert one, it will be found a great advantage, for this ready and cheerful response of the entire body when its muscles are thus called into harmonious action, imparts a sense of exhilaration which makes one feel more like a bird than anything else can till flying-machines are accomplished facts.

The lungs have their own muscular power, which, unfortunately, is not more than half developed. The simplest preparatory exercise is full, deep breathing. Draw in a long, deep breath, expanding

the chest as fully as possible without straining either lungs or muscles. Retain the breath thus taken while you count ten; then as slowly as possible, expel it. This conscious breathing will soon enlarge and strengthen the lungs, and the more frequently this conscious action can be made, the better for the lungs and the health.

Remember in all breathing exercises that nature's avenue to the lungs is through the nostrils; provision is made in the nasal passages to catch impurities and foreign substances, which, if carried to the lungs, as when breathing through the mouth, are liable to cause serious trouble. The very best time to practise lung gymnastics, is in the morning before dressing, and again at night, for the body should be free from all restraining clothing. Stand erect, with chin down, and rise upon the toes as you inhale; hold the breath a few moments, so that the air may act on the whole surface of the blood, nourishing it, and at the same time taking up impure gases, then expel it forcefully and as completely as possible, coming down upon the heels at the same time. Five minutes of this work night and morning will work wonders.

If a proper carriage of the body be retained in all the ordinary duties of life, whether sitting or walking, it will be found to greatly minimize the fatigue of daily duties. It is the throwing of double work on some muscles by leaving others in idleness that causes more than half the pain of back and limbs which women suffer. If you walk up stairs properly, with figure erect, legs and joints flexible, and breathe properly, it is a healthful exercise, which cannot harm even a feeble woman.—*Maria Duncan, M. D.*

HOW TO WALK.—Of course there is no virtue in a dawdling walk. The slow and languid dragging of one foot after the other, which some people call walking, would tire an athlete; it utterly exhausts a weak person, and that is the reason why many delicate people think they cannot walk. To derive any benefit from the exercise it is necessary to walk with a light, elastic step, which swings the weight of the

body so easily from one leg to the other that its weight is not felt, and which produces a healthy glow, showing that the sluggish blood is stirred to action in the most remote veins.

This sort of walking exhilarates the whole body, gives tone to the nerves, and produces just that sort of healthful fatigue which encourages sound, restful sleep.—*Sel.*



Home - Culture---

CONDUCTED BY
MRS. E. E. KELLOGG, A. M.

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HOUSEHOLD ECONOMY.

ECONOMY is one of the cardinal principles of success in good housekeeping, and consists in making advantageous use of time, strength, money, and material; it pertains to the *littles*, the minutes, the pennies, the scraps,—even more than to the large amounts. We are apt to recognize the importance of careful consideration in regard to large outlays, but we let the fragments of time, money, and material slip through our fingers without thought of their value. And this is a matter of such common occurrence, and one which it requires such everyday vigilance to prevent, that it is well worth our while to study some of the ways in which we may avoid waste in housekeeping.

Economy is largely a relative term; it is a matter which must correspond with surrounding circumstances and conditions. Sometimes money or material is really of less value than time or health; and what might in one case show the best and most prudent management, would in another instance be the poorest kind of economy. "Real waste of anything is loss without any equivalent gain."

All possess an equal amount of capital as regards time. There are only twenty-four hours of sixty minutes each in any one's day; yet there are those who accomplish far more than others in a day, because they squander less time, or make more advantageous use of it.

In order to learn how to economize one's time, it is necessary first to take an inventory of the use usually made of it. Keeping as careful an account of the expenditure of time as one does of money will readily serve to show the points at which retrenchment may be made.

"Sorting over" the work to be done and planning ahead for its achievement is a great help toward economy of time. To take a few minutes the evening previous or early in the morning to think over

the day's work, and formulate some practical plan for its accomplishment, will prevent much of the careless loitering on the one hand, and the aimless bustle and flurry on the other, by which time is so often wasted.

In some households time is wasted in superfluous work; in others, it is worse than thrown away in idle gossip; and sometimes an entire day is devoted to little, unimportant things which ought to have been sandwiched in between the larger duties of life. Both time and strength are dissipated through want of method. Twice the amount of energy is expended by the unsystematic worker than would be needed for the same work by one who has mastered the art of so managing that the different duties of the day overlap and fit into each other.

Without system, one may work almost to the point of exhaustion, and yet accomplish almost nothing, and then wonder, like the man jumping in and out of a bucket all day, "why a body don't get on far when he's kept agoing all day." Keeping things in order saves a great deal of time. A place for everything and everything in its place should be the rule in every home. Let shelves, drawers, cupboards, and closets each have its own appointed contents, which, when used, shall be returned with careful order. It takes no more time nor trouble to put things away at first in their right place than to lay them aside in some wrong place; while it does take time which soon accumulates into wasted hours and days to hunt for mislaid articles, and "straighten up" disordered receptacles.

The too common practise of taking what appears the easiest course at the moment, letting things go just as they happen, till there is a general clearing-up time, is in the end a waste of both time and strength. Such spasmodic renovations avail but little. Orderly, systematic work is the great time-

saver in housekeeping, as in every other vocation in life.

A written program, of which the following is suggestive, of the order in which the regular daily work is to be done, kept where it will serve as a constant reminder, will aid greatly in the establishment of habits of method in one's work:—

1. Make the fire; fill the tea-kettle and reservoirs. Polish the stove, when needed.
2. Dust the kitchen, which should have been left clean and in good order the night before. Wash the hands preparatory to getting breakfast, as it is always essential to have the hands and finger nails clean before handling foods and cooking utensils.
3. Get breakfast.
4. Make any preparations for dinner which may require early attention.
5. Wash dishes, including dish-towels; clean sinks, hoppers, and garbage receptacles, if any.
6. Extras. Under this division may be arranged different duties for regular days; as, for example, one day each week may be devoted to extra cleaning of cupboards, reservoirs, ovens, etc.; two other days to washing and cleaning the refrigerator, extra scouring of utensils and faucets, cleaning of lights, woodwork, walls, windows, and cellar, all of which require more or less of the housekeeper's attention, though not always demanding daily care.
7. Put the kitchen to rights. This should be done after every meal before leaving the kitchen. At the close of the day's work, everything should be left in perfect order.

It is desirable to have the housework so planned that work which must be done regularly each week, as baking, washing, and ironing, shall have its own appointed day arranged as best suits the needs and convenience of the household. There is always a best way of performing even the simplest of household details; seek out this most advantageous method, and save time by employing it.

Most housekeepers will find it a great saving of time and vexation to consider the program of the meals by the week; rather than from day to day, or from meal to meal. We do not mean the arrangement of a weekly routine dietary, but the planning of a week's meals ahead, at one time. The house-

keeper can thus more easily arrange her work and her resources so as to make both ends meet, and can also provide a more varied fare; and if changes are needed, they can be easily made by substituting one article for another, as circumstances may demand.

Economize money by purchasing no unnecessary material, and by always buying that which will yield the best results, even though the first cost may be greater.

It is also essential to an economical use of money that purchases be planned ahead, calculation being made exactly as to how much may be spent for supplies, and a list prepared of things to be purchased and the amount of each needed before going to market. One should also be conversant with the market value of the supplies she desires to purchase, that she may know when she is getting a fair article at a reasonable price.

Strict account should be kept of all expenditures, balancing it every month with the portion of the income which should be devoted to that purpose. If the balance is not on the right side, go over the items with care, and see how expenses could have been reduced.

It is wisest to make cash payments; but if bills are unavoidable, they should be met by weekly or, at the longest, monthly settlements. Longer time bills not only prove troublesome, but wasteful.

Food economists tell us that the majority of people make use of a needless amount of food; that half or more than half of their earnings are spent for food; and that in its selection much material is chosen in which the real nutrients are exceedingly costly, because the articles used to furnish them rank so low in nutritive value that much is consumed for but a little gain. Real economy comes only through the use of foods containing a proper proportion of the food elements, these being obtained at a moderate cost, and prepared in such a manner as to bring out their full nutritive value.

Much not only of money but of strength is wasted in the use of too great a variety of foods at a single meal. We indulge ourselves and our families too much in what tastes good.

MRS. E. E. KELLOGG.

AN English housekeeper is authority for the statement that brass, steel, and nickel may be kept free from rust for many months when not in use by rubbing over with a paste made of fresh lime and water. The ornamental work requires a brush to cover it thoroughly.

In caring for lamps, it should be remembered that, after filling and trimming, the wick should be turned down; else the capillary attraction causes the oil to run over the lamp. If you have a short wick, don't throw it away; add it to the new one. In putting out a lamp, always turn it down first.

RIGHT AND WRONG PUNISHMENTS.

LAW is a necessity in all life, the family life as well as that of the state; for violation of law there must be a penalty, and upon the idea which maintains in the mind of the governor as to the purpose of the penalty will depend the kind of punishment inflicted upon the governed. If the idea be that punishment is retaliatory for the wrong committed, it will be arbitrary, combined with great pain, and probably inflicted in anger. If the idea be that punishment is intended to be reformatory, it will be made to "fit the crime," and the temperament of the criminal will be considered in deciding what form of penalty will soonest produce the desired effect. As yet, in the state the idea of retaliation largely prevails, and criminals are by their dress branded as such, are herded together under conditions of disgrace, deprived of liberty or of life, and little is done towards their reformation.

In the family, too often the same feeling of retaliation is the mainspring of the parent's action in punishment. The irritability or anger of the parent instigates the quick box on the ear, the sudden slap across the mouth, or the blow that sends the child staggering across the floor, blind not only with pain and anger, but often mentally blind as to the real cause of the parent's displeasure. If physical pain be not inflicted, it may be the tender nature of the child is bruised by the sharp word, the sarcastic sneer, or the tantalizing criticism.

On the other hand, parents who shrink from inflicting physical pain, and who have too much self-respect to snub children or sting them with unkind words, fall into the error of trying to love them into goodness without the exercise of authority. They coax, reason, cajole, bribe; and fancy that they are kinder than the parents who command, and who will listen to no questioning of their authority. It is doubtful, however, if a little needless sternness is not more kind than undue laxity. The child must always be under law; first, at home; second, at school; third, in society; fourth, in his relations to the state and nation, and always under the law of God. If he has not learned to obey at home, he will always find it difficult to obey elsewhere, and life will be far harder for him than if he had been trained to obey those who are in authority over him.

"Much transgression of moral law late in life is due to the fact that in childhood transgressions escaped their just punishment." Our lunatics come largely from the list of those who in youth have

never been taught self-control through life. It is the one principle that has the power to make us truly free. If we choose the right master, we become free; if the wrong one, we are slaves; so that the whole of life is simply a choice of masters. It is then the duty of the parent to assist the child in learning how to obey, and what and whom to obey. The true purpose of punishment is to develop in the child the self-governing principle. If it fails in this, it has failed utterly.

In the matter of punishment, the parent should be influenced by the thought of the purpose of punishment. Nora Smith asks: "If you are a fit person to be trusted with the government of a child, what goal do you purpose to reach in your discipline? What is your aim, your ideal? and she lays down down seven axioms:—

"1. The discipline should be thoroughly in harmony with child-nature in general, and suited to the age and development of the particular child in question.

"2. It should appeal to the higher motives, and to the higher motives alone.

"3. It should develop kindness, helpfulness, and sympathy.

"4. It should never use weapons which would tend to lower the child's self-respect.

"5. It should be thoroughly just, and the punishment should be commensurate with the child's offense.

"6. It should teach respect for law and for the rights of others.

"7. Finally, it should teach voluntary obedience, as the object of true discipline in the formation of character; it should produce a human being master of his impulses, his passions, and his will."

If obedience were the primary object of discipline, the method by which it is secured would be of little value; but as self-government is the object, obedience should never be secured through fear.

Jacob Abbott says in regard to corporal punishment: "If the parent or teacher has tact or skill enough and practical knowledge enough of the workings of the youthful mind, he can gain all the necessary ascendancy over him without the violent infliction of pain in any form. If he has not these qualities, then he must turn to the next best means at his disposal, for it is better that a child should be trained and governed by the rod than not trained and governed at all."

It is important to cultivate the reasoning power of a child, and this may be done under circumstances where we are willing that he should choose between courses of action and abide by this choice; but where the authority of the parent is in question, the judgment of the child should never be called in to discuss the matter.

Obedience should never be secured through bribery. The child should do right because it is right, and not because he is to gain some personal pleasure thereby. In the business world a man will need to understand that duty should be the constraining force; and he will comprehend it the more readily if the motive of right for right's sake has been made the controlling motive of his childhood. This does not imply that a child may never be rewarded for right conduct, but the reward should seem to come as a result of his good deeds rather than as the motive through which he has been stimulated to goodness.

The matter of gentleness needs to be emphasized. To irritate the child through one's own anger is to form in him an irritable and unamiable temper. If your child's disobedience arouses your own irritability and anger, you will be wise to suspend your judgment of the case, and to postpone punishment until your anger has subsided and you can deliberately and calmly decide upon your course of action from the standpoint of your child's best good; then you can carry your decision into effect without violence or even harshness.

Punishments can often be prevented by tact and skill. The child is a volcano of energy which must have an outlet. If we constantly repress, we run the risk of a violent explosion. But if, while interfering with one form of activity, we substitute something else, we forestall the outburst that might have provoked severe punishment. "Don't do this and don't do that," is a constant cry in many homes, but few parents ever think to add to the don't, "but you may do this or that."

It is often wise to secure the co operation of the little offender in his punishment. He perceives the justice of the penalty, and this creates in him an interest in curing his fault. This method has sometimes induced the child to voluntarily come to the parent with a confession of the fault, and the expressed wish that the parent would aid him in overcoming it.

The disposition to increase the severity of punishment by constantly referring to the fault; that is, by nagging the little offender, will surely arouse a spirit of irritation and rebellion, and make the child

indifferent and even callous. I have seen a mother tie her little five-year-old girl on a chair as a punishment for running away, and then while the little creature was thus imprisoned, spend the time in nagging her, calling her names, telling her how mean and naughty she was, threatening to send her to the reform school if she did not do better; and when the child, with a perfectly justifiable spirit of self-protection, became indifferent to the torrent of words, and interested herself in a fly on the window, or in counting the figures on her apron, the mother would pinch her ears or pull her hair because she was so disrespectful. When asked once what would become of her, the child replied, in an indifferent tone, "Oh, I am so bad I suppose I will have to be sent to the reform school." And the mother did not see how the little one's moral nature had been calloused by her method of punishment.

Parents sometimes seem to think that punishment, to be effective, must be painful or oppressive. It is not necessary to manifest anger, or even any serious displeasure with a child for his fault. If punishment seems to be an actual result of his conduct, and to follow it inevitably, it may make a very serious impression without scolding or even without manifestation of anger. It is what the parent *does*, not what he *says*, that makes the impression. If the child finds that he can beg off from punishment or frighten the parent out of inflicting it, he will soon learn to despise the authority which he can thus defy. A little girl had learned that by loud screaming she could make her mother afraid to tie her up as a punishment for running away. She was once left with a friend who told her she would be tied up if she ran away. Remembering her mother and the method by which she had always escaped this punishment, she ran away, and when tied, began to kick and scream fearfully. The lady sat down by her, quietly saying: "Now, Jennie, I can stand this as long as you can, and as long as you cry, I shall not untie you. When you become quiet for fifteen minutes, I will let you go." It took at least an hour of patient waiting before the child actually comprehended that what was said was meant, but at last she grew not only quiet, but penitent. When the mother returned, the child at once told of her punishment, and said: "I screamed and kicked, but auntie didn't scare a bit." After this the child quietly submitted to being tied whenever she ran away, thus acquiescing in the justice of the punishment.

Commands that seem wholly arbitrary arouse in the child a sense of injustice. Parents too often do

not allow children time in which to bring themselves into the mental attitude of obedience. They command the child to stop his play suddenly, and so necessarily disturb his happiness. If they would give a little warning, as by saying: "Now in five minutes I shall want you to put your playthings away," it would give the child time to arrange his affairs and bring his mind into harmony with the command; whereas a stern, sudden order, "Put your blocks away at once," disarranges his mental processes, and gives him actual pain. The obedience will be as complete if, at the end of five minutes, he promptly obeys as if he had immediately obeyed the sudden command, and authority will not have been weakened. There is no virtue in making obedience hard; in fact, the parent should study to make it easy. "My yoke is easy" is a lesson that may well be learned by parents or teachers in order that obedience may be joyfully rendered, the child knowing that no commands will be given that are not based upon a wise and thoughtful judgment. "The parent must insist inexorably on being obeyed, but he is bound to do all in his power to

make the yoke of obedience easy to be borne."

The question of the effect on the health of children is to be seriously considered in the form of their discipline. The emotional nature of a child is developed beyond his reason. Even in adults, violent emotions are productive of serious physical disturbances. In children, sudden shocks of the nervous system tend to interfere with health of body and brain, and should be avoided as far as possible. Children who are ungoverned are in far greater danger of nervous disturbances than are those under a wise, gentle, but firm authority. Government through fear is always to be avoided, for no emotion is more destructive, changing the brave, free, happy child into a timid and cowardly one, or the truthful, frank child into the deceiver or the actual liar. "Perfect love casteth out fear," and the true home government is based on that perfect love between parent and child which compels absolute confidence in the parent's judgment and an acquiescence in his decisions, even where the child may not be able to comprehend his reasons.—*Mary Wood-Allen, M. D., in the New Crusade.*

THE BATTLE CREEK SANITARIUM DRESS SYSTEM.—XIX.

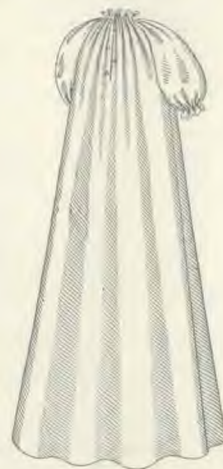
We give, this month, the remaining garments belonging to the Baby's Common-Sense Outfit,—the bishop dress, the sack, and the nightgown or wrapper. We feel sure that these articles will be in every way fully as satisfactory as the others. The principles underlying this outfit are its extreme simplicity, representing as it does such an economy of time both in the making and in the putting on of the garments, and its hygienic importance in clothing the body of the infant evenly and uniformly, and withal so loosely and comfortably. This outfit makes many friends at first sight, as its many advantages over the conventional system of clothing for infants are clearly apparent to any one at all interested in the subject. And as the tendency of the times is toward simplicity in dress—more utility and comfort, and less elaboration and ornamentation—this valuable outfit has doubtless only to be known to become deservedly popular.

Mothers find it such a dainty, pretty occupation,—the making of clothes for baby,—and the little one is so sweet and so dear, that they, as a general thing, are wont to expend much time and labor upon the small wardrobe,—often more than is either wise or profitable, all things considered. It is not too

much to say, however, that all the garments for a young infant should be of the finest and best



BISHOP GOWN—FRONT.

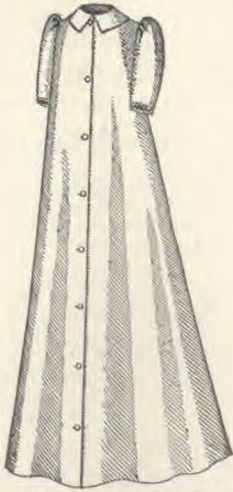


BISHOP GOWN—BACK.

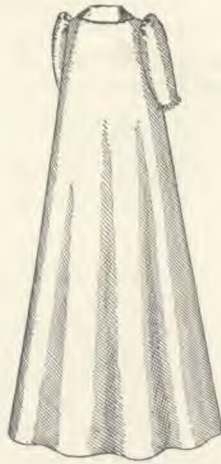
material possible; the goods, if not entirely plain, should be of neat and small patterns, and the colors faint and soft. Neither buttons, seams, nor starch should be tolerated about a young child.

Most babies are martyrs to flannel. It is much better to have soft cotton next the tender skin, and

flannel for the garment next to it. Baby's comfort should always be carefully, intelligently looked after, in every way. Bear in mind, during the heated



NIGHTGOWN—FRONT.



NIGHTGOWN—BACK.

term especially, that a baby is not a salamander, but a sentient human being, and should therefore be clothed like his elders, according to the weather, with the fewest possible garments in the extreme hot weather—the thinnest of slips and the diaper are amply sufficient—with the addition of a flannel skirt, or the substitution of a slip of some soft, warm goods as the cooler weather approaches.

Baby's Bishop Dress.—This pattern is in three

pieces,—front, back, and sleeves. A narrow casing is made at the neck by two rows of stitching, in which a narrow tape is run, which can be drawn up or let out for convenience in laundering. The bottom of the sleeve is arranged in the same way. Lawn, nainsook, cambric, or any delicate fabric with a small figure can be most tastefully used in developing this pattern. The quantity of material needed is $2\frac{1}{4}$ yards.



BABY'S SACK.



BABY'S SACK.

Baby's Sack.—This pattern is in three pieces,—half of front and back in one, sleeve, and half of collar. The edges are finished in small scallops done in buttonhole stitch, or they may be faced, and decorated with some fancy stitch. Cashmere or a fine quality of flannel is highly suitable for this garment. The quantity of material needed is $\frac{3}{4}$ yard of 36-inch goods.

Baby's Nightgown, or Wrapper.—This pattern is in five pieces,—half of front, half of back, collar, and two sleeve portions. The fronts are closed with buttons and buttonholes. Outing or ordinary flannel is the most suitable goods. The quantity of material needed is 2 yards of 36-inch goods.

SEASONABLE RECIPES.

Poached Egg with Tomato Sauce.—Break each egg into a saucer by itself. Have a shallow pan half filled with scalding, not boiling, water on the stove. If desired, a little salt and a tablespoonful of lemon juice may be added. Slip the eggs gently from the saucer upon the top of the water, holding the edge of the saucer under water to prevent the eggs from scattering; dip the water over them with a spoon and let them stand five minutes, or until the yolk is covered with a film, and the white is firm but not hardened; keep the water just below the boiling point. Take out the eggs one by one on a skimmer, and serve with a tomato sauce prepared as directed below. Granose biscuit (manufactured by the Battle Creek Sanitarium Health Food Co.) make an excellent accompaniment. The eggs may be served on the biscuit, and the sauce turned over them.

Tomato Sauce.—Heat to boiling one pint of strained, stewed tomatoes; thicken with a tablespoonful of flour rubbed smooth in a little water; add salt, and when thickened, if desired, a half cup

of hot cream. Boil together for a minute or two, and serve.

Scalloped Tomatoes.—Take a pint of stewed tomatoes, which have been rubbed through a colander, thicken with one and one-fourth cups of lightly picked crumbs of graham or whole-wheat bread, or a sufficient quantity to make it quite thick, add salt if desired, and a half cup of sweet cream, mix well, and bake for twenty minutes. Or, fill a pudding-dish with alternate layers of peeled and sliced tomatoes and bread crumbs, letting the topmost layer be of tomatoes; cover, and bake in a moderate oven for an hour or longer, according to depth; uncover, and brown for ten or fifteen minutes.

Stewed Nuttose with Tomato.—Take one-half can of nuttose (manufactured by the Sanitas Food Co.), cut it into small pieces not over one inch square, and put it to cook in warm water. Let it stew for two hours in a double boiler. Just before serving, add salt and a pint of stewed and strained tomato.



THE CARE OF THE TYPHOID FEVER PATIENT DURING CONVALESCENCE.

(Continued.)

THE time of convalescence from typhoid fever is always a period of danger to the patient, as well as a great tax on the skill, care, and patience of the nurse. Some diseases terminate abruptly, with a crisis, but in typhoid fever the time of recovery is always more or less tedious, the return to health liable to be hindered by many complications, and relapses quite frequent. The return of the temperature to normal is always gradual, and often, on account of improper dieting or other imprudence, it may rise again after being normal for several days.

After the fever has entirely subsided, all the organs are of course weak and debilitated from the wasting of the fever and lack of food. The digestive organs are especially so, and often there are large ulcers to be healed in the small intestines. As all the wasted tissues are rapidly building up at this time, there is a great demand for food, and often the patient has a craving appetite which, unless restrained, would consume far more food than the digestive organs could take care of. Death has often resulted in a few hours as the result of a single large meal of improper food.

The patient's feelings are no guide either as to the kind or amount of food which should be given him. The time when he shall begin to eat solid food, the amount of food, and the number of meals in a day must still be under the supervision of the physician and the nurse, and it will require greater care to regulate his diet then than during the fever. It is the duty of the nurse to watch the effect of every addition made to the variety or quality of food given the patient. Solid food would better be withheld until the temperature has been normal for at least two weeks or ten days. Previous to that, the patient may have added to his diet of gruels, milk, and fruit juices, any of the following articles: well-

cooked gluten mush, farina pudding without milk or eggs, fine wheaten grits, and well-cooked rice or pearly barley. Whatever grain is selected for the mushes should be well cooked for several hours, either in a double-boiler or by steam, and given in small amounts at first. If milk or cream agrees with the patient, he may take a little with his grains.

The first meal of solid food should be small; and if it is well borne, the quantity may be increased. Beaten eggs may be used, either taken raw or mixed with hot milk, or made into a plain custard without sugar. They also make a very palatable dish poached and put neatly on a piece of toast. A very good way to cook them is by curdling in the shell. Put into water at 180° F. and cover with a flannel cloth, and set in a moderately warm place for half an hour. Eggs cooked in this way are very digestible, the white being like thin jelly instead of hard and indigestible, as when boiled in the shell. Eggs, to be properly poached, should be dropped into water just below the boiling point, and set off the fire in a covered vessel for half an hour. Toast soaked in just enough hot milk or cream to make it alike moist throughout, and served hot, is often very palatable. The toast should be very carefully browned in an oven, not as is so often done, just scorched a little on the outside, left soft and soggy in the middle, and served in a puddle of tepid milk or cream. Such a dish would at once disgust the capricious palate of the recovering patient. Toast may also be softened with boiling water or hot fruit juice poured over it. Subacid fruits should be chosen, as the very tart juices may interfere with starch digestion. Toasted rolls, toasted whole-wheat crackers, and granose moistened with milk or in hot brose and water, also plain bread and butter, may all be

used to make a variety as the digestive organs become stronger.

Meats and vegetables would better be withheld until the patient is well on in convalescence, also all seedy and raw fruit. A baked sweet apple or dish of stewed prunes may be tried at first, and if they are well borne, other mild fruits may be added to the dietary, one kind at a time, as the stomach will tolerate them. If the patient craves meat or has an unappeasable longing for any article of food, an effort should be made to satisfy the longing. The desire for flesh meat may often be satisfied by cooking barley, rice, or some other grain in beef broth, or a plain meat gravy may be made and the toast moistened with it; or if the appetite for all other things fails, and the patient is doing well, a little scraped steak made into small cakes and broiled on a hot griddle may be served with plain stale bread or toast.

The return to ordinary diet should not be made inside of two months after the fever has subsided. Never serve a great variety of food at the same meal; three different articles are usually enough. This gives a chance for something new at each meal. Whenever a new article is added to the bill of fare, give at first a very small amount, and increase it as the digestive organs grow stronger. Watch the effect of the food on the patient; and if any article does not agree with him, at once either stop its use entirely or decrease the quantity, else prepare it differently.

If any disturbance of the stomach occurs, such as nausea, pain in the stomach, vomiting or diarrhea, all food had better be withheld for a meal or two, and a stomach lavage given, and the bowels relieved by an enema. The patient should remain quiet in bed, and have the stomach and bowels fomented. A rise of temperature, with pain and persistent vomiting, is a very grave symptom, and may result in acute gastritis, a very dangerous and fatal complication, and one responsible for many deaths during the period of recovery from typhoid fever.

Sometimes the fever runs very high, to 104°, 105°, or 106° F., and the stomach becomes so irritable that it will not retain even a sip of water. In such cases it will be necessary to resort to feeding by the rectum. The region over the stomach may be so sensitive that it will not bear the slightest touch, and therefore the fomentations must be very light, and changed often. Cold often gives more relief than heat; it may be applied in the form of ice-bags, light compresses, or gentle douching or spraying.

After the fever, pain, vomiting, and other grave symptoms have subsided, and the stomach will retain water, a spoonful of the white of egg and water, strained gruel, or iced milk and lime-water may be tried; if that is retained for an hour, two teaspoonfuls may be given, and after the lapse of two hours the amount again be doubled. Watch the effect of each small meal, and if it causes any disturbance of the stomach, do not persist in giving more until the trouble subsides. Usually when there is high fever and great thirst, cold food is borne better than warm food, but after a time, hot foods may be tolerated and relished best. During symptoms of a relapse the patient will have to return to the fluid foods of the fever stage.

Gas, distention, and pain in the bowels during convalescence call for treatment at once. Stop all food, and administer the lavage and enema; sometimes a saline cathartic will also be needed to free the stomach and bowels. Keep the patient quiet in bed till these symptoms subside. Remember that the bowels are just recovering from severe ulceration, and that the walls are still thin, and easily lacerated by overdistention from foul gases and the irritation from spoiled food. The writer knew a case of apparently successful convalescence in which the patient died in a few hours after eating a hearty meal of longed-for ham and eggs, given through the mistaken kindness of a friend. A few hours after, the young man, who was considered almost well, became very ill, and died the same night of ulceration of the bowels. A rich custard, fish-balls, pie, cake, and other dainties, administered by ever-meddling friends, have all given the writer many weary, anxious hours. The result in many of these cases was that the patient almost starved from the inability of the abused stomach to retain anything.

In severe cases of fever the mind is often weak, and the patient subject to delusions for weeks after the fever subsides. It will do no good to directly oppose him in any way, as it will only strengthen him in his own beliefs, no matter how unreasonable they may be. Try to divert the mind from anything he may desire to do that will be injurious, though it is as well to appear to agree with him in all harmless notions. He usually forgets all the absurd things he has said and done, and it is better for the nurse to forget them too. Never tantalize a patient by reminding him of them afterward.

The worst delusion to meet is one in which the patient will not eat, either persisting that he is being poisoned or that he has already been fed. In some cases it is necessary to use the stomach-pump, and

feed by force. The writer has sometimes succeeded in such cases by getting a friend to dine with the patient, when he would eat out of politeness. The writer has also seen instances where the patient would eat on the sly when he would not in any other way. If the attendant will bring in the tray, and without asking the patient to eat anything, sit down and eat a little and then go out as if to get something, often, when she returns, the food will all be gone, and the patient appearing very sedate, and apparently much impressed with his own wit in getting the nurse's dinner before she returns to the room. In managing such cases, do not cross the patient or use force, except as a last resort.

Constipation and diarrhea are other troubles which may complicate and hinder convalescence. Often a neglect to free the bowels and the consequent accumulation of hardened fecal matter will cause a rise of temperature and a return of the delirium of the fever. The writer has seen this relieved at once by freeing the bowels by a copious water enema. In some cases the lower bowel becomes filled with impacted matter, which may have to be removed mechanically before the patient is relieved. An injection of oil will help this condition a great deal. It is well also in such cases to give a mild cathartic. If the attendant is vigilant, however, this distressing state of affairs will never occur. Looseness of the bowels is usually due to incorrect diet, and may be relieved by rest in bed and a full enema followed by a hot injection of thin, strained, well-boiled starch water, and fasting for twenty-four hours.

As the patient begins to get stronger, the matter of exercise must be considered. The first thing is to get the patient to sit up; this may be done by the use of a bed-rest. At first it may be so adjusted as to raise the body into a half-reclining position for a few moments three or four times a day; every day it may be continued a little longer, and the position made a little straighter. In about three days, the patient will, if doing well, be able to sit in an easy chair for a half hour twice daily; and in a few days more he may venture on his first steps, which should not be more than a half dozen to begin with. By letting every walk double the previous one, he will soon be able to get around the room and out-of-doors if it is warm weather. If the weather is cold, he may be warmly wrapped and taken to ride. Any new exercise must be short the first time, so that the patient will not be injured by getting too tired. As soon as strong enough to sit up any, the patient should be taught to exchange the bed-pan for the bedroom chair. He may be-

gin by using the chair once a day, and in three or four days he will be able to dispense with the bed-pan altogether.

The time of taking up business and attending to social matters must be arranged by the physician, and the nurse must not hesitate to put a stop to all company calls, business interviews, or work in any way which fatigues the patient, makes him nervous, or interferes with refreshing sleep. Never forget that even when well along in convalescence, the patient may have a relapse, and the ulceration, fever, and all other symptoms have to be gone through with again, at great risk to the patient's life. Any excitement in the evening may make the patient restless during the forepart of the night; therefore all treatment should be given early, that he may become quiet and restful with the going down of the sun. As the patient at this time will be having three meals a day, a glass of warm malted milk or some other light warm food will often tend to promote sleep. A warm bath in the afterpart of the day or hot and cold to the spine, also a cool room, and a clean, well-made bed, will promote sleep. These may all seem little things, but it is well to remember that it is of just such little things that good nursing is made up.

As the time of getting well from any severe acute disease is always tedious to the patient and his friends, anything that will shorten it is very welcome. The use of tonic treatment will do much to insure a perfect and speedy recovery. A gentle massage daily and the use of electricity over the stomach and spine, and cool sponging followed by brisk rubbing every morning to keep up the surface circulation, are all excellent measures. If the weather is pleasant, the patient should spend as much time as possible in the open air. He may be taken out in a wheel-chair or carried out until he is able to walk. A hammock or cot should be provided, where the patient may be made comfortable by coverings and something to keep the feet warm if the air is cool. It is best to lie in the sun, protecting the face and head with an umbrella. A sun and air bath may thus be combined, and will prove very invigorating after the long confinement in bed.

When the patient first gets onto his feet after a long illness of any kind, the muscles of the legs are of course very weak, and often refuse to obey the will. Often it will seem as if all the blood in the body had settled in the legs; they become distended and livid, and feel stiff and heavy when an attempt is made at walking. This is not only painful and unpleasant to the patient, but there is danger that

the overdistention of the vessels may cause inflammation of the femoral veins, the stagnation favoring the formation of clots in these weak-walled vessels of the lower extremities. Whenever the legs and thighs swell, and become hot and sensitive, they should be elevated at once and sprayed with hot and cold water alternately, gently rubbed upward, and then bandaged with a flannel or muslin bandage. This should be put on in the morning, after the spraying and rubbing, and be worn when the patient is on his feet. It may be removed and adjusted in the middle of the day when he is taking his midday rest. The spray and rubbing should be given twice a day, and the extremities kept elevated when the patient is sitting up.

In case clots form and the veins become inflamed, as will be shown by the swollen, white, dropsical appearance of the feet and legs and the pain and swelling of the vessels inside the thighs, there is usually chill and fever and an aching feeling all over the body. Whenever these symptoms manifest themselves, the patient must be put to bed at once. The diseased member should be handled with the greatest care. As long as the inflammation is acute, and the clots are soft and easily dislodged, the limb should be kept quiet, enveloped in cotton batting to keep it warm. It may be fomented occasionally, but manipulation, or even the most gentle rubbing, should no be attempted until the fever subsides and the clots become organized. The bowels should be kept active and the skin in good condition, so as to eliminate the poison as soon as possible.

Patients convalescing from fever are very liable to take on tubercular disease. In the active stage of the disease, when the temperature is high and the throat and mouth dry and parched, there is apt to be an irritating bronchial cough, but this should subside with the fever. If it continues after the throat and mouth are moist, and there seems to be no local cause for it, the sputa should be examined and also the glands of the neck. Often old enlarged scrofulous glands break down, and abscesses are formed. The tubercular bacilli thus liberated are carried to other parts of the body, and in this way the lungs may become infected and the patient die of consumption.

Swelling of the glands or the formation of any

abscess should be attended to at once, the abscess being opened and treated antiseptically, so that it may heal as soon as possible. If left to spread in the tissues, it may poison the whole body, and cause serious disease of the kidneys and liver, or infect other glands. If the glands are only swollen and sore, fomentations may relieve them, and the patient soon recover from the difficulty. Abscesses often form around the anus, and when they open, heal but partially, leaving a fistula, which is sometimes very difficult to heal, and is liable to cause a great deal of pain and discomfort.

Directions for the care of the convalescent from typhoid fever may be arranged as follows:—

1. Carefully supervise the diet, and accurately observe and promptly relieve all symptoms of any disturbance of the stomach and other digestive organs due to undigested food.

2. Regulate the patient's exercise, taking care to prevent exertion that will in any way strain or injure the weakened bowels. Wisely regulate the patient in social matters, and protect him from being injured by well-meaning but injudicious friends.

3. When the patient is not able to think rationally, and has delusions which, if followed out and acted upon, would do him harm, so regulate his surroundings as to lead the thoughts in healthy channels, without crossing him or using any violent restraining force. When he is able to hear it, amuse him by pleasant conversation and reading, but take care never to bore him with either; when he begins to be restless, make a change.

4. See that the patient has plenty of quiet and sleep, and never permit him to hear any exciting news if possible to prevent it. Keep a close watch for symptoms of complications.

5. Keep a correct record of the patient's temperature and pulse.

6. As the patient's health, strength, and flesh increase, allow him to return gradually to his ordinary every-day life. Never forget that the period of convalescence is a very critical time, and that many relapses and other complications occur from want of judicious care, especially the use of improper diet.

The next article in this series will treat of disinfecting and disinfectants.

THE Creator in the beginning gave man the earth to subdue, and this good mother usually gives her children whatsoever they demand and work for.

THE care of all the minor details of the toilet is just as important to the welfare of the patient as other proper treatment.

GOOD HEALTH

J. H. KELLOGG, M. D. EDITOR.

BATTLE CREEK, MICHIGAN.

THE BACTERIOLOGY OF MILK.—Professor Conn, of the Western University, has recently presented, in a report published by the United States Department of Agriculture, a summary of observations in relation to the bacteriology of milk.

Pure milk, as has long been known, drawn from a healthy cow, with proper precautions, contains no bacteria, but under ordinary conditions milk becomes infected with great numbers of microbes, which grow with astonishing rapidity. Professor Conn found that the milk obtained at Middletown, Conn., contained, within two or three hours after being drawn, from 330,000 to 9,000,000 microbes per ounce. The milk supply of Boston was found to be infected to a much greater degree, as many as 135,000,000 germs being found per ounce in some specimens. The milk of Madison, Wis., during the months of May and June, was found to contain 60,000,000 microbes per ounce.

The milk supply of European cities has been found infected to a much higher degree, the number of microbes being rarely less than 150,000,000 germs per ounce, and often reaching as high as 600,000,000, and sometimes the enormous number of 5,400,000,000 in a single ounce.

The number of different kinds of microbes found, varies from a half dozen or more to as many as fifty in a single locality. One German investigator found sixty-nine different kinds of microbes in a series of cheeses. These germs give rise to the so-called "ripening" of cheese, as it has been found that cheese cannot be made from boiled or sterilized milk. It is thus evident that "ripening" as applied to cheese is simply another name for decaying. The germs of tuberculosis, diphtheria, and typhoid fever are not infrequently found in milk.

AVOID THE SKINS OF FRUIT.—In the Laboratory of Hygiene of the Battle Creek Sanitarium an inter-

esting experiment was recently made for the purpose of determining the influence of the skins of fruits. A young man in whose stomach fluid no microbes whatever were found after a breakfast of sterilized food, was given a quantity of unwashed grapes, which he ate, skins and all. Examination of the stomach fluid showed more than five hundred thousand microbes for each fluid ounce.

Dr. Maria Duncan calls attention to the fact that the bloom of the peach is a luxuriant growth of microbes, which find in the stomach most favorable conditions for growth and development, thus causing decay of the fruit before it can be digested. This is doubtless an explanation of the fact that many people cannot eat raw fruit. All raw fruit should be thoroughly washed before it is eaten, and in removing the skin, it should be done in such a manner as to avoid soiling the flesh or pulp of the fruit.

THE MAORIS DEMAND TEMPERANCE.—A petition, signed by thirty of the Maori chiefs and over sixty other representative natives, was sent to the premier and members of the House of Representatives of New Zealand, praying them to add to the licensing-bill a clause to the effect that no intoxicating drink shall be sold or given to any man of the Maori race. The present law provides that "it shall not be lawful for any person whomsoever either to sell or to supply or to give any intoxicating liquor to any person of the native race within any native licensing district;" but as there are only three such districts in the colony, and thirty thousand natives in New Zealand, it is asked that this protection be granted to all their people.

ANOTHER VICTIM OF THE CORSET.—The London *Lancet* reports the case of a death which was at least indirectly traceable to tight lacing. A young woman to whom laughing-gas had been administered by a

dentist, after the operation had been completed, and the gas withdrawn, was suddenly seized by a fatal attack of syncope. Investigation showed that the unfortunate girl was wearing a corset five inches smaller than her body, and death occurred in this case from the inability of the lungs to introduce a sufficient amount of air into the body to maintain the vital process. It is not often that death can be traced directly to the use of the corset, but it is nevertheless an unquestioned fact that thousands of women are annually suffocated by this modern instrument of torture.

THE VALUE OF VACCINATION.—It is a fact worthy of note that while the mortality among children in Great Britain from such diseases as scarlet fever, measles, whooping-cough, etc., remains practically the same as it was fifty years ago, despite improved sanitation and better protective laws for the poor, that from smallpox has decreased over 70 per cent. In those crowded districts of the large cities where vaccination laws are rigidly enforced, smallpox among children has been almost entirely eradicated.

During the Washington epidemic of 1892, only 1.3 per cent. of those who took the disease, having been previously vaccinated, died. Contrast this with the fact that 21.4 per cent. of unvaccinated sufferers succumbed to the disease. What better illustration of the value of this preventive measure could be asked or given?

THE INFECTIOUS NATURE OF CANCER.—A considerable amount of work has of late years been done in the attempt to prove that cancers are produced by some form of parasite, and that they are thus infectious. While much of this has been without result, the attention of keen observers is being fixed upon small round bodies, many times smaller than a red blood corpuscle, which are found, sometimes inside, sometimes outside, the cells. It yet remains to be proved that these little bodies are in any way connected with the causation of cancer, nevertheless a step has been taken in the right direction. Clinical evidence is certainly accumulating to show that cancers are infective. With the present improved methods of research, we may look for the solution of this and many kindred problems.

HUMAN MANIKINS.—The *British Medical Journal* calls attention to the evils of cigarette smoking and the use of tobacco in general upon boys and young men, and declares that schoolboys should

be taught that premature indulgence in tobacco, whether in the form of cigarettes or any other, "is likely to make them grow up into manikins rather than men." This idea ought to be impressed upon the mind of every boy and young man in the land, and it ought also to be made clear to older men, that what is bad for a boy of twenty must be bad for a man of twenty-one, twenty-five, or a greater age.

BOILED DRINKING-WATER NOT A MODERN INVENTION.—To many persons the idea of boiling drinking-water as a precaution against disease appears to be not only novel, but, from the indifferent way in which the suggestion is treated, to be considered quite absurd. It may help such persons to know that the practise of boiling water to render its use safe is as old as Kyros, the great king of Persia. According to Hérodoteus: "Whenever the great king travels, he is attended by a number of four-wheeled cars drawn by mules, in which the Choaspes [river] water, ready boiled for use and stored in flagons of silver, is moved with him from place to place."

NUTRITIVE VALUE OF CORN-MEAL.—Professor Atwater, who has for many years been engaged in investigations relating to foods for the United States Department of Agriculture, has been led to the conclusion, as the result of exhaustive studies on the subject, that, considered from an economical standpoint, corn-meal has the highest nutritive value of all foods. Ten pounds of corn-meal contains more than eight pounds of actual nutriment, while the same quantity of potatoes possesses but three and three-fourths pounds of nutrient material.

CONCENTRATED MILK.—A writer in the *British Medical Journal* has called attention to the value of concentrated milk in certain forms of diarrhea and in wasting disease, and especially in cases in which the patient is unable to take other nourishment, and cannot take a sufficient amount of milk in its ordinary, diluted form to meet the demands of the body. Concentrated milk is prepared by evaporating the milk in a porcelain dish over some suitable heating apparatus, care being taken to see that the liquid does not boil and to stir it continually. By this means cream is prevented from rising, and the evaporation is not delayed by the formation of a scum over the surface. With proper apparatus and attention, milk may be reduced to one half its volume in one hour.



A NEW FOOD FOR DIABETICS.—Until recently the almost universal prescription for persons suffering from diabetes has been a meat diet, it being well known that the leading symptom of this disease was the presence of sugar in the urine, which is aggravated by the use of starchy foods. Within the last few years, however, eminent French physicians have pointed out the fact that in the exclusive or free use of meat there is great danger of so filling the system with a class of poisons which abound in meat, and which are known as leucomains and ptomaines, as to produce death by diabetic coma, the first symptom of which is drowsiness, which rapidly increases until the patient passes into a condition of profound stupor, and dies.

Gluten derived from wheat, the nitrogenous principle of the Soja bean, and the casein of milk, have been substituted for meats with advantage. But the patient tires of these substances, which, by their means of production, are necessarily deprived of their natural flavors, and consequently do not appeal to the palate in an appetizing way.

As the result of a long series of expensive experiments and investigations, it has been found possible to prepare from nuts a food which answers perfectly the requirements of a person suffering from diabetes. This food, known as nuttose, closely resembles meat, both in its appearance and flavor. Its composition is as follows:—

Proteids,	15
Vegetable fat,	23.3

with a very small proportion of soluble starch and dextrin. It also contains an abundance of the salts, phosphates, etc., which accompany both vegetable and animal proteids, and hence is a perfect food. Nuttose is furnished in hermetically sealed cans, in which it will keep indefinitely. It may be opened at one end and the whole contents slipped out in the

form of a solid roll, which may be cut in slices and eaten cold like roast beef or mutton, as it is thoroughly cooked; or the nuttose may be cut into cubes and stewed slowly in a double boiler, like beef or mutton, to which it has a remarkably close resemblance. Nuttose may be combined with tomatoes, cabbage, and other vegetables, although of course diabetics must avoid vegetables containing a large proportion of starch.

Nuttose being a complete food, produced in the laboratory of nature, and not a bungling artificial admixture of food elements gathered from various sources, it may be relied upon as a staple article of diet by diabetics. It is very digestible, especially when stewed. The large amount of fat which it contains renders it a most excellent means of combating the tendency to emaciation which exists with diabetics. The fat is in a state of perfect emulsion, and not in the form of free fat, as in butter, oils, and the fat of fat meats. On this account it is much less likely to disturb digestion than other fat-containing foods; and being of vegetable origin, it is wholly free from the poisonous elements which abound in meats of all kinds, and which render flesh foods, except in very small quantities, dangerous to patients suffering from diabetes.

Nuttose is equally well adapted to the use of persons suffering from Bright's disease, consumption, anemia, and all wasting diseases. It quickly dissolves in the stomach, contains no fibrous tissue, cartilage, or other substances, possessing in this respect the characteristic of a meat powder or meat pulp, from which all fibrous tissues have been carefully removed. Nuttose is likely to prove one of the most important articles which has recently been added to the list of food substances adapted to human stomachs.

CURE FOR LEPROSY.—Dr. Goldschmidt reports the cure of a case of leprosy by the use of euophen. The leprosy patches were rubbed with a solution consisting of five parts of euophen with ninety-five parts of olive-oil. The solution was applied twice daily, being rubbed for ten minutes. This is considered the first case of this disease that has ever been treated successfully.

HYGIENE OF THE MOUTH.—Everybody ought to know that the mouth is a first-class breeding-place for germs. The coat on the tongue, the tartar which accumulates about the teeth, the yellow coating on the teeth, and the bad taste in the mouth, are all due to germs. In persons who breathe through the mouth the accumulation of germs upon and about the teeth is much greater than in those who carefully avoid mouth-breathing, for the reason that when the air is drawn in through the nose, the germs are filtered out; the outgoing breath being found to contain no germs.

Particles of food which accumulate between the teeth afford a fertile soil for the development of germs; hence the importance of cleanliness. The teeth should be thoroughly brushed and cleansed immediately on rising in the morning, just before retiring at night, and before and after each meal. Cleansing after the meal is quite as important as cleansing before the meal. Carious teeth should receive immediate attention, as tuberculosis and other diseases sometimes find entrance to the body through the medium of decayed teeth.

BALSAM OF PERU FOR SCABIES.—Scabies, or, as the disease is more commonly called, "itch," is not always easily cured. The common remedy, sulphur, used in the form of an ointment, is by no means so radical a cure for this trouble as is sometimes supposed. It not infrequently gives rise to a great amount of irritation when repeatedly applied. Huchard has found that the balsam of Peru, a very simple, not disagreeable, and easily applied remedy, is the most effective of all means for destroying this parasite. The balsam is painted upon the skin at night, and gently rubbed into the whole body with the hand, and in the morning a warm sulphur-water bath is taken. The balsam is not removed until the cure is found complete.

CONTAGIOUSNESS OF CONSUMPTION.—The evidence of the contagiousness of consumption has long been so complete that at the present time no intelligent physician can be found who doubts that

this disease is always contracted by contagion or infection from some person or animal suffering from the disease. Radical measures are being taken by the public health authorities of various States, looking toward the prevention of the extension of this malady. In Michigan, the State Board of Health has secured the enactment of a law requiring physicians to report all cases of this disease the same as cases of typhoid fever, smallpox, and other contagious maladies. The city council of Baltimore has recently enacted an ordinance requesting physicians to report cases of consumption to the city board of health. Similar measures have been taken in various European cities. This subject is certain to receive far more attention in the future than it has in the past.

POISONS IN CHEESE.—Some years ago Professor V. C. Vaughn, of Ann Arbor, Mich., announced the discovery of a very deadly poison in cheese, known as tyrotoxicon. This poison is found in certain cheese, in doses sufficient to produce deadly effects, and in small amounts in all cheese. It is announced that Professor Vaughn has recently discovered another poison in cheese.

THE PROPER CARE OF INFANTS.—So enormous is the death-rate among infants under one year, and so frequently is the cause of death improper feeding, that the French government has made it a law that any one giving an infant under one year solid food, shall be severely punished. Another section of this law forbids nurses from using, in the rearing of infants confided to their care, at any time or under any pretext whatever, nursing-bottles provided with rubber tubes.

FOR ACNE.—One of the most annoying and obstinate of skin maladies is that very common affection, acne of the face. It is especially common in young persons. The following method of treatment will be found very successful:—

1. Bathe the face in hot water until the skin is reddened and soft.
2. Squeeze out every comedone, and puncture and empty the pustules.
3. Wash the face thoroughly with an alkaline soap. Rinse with pure water, and then apply a hot solution of bichlorid of mercury, one part to two hundred, or a one-half to two per cent. solution of formalin, sponging the face with this solution for from five to ten minutes. Finally, cover the face with sulphur ointment, and leave on overnight.

ANSWERS TO CORRESPONDENTS.

PAIN IN THE SIDE—HEARTBURN, ETC.—H. W., Cal., writes as follows: "1. I am fifty three years old, and live an active life. I am troubled with pain in the right side most of the time. Is the liver probably affected? 2. I have a slight heartburn occasionally. What can I do to relieve it? 3. I have considerable pain in the bowels, worse at night and in the early morning. What is the probable cause? 4. Would some of the Battle Creek Sanitarium health foods be of benefit to me?"

Ans.—1. Pain in the side is not an indication of a diseased liver. The liver may be diseased, but pain is probably due to some trouble of the stomach or duodenum, with resulting irritation to the sympathetic nerve.

2. Use a dry and antiseptic dietary. Granose would be excellent for such a case. Fomentations over the stomach at night, followed by a moist abdominal bandage worn during the night, would be beneficial.

3. Indigestion.

4. Granose, granola, water biscuits, whole-wheat wafers, granose cakes, are a suitable diet for such a case.

BICARBONATE OF SODA IN MUSCULAR RHEUMATISM—SODA BATHS—AMMONIA BATHS, ETC.—G. C., N. Y., asks the following questions: "1. Is bicarbonate of soda of benefit used internally in cases of muscular rheumatism? 2. Is a soda bath proper in cases of rheumatism? 3. What temperature should it be? 4. Should friction with a towel be used after it? 5. Is the ammonia bath healthful? 6. How often should it be taken? and at what temperature? 7. What are the merits of the salt bath? 8. Would you recommend the cold morning bath for a nervous person? 9. How often should such a person take it? and at what temperature?"

Ans.—1. Temporary relief is sometimes afforded by the use of this remedy, but the most important remedy is water used abundantly.

2. Yes.

3. Hot baths are most beneficial, such as produce vigorous perspiration.

4. Yes.

5. Most any kind of bath is beneficial for rheumatism.

6. In acute cases baths are needed very frequently, daily or even several times a day. The temperature should be sufficiently high to cause vigorous sweating.

7. The addition of salt to the water increases the stimulating effect upon the skin to some degree, but good effects may be obtained from pure water.

8. Nervous persons should avoid the application of water at too low a temperature.

9. Tepid baths may be taken daily with advantage.

ENLARGED LIVER—CONSTIPATION—SOUR STOMACH, ETC.—W. L. S., Ill., inquires: "1. Is there any help for an enlarged, sluggish liver, other than to take pills or something to act upon the liver and evacuate the bowels? 2. Is there any food or home treatment which will benefit a patient troubled with constipation and a sour stomach? 3. She

also has palpitation of the heart, which is quite severe when lying down. What is the probable cause?"

Ans.—1. Pills do not cure an enlarged or inactive liver; the more pills taken, the worse the liver. The bowels should be evacuated by the enema, if necessary. See "The Stomach: Its Disorders and How to Cure Them," for instruction as to how to cure constipation.

2. Granose is an excellent food remedy for constipation.

3. Indigestion.

CHRONIC COUGH.—Miss C. Mc K., Conn., writes as follows: "I have had a cough for several years. I cough a great deal in the morning, and raise considerable light, frothy mucus, but do not cough at night, and very little during the day. Is this what is called a stomach cough?"

Ans.—Your cough is probably sympathetic, and due to disturbance of the sympathetic nerve; it may be the result of indigestion.

SOLUTION FOR CATARRH—FOODS, ETC.—Miss T. B. H., Ill., asks: 1. "What solution would you recommend as a nose wash for catarrh? 2. What foods outside the Battle Creek Sanitarium health foods have the most nourishment, and are best suited to one who has no chance to cook them? 3. Does honey have any effect on constipation?"

Ans.—1. We do not often recommend cleansing the nose with solutions; vapors are best. We commend the Perfection Vaporizer, Sanitary Supply Co., Battle Creek, Mich.

2. Zwieback, crackers, and water biscuits.

3. Honey seems to be slightly laxative to some persons. It is not wise to use it freely.

HEARTBURN—CONSTIPATION, ETC.—R. J. F., Ont., writes: "I have suffered for many years from heartburn and water-brash. I am subject to bilious attacks and constipation. Can you help me?"

Ans.—Yes. We advise a visit to a sanitarium. You probably have dilatation of the stomach. You ought to have a test meal.

LOSS OF FLESH—NERVOUSNESS—LOSS OF MEMORY, ETC.—B. O. T., Iowa, writes as follows: "My sister, nineteen years of age, has always been healthy until last fall, when she was caught out in a cold storm. Her first symptoms were a general bad feeling, accompanied with numbness, particularly in the ends of the fingers. She has since lost greatly in flesh, and is extremely nervous. Her memory has grown dim and unreliable, and she thinks some one is exerting a hypnotic influence over her. She does not sleep all night. Please advise what to do."

Ans.—The case is probably one of hysteria. We advise a course of treatment at a sanitarium.

WEANING AN INFANT—FEEDING—GRANOLA, ETC.—"A Mother," N. C., asks the following questions: "1. At what age should an infant be weaned? 2. When may food pro-

erly be given in connection with the mother's milk? 3. Would you advise giving granola to an unweaned infant of seven months? 4. Can the Battle Creek Sanitarium Health Foods be procured in Boston, Mass.?"

Ans.—1. This depends somewhat upon the season of the year. As a rule an infant may be nursed advantageously for at least a year.

2. When the child begins to cut teeth.

3. Yes.

4. Our health foods are not yet placed on sale in Boston.

TICKLING SENSATIONS IN THE THROAT—CRAMP IN STOMACH, ETC.—C. T. W., Ill., asks the following questions: "1. I occasionally have a tickling sensation in the throat which almost deprives me of breath. During such an attack it is difficult for me to speak, and my eyes water. Is this asthma? 2. Please outline treatment. 3. A friend has a peculiar cramping feeling in the stomach about two hours after eating. He eats a great deal of meat and grease. Is this the beginning of dyspepsia? 4. Would you recommend the Sanitarium health foods for such a case? 5. My mother has erysipelas. She treats it with a solution of sugar of lead. Is this proper treatment? 6. Is there any radical cure for erysipelas? 7. What is the composition of Piso's Consumption Cure and Hood's Vegetable Pills? 8. Would you advise the use of either?"

Ans.—1. No.

2. You ought to use a vaporizer several times daily. You can obtain one from the Sanitary Supply Co., Battle Creek, Mich. Also gargle the throat with hot water several times daily, and apply a cold pack at night.

3. No, not the beginning, but the fully developed disease.

4. Yes. The patient should stop eating meat and grease and adopt a simple dietary. We recommend granose as being especially suitable.

5. The remedy named is sometimes beneficial.

6. Simple dietary and such habits of life as promote purity of blood.

7. See appendix to "Home Hand-Book" or "Monitor of Health," Modern Medicine Pub. Co.

8. No.

BROKEN RIB.—H. C. M., Cal., writes thus: "A short time since I was boring a piece of iron, using a drill and brace, and bearing on with my hand between the brace and my breast, when something snapped like a small piece of wood breaking, just a little above and to the left of the heart. In an hour or so there was manifest pain in that locality, increasing so that by the next morning it was difficult to get about, as the jar of walking caused so much pain. The pain and soreness continued for about eight or ten days. Now I feel it only when strong pressure is made over the place. The same thing occurred about twenty years ago. Is it a broken rib?"

Ans.—Probably, or it may be simply a separation of the rib and cartilage. Recovery from an injury of this kind usually occurs in a few days.

CONSTIPATION—HEADACHE—PALPITATION OF THE HEART, ETC.—Miss L. G., Mich., writes concerning her

mother, who is fifty years of age, and troubled with constipation, headache, fluttering and palpitation of the heart, eructation of gas accompanied with bloating of the abdomen, and faint spells. She asks, "Is this a case of stomach trouble?"

Ans.—Yes. We recommend granose, bromose, and nuttose as suitable foods for such a case. Fomentations over the stomach at night, followed by a wet girdle worn during the night, would probably prove beneficial.

ENLARGED TONSILS IN A CHILD—WHEEZING, ETC.—Mrs. A. R., N. Y., writes thus: "1. My little girl, aged three years, is greatly troubled with her throat. She takes cold easily, and it usually settles in her throat. She suffers from enlarged tonsils, and wheezes and rattles in breathing a good deal of the time. She has croup at times, and complains of earache. I give her a bath several times a week, usually at night, rubbing thoroughly afterward, but her cold seems worse every time after it. What sort of treatment ought I to give her? 2. Does the Battle Creek Sanitarium Health Food Co., manufacture malted milk?"

Ans.—1. Apply fomentation to the throat and chest at night, followed by a wet compress to be worn during the night, taking pains to cover it well. Use the Perfection Vaporizer every two hours during the day with the B. C. M. E. W. solution. This vaporizer is to be obtained of the Sanitary Supply Co., Battle Creek, Mich. The tonsils may have to be removed. A cool sponge bath should be given every morning.

2. We do not manufacture malted milk. Our bromose is chiefly used in place of malted milk.

PAIN IN COCCYX AND SACRUM.—P. S. A., Vt., writes regarding the case of a lady who experiences much pain in the coccyx and lower portion of the sacrum when sitting in a chair, also when attempting to rise from a chair. The patient has never borne children. Is it nervous trouble?

Ans.—This condition may be due either to a nervous affection, or disease of the bone or ligament. The patient should consult a good physician. An operation is sometimes needed. Hot fomentations applied twice a day and strong applications of electricity are most likely to be beneficial.

ACNE.—Mrs. M. E. A., Iowa, writes thus: "My daughter, nearly fifteen, has acne. What is the cause of it?"

Ans.—Probably disturbed digestion.

THE KOLA-NUT.—Mrs. M. H. E., Ill., inquires: "1. What is the kola-nut? 2. Is kola a harmless stimulant?"

Ans.—1. It is the fruit of a tree which grows in Brazil and the West Indies.

2. It is an intoxicating narcotic drug, and not to be recommended for general or continuous use.

ICE-CREAM.—M. S., Ind., inquires: "Is ice-cream injurious?"

Ans.—Yes.

RELIEF DEPARTMENT.

[This department has been organized in the interest of two classes:—

1. Young orphan children, and
2. The worthy sick poor.

The purposes of this department, as regards these two classes, are as follows:—

1. To obtain intelligence respecting young and friendless orphan children, and to find suitable homes for them.
2. To obtain information respecting persons in indigent or very limited circumstances who are suffering from serious, though curable, maladies, but are unable to obtain the skilled medical attention which their cases may require, and to secure for them an opportunity to obtain relief by visiting the Sanitarium Hospital. The generous policy of the managers of the Medical and Surgical Sanitarium has provided in the Hospital connected with this institution a number of beds, in which suitable cases are treated without charge for the medical services rendered. Hundreds have already enjoyed the advantages of this beneficent work, and it is hoped that many thousands more may participate in these advantages. Cases belonging to either class may be reported in writing to the editor of this journal.

It should be plainly stated and clearly understood that neither orphan children nor sick persons should be sent to the Sanitarium or to Battle Creek with the expectation of being received by us, unless previous arrangement has been made by correspondence or otherwise, as it is not infrequently the case that our accommodations are filled to their utmost capacity, and hence additional cases cannot be received until special provision has been made.

Persons desiring further information concerning cases mentioned in this department, or wishing to present cases for notice in these columns, should address their communications to the editor, Dr. J. H. Kellogg, Battle Creek, Mich.

He wishes especially to state that those who apply for children will be expected to accompany their applications by satisfactory letters of introduction or recommendation.]

No. 342 is a young girl sixteen years of age, who is in need of a home. She has blue eyes and light hair, has had good care and training, and has always lived in the country. Her mother has tried to keep the family together, but on account of failing health is not longer able to do so. Good homes have been found for the other children in the family. Is there not a home near one of our schools that will open its doors to this girl, where she can have the opportunity to get an education, and thus prepare herself for future usefulness?

No. 349 is a little boy seven years of age, with blue eyes and light hair, now living in Missouri. He has had good training, has not been allowed to run on the streets, and has no bad habits. His mother is in poor health, and having to work out by the day, is not able properly to care for him. We doubt not, if he is surrounded by good influences, and receives proper instruction, that he will be an honor to those who will thus direct his steps in the right path.

No. 351 is a boy ten years of age living in Pennsylvania. The father died, leaving the mother with

five children to care for. Living in a large city, the mother finds it hard to train her boy without a father's guidance. Will not some Christian father and mother living in the country give him the surroundings of a good home? He has blue eyes and light hair, and is in good health.

No. 353 is another healthy little boy about two months old, also living in Michigan. He has black hair and dark blue eyes.

No. 356 is a little boy seven years old living in Michigan. He has blue eyes and dark hair. He has not been allowed to run the streets, and had good care while his mother lived. His father cannot give him proper care and training, as he is away from home all day. Will not some good home open its doors and receive him, thus giving him the influence of Christian surroundings?

No. 360 is a Kansas boy twelve years of age. His father deserted him sometime ago, and his mother is not expected to live much longer. Hence she is anxious to see the child placed in a good home. He is large and strong, and in good health. He has blue eyes and light-brown hair.

No. 365.—Here is a boy ten years old living in Indiana. He is very much in need of a good home and a mother's care. He has dark eyes and hair, and is in good health. His father has to work out by the day, and cannot give him proper training. No doubt some home would be brightened by his presence, and that with the influence of Christian surroundings, he would prove a blessing to those who would thus open their hearts to receive him.

No. 366 is a girl ten years of age, with blue eyes and dark hair. She is said to have an amiable disposition, and has had good training. Her father is dead, and the mother having to work away from home all day, the child is thus left alone. The mother is anxious to have her placed in a good Christian home, where she will have proper care and training. She is at present living in Pennsylvania.

No. 367.—Here is a bright active boy seven years of age, who is in need of a good home. He has been well cared for, but his mother having to work out cannot properly train him. He has blue eyes and light hair and has a pleasant disposition. He is living in Michigan.

Nos. 369-374.—This is a group of six children ranging from three to fifteen years, who are very much in need of homes. Their mother is dead, and the father being in very poor circumstances, cannot care for them. Two girls, aged fifteen and eleven respectively, have blue eyes and brown hair. The boys, aged nine, seven, five, and three years respectively, have blue eyes and light hair. They have had the training of a good Christian mother, and although the father is not a professor of religion, he desires to have his children brought up in Christian families.

No. 375 is a nice little girl eight years old. She is a bright child, and has an affectionate disposition. Both parents are living, but as her mother has deserted her, and her father's health is failing rapidly, she is just as needy as any orphan. She has blue eyes and light hair.

Nos. 376 and 377 are two little girls aged twelve and nine years respectively, with black eyes and hair. The mother has tried to keep the family together, but as she is in very poor health she can no longer support them. These children are said to be easily controlled, and no doubt would brighten and cheer some home. They are now living in Nebraska.

WE are receiving a large number of letters from mothers who have been left in destitute circumstances with from one to five children to support, making application to have their little ones received into the Haskell Home, and asking that they themselves be employed in some of the institutions here.

Some of these mothers could find employment where they are if temporary homes could be found for their children. In some instances the mothers are able to pay something for their support. Are there not Christian homes that would take in one or more of these children, and thus help relieve their overburdened mothers?

THE group of children advertised as Nos. 344, 345, 346 have all been placed in homes. The girl went to a good home in Wisconsin. One of the boys went to a nice home in New York, and the youngest one has been placed with a good family in Michigan. We were glad to learn that they had reached their new homes safely, and that they are all so well provided for.

THE little baby boy advertised as No. 352 has also been placed in a home. His new mother is very much pleased with him, and thinks him a very

sweet baby. We hope that with the surroundings of a nice country home and a Christian mother his feet will be led in the right path, and that he may grow up to usefulness.

WE are in receipt of a letter from a lady in Minnesota, in whose home we placed a little girl advertised in these columns a few months ago. She writes as follows:—

The little girl of whom you wrote me some time since, I have just received. I like her real well, and expect to keep her. I have had her less than a week, but love her already.

PERSONS making application for children advertised in this department, are requested to send with their applications the names and addresses of two or more persons as reference. If possible, these should be known, either personally or by reputation, to some member of the Board of Trustees.

VISITING DAYS AT THE HASKELL HOME.—Persons intending to visit the Haskell Home will please note that the visiting days are Sundays and Wednesdays, from 4 to 6 P. M.

CLOTHING FOR THE POOR.

THE call for clothing of all kinds and the numerous offers to supply assistance of this sort, have led us to organize a Clothing Department to receive and properly distribute new or partly worn garments which can be utilized for the relief of the very poor. In connection with this work it is very important that a few points should be kept in mind and carefully observed:—

1. Clothes that are so badly worn that repairs will cost more in money or labor than the garment is worth, will of course be of no service. Garments that are old, though faded, or which may be easily repaired by sewing up seams, or made presentable by a few stitches judiciously taken at some point in which the fabric is nearly worn through, may be utilized to most excellent advantage. But garments so badly worn that they need extensive patching, or clothes which have become much soiled and grimy by long use in some dirty occupation, should find their way to the rag bag instead of the missionary box.

2. Freight must always be prepaid. It costs as much to send 25 pounds or any amount less than 100 pounds as to send the full 100 pounds; consequently it would be well for those who think of sending clothes to be used in this department, to put their contributions together in one shipment, so as to get the benefit of the 100-pound rates. *We are obliged to ask that freight should be prepaid as a means of preventing loss to the work in the payment of freight upon useless packages.*

3. Clothes that have been worn by patients suffering from any contagious disease—such as typhoid fever, erysipelas, consumption, and skin disorders of all sorts, as well as scarlet fever, measles, mumps, diphtheria, and smallpox—should not be sent. Infected clothes may be rendered safe by disinfection, but we cannot trust to the proper disinfection of such garments by those sending them, who, in the majority of cases, are quite inexperienced in such work; neither should those who unpack the clothes be exposed to the risk of contamination while preparing them for disinfection at this end of the line. Such clothes should, as a rule, be destroyed. If they are not destroyed, almost infinite pains is required to render their use perfectly safe.

4. All articles received here are carefully assorted and classified, and are then placed as called for, where they will do the most good.

5. Clothing intended for the Chicago mission should be sent to Medical Missionary College Settlement, 744 47th St., Chicago, Ill.

LITERARY NOTICES.

THOSE who desire to be thoroughly posted on the great issues now before the country cannot afford to be without the *July Arena*. The question which undoubtedly takes precedence over all other questions at the present time is the money question. This subject is exhaustively dealt with; the editor, Mr. B. O. Flower, in addition to some stirring editorials, contributing two remarkably strong papers to this controversy, one of which embodies the views of such prominent and authoritative thinkers as the noted financier and banker, Jay Cooke; Wm. P. St. John, president of the Mercantile National Bank of New York; and Judge Walter Clark, LL. D., of the Supreme Bench of North Carolina. H. F. Bartine, in a closely reasoned and well-written paper, replies to a recent article in the *Forum*, by M. Paul Leroy Beaulieu, in favor of gold monometallism. Mr. Bartine makes a strong case for the white metal, and refutes M. Beaulieu's arguments in a clear and logical manner that is calculated to bring conviction to unprejudiced minds. Other economic and social problems are discussed by live thinkers in this number of the *Arena*.

THE August number of the *New Crusade* deals largely with the question of marriage. J. M. W. Kitchen, M. D., contributes an article on "Marriage from a Medico-Scientific Point of View." A symposium of physicians is held on the age at which marriage is suitable, and the effect of the parent's age on offspring. A paper by Julia Ward Howe discusses "Moral Equality between the Sexes." "Reverence and Its Development" is treated by Mrs. E. G. Green. Other articles of interest fill the pages. This little magazine is keeping up to its level of good work, and must prove a boon to thoughtful parents. Terms 50 cents per year. Wood-Allen Pub. Co., Ann Arbor, Mich.

Table Talk for July is full of useful and helpful suggestions for the home. Its seasonable recipes and menus are of great value to the housekeeper, while many topics of interest to the home-maker are touched upon. Outside of the regular departments are articles on "Household Remedies," by Dora M. Marrell; "Vegetarianism," by Dr. M. L. Holbrook; "A Spring-Blossom Tea," by Mrs. M. E. Myer;

"The Modern Christening;" "The China Closets of the Czarina;" while "Summer Days at the Exchange" describes the latest and daintiest conceits in fancy work and embroidery; and a dress article by Tillie May Forney, tells of what to wear and how to wear it. The publishers offer a sample copy to any of our readers who will send their address to Table Talk Pub. Co., Philadelphia.

STEPHEN FISKE, who probably knew Dickens as intimately as did any American, has been induced to write of "The Personal Side of Dickens," for the September *Ladies' Home Journal*. Mr. Fiske often spent seasons with the famous novelist at Gad's Hill, and his article will describe the incidents of these visits, Dickens's home life, his method of working, and his pastimes. It will possibly surprise Dickens's friends to learn, through Mr. Fiske, that a considerable portion of his library was made up of dummy books, which, however, offered the author a target for some of his delightful satire in giving them titles, and afforded his guests great amusement.

THE *Electrical Review* has just completed its twenty-eighth volume, which contains some of the best newspaper work ever done by a technical journal. In addition to giving thoroughly reliable news of the progress of electrical work in all its branches, the *Electrical Review* has secured in the past six months a large number of unusually valuable and exclusive articles on important subjects. It printed the first official interview with Professor Roentgen, and the only interview with Professor Salvioni, of the University of Perugia, Italy, who made some very interesting and remarkable discoveries on the Roentgen ray.

The *Review* was also the first to give an illustrated description of the new Westinghouse-Baldwin electric locomotive, and obtained the first official interview with Thomas A. Edison on his new fluorescent lamp. This interview was illustrated with a sketch of the lamp made by Mr. Edison for the *Review*. The greatest honor that this journal has attained is that it was selected exclusively by Nikola Tesla for giving to the world the remarkable series of articles written by him, describing his wonderful progress in X-ray photography and in vacuum-tube lighting. The *Electrical Review*, Times Building, New York.

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THE Battle Creek Sanitarium, which has long been known as the mother of sanitariums, since it has served as the model for so many other institutions of this sort, is enjoying a high degree of prosperity the present season.

Its patronage is greater than ever before at this season of the year, and includes a large proportion of well-known and influential persons, numbers of whom have sought relief in vain at numerous bathing- and watering-places in this and foreign countries, and at the hands of leading specialists in the large cities, but without success, owing to the absence of the conditions essential for relief from the various trying maladies from which they have suffered.

There is probably no other place in the world where the medical advantages and appliances known to modern medical science are so fully represented as at the Battle Creek Sanitarium and the several branches of this institution which have been established in various parts of this country and in foreign lands.

It is frequently remarked by those who visit the institution, that if a man can get well anywhere, he certainly can get well here; and this statement is continually verified by the remarkable recoveries from maladies generally supposed to be incurable, which are constantly witnessed under the admirable regime and management of this great philanthropic institution.

* *

THE editor recently had the privilege of visiting the sanitarium at College View, a suburb of Lincoln, Neb. We were glad to find the superintendent, Dr. Loper, and all connected with the sanitarium, in good health and spirits,

and the work prospering. The institution was completely filled with patients, and a number were occupying rooms outside, and coming in daily for treatment. Improvements are constantly being made, one of the latest additions being an electric-light bath, which will doubtless prove to be a very valuable feature.

* *

THE Battle Creek Sanitarium medical students are now at home from the various medical colleges which they have been attending, and are pursuing their studies at the Sanitarium. There are now about seventy medical students, young men and women, who are preparing themselves for medical missionary work in home and foreign fields.

* *

NUMEROUS improvements have recently been made in the Chicago branch of the Battle Creek Sanitarium. Mr. J. V. Willson and wife, who have recently been put in charge, have renovated the institution from top to bottom, and some additional treatment facilities are being arranged for.

* *

WE copy the following from an extended notice in the *Inter Ocean*, of the recent opening of the new Working Men's Home in connection with the Chicago Medical Mission, which has been carried on under the auspices of the Battle Creek Sanitarium management during the last three years:—

"The Working Men's Home and Medical Mission, new works of philanthropy recently established in larger quarters at 42 Custom-House place, were dedicated yesterday



GLYCOZONE

Both Medal and Diploma

Awarded to Charles Marchand's Glycozone by World's Fair of Chicago, 1893, for its Powerful Healing Properties.

This harmless remedy prevents fermentation of food in the stomach and it cures: DYSPEPSIA, GASTRITIS, ULCER OF THE STOMACH, HEART-BURN, AND ALL INFECTIOUS DISEASES OF THE ALIMENTARY TRACT.

HYDROZONE

IS THE STRONGEST ANTISEPTIC KNOWN.

One ounce of this new Remedy is, for its Bactericide Power, equivalent to two ounces of Charles Marchand's Peroxide of Hydrogen (medicinal), which obtained the Highest Award at the World's Fair of Chicago, 1893, for Stability, Strength, Purity and Excellency.

CURES ALL DISEASES CAUSED BY GERMS.

GLYCOZONE is put up only in 4-oz., 8-oz., and 16-oz. bottles, bearing a yellow label, white and black letters, red and blue border, with signature.

HYDROZONE is put up only in small, medium and large size bottles, bearing a red label, white letters, gold and blue border.

☞ Mention this publication.

SOLD BY
LEADING DRUGGISTS

PREPARED ONLY BY

Charles Marchand

Chemist and Graduate of the "Ecole Centrale des Arts et Manufactures de Paris" (France).

28 Prince St., New York.

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afternoon with appropriate exercises. There was a very large attendance.

"Mr. S. Sherin presided. A chorus of forty medical missionary students furnished the music.

"Dr. J. H. Kellogg, founder of the Home, gave a brief address on the purposes and plan of the work. Dr. Frank Crane, of Trinity Methodist church, spoke eloquently in behalf of more practical work among the neglected classes of men. Bayard Holmes, M. D.; the Rev. Dr. Manss, pastor of the Church of the Redeemer; Mrs. Isabel Wing Lake; and Rev. L. McCoy, of Battle Creek, Mich., gave short, earnest addresses. All were enthusiastic in their words of encouragement to Dr. Kellogg in the work he has undertaken.

"Dr. A. J. Reed, recently returned from medical missionary work in the Sandwich Islands, was present, and is to take charge of the work of the mission. It is proposed to extend this work in the various parts of the city.

"At the conclusion of the exercises, the visitors were shown through the Home, and the work of its departments explained.

"The purpose of the founders of the mission is to furnish a clean, cheery, comfortable home for working men, especially strangers, temporarily unable to find employment. It is conducted under strictly Christian principles, but is entirely undenominational, and all men, without regard to creed, are welcomed to it. To those who are able to pay, a charge of ten cents a day is made, which entitles any one to a night's rest on a woven-wire spring bed, supplied with clean sheets and necessary covering, and in addition, without extra charge, to a meal consisting of soup, bread, and coffee, a tub or shower bath, use of laundry with tubs, hot and cold water, drying racks, and ironing requisites, and medical attendance and drugs if necessary.

"A penny lunch will be maintained, and soup, sandwiches, and other food, well-cooked and wholesome, will be served at one cent a dish.

"A gospel meeting will be held every evening, consisting of singing and preaching, in the chapel on the second floor. There will also be lectures on health and sanitary subjects. The gospel meetings will be in charge of a competent leader, assisted by a corps of earnest Christian workers from the medical college at 4 College Place, this city. From this headquarters a corps of lady medical missionary nurses will also systematically visit the poor, to care for the sick, furnishing them free such treatment in the way of baths, clothing, and medicines as they may need.

"The bath, medical dispensary, and visiting-nurse departments have been in operation since June, 1893, there having been given during a single year 23,000 baths and 17,000 free treatments in the medical dispensary, while 1000 men per month have been using the free laundry, and 4500 poor persons have been assisted by the visiting nurses. There is also, in connection with this work, a social settlement maintained at 744 West Forty-seventh street, where there is a cooking- and sewing-school, kindergarten, kitchen-garden, and mothers' meetings, for the benefit of the better classes of the poor. Hundreds of children and parents have availed themselves of these privi-

leges. This department is to be extended as the necessities demand.

"For a long time Dr. Kellogg and his associates had tried to decide upon the best thing to be done for the hundreds of unemployed men who visit the home and mission, and at last it was decided to secure a large tract of land near Chicago, upon which a number of these men could be put to work during the summer months, cultivating vegetables and small fruits. It was not long until a good friend of humanity gave the doctor a deed to a farm worth \$16,000. It is situated in one of the richest farming districts of Illinois, about seventy-five miles from Chicago. Five hundred men can be given work on this farm, as it is to be turned into a garden.

"This, briefly, is the history of the work and growth of one of Chicago's best philanthropic institutions."

* * *

THE Colorado Sanitarium, at Boulder, Colo., was dedicated July 1, with appropriate ceremonies, and the following program:—

Anthem.....	Hear Our Prayer, O Lord.
Introductory Remarks.....	A. R. Henry.
Prayer.....	Rev. A. H. Tevis.
Anthem.....	Light of the World.
Addresses—Mayor Ricketts, Rev. O. A. Olsen, Rev. A. H. Tevis, Hon. James P. Maxwell, J. H. Kellogg, M. D.....	
Anthem.....	God Be Merciful.
Benediction.....	F. M. Wilcox, Chaplain.
.....	Inspection of Building.....

At a meeting of the local board, held in connection with the dedication, several important steps were taken, among which may be mentioned the organization of the faculty, with Dr. W. H. Riley as chairman, and also a managing committee.

The next day after the dedication, by the courtesy of Dr. Place, the visitors enjoyed a mountain ride through Sunshine and Boulder cañons. There are but few localities which present such a variety of interesting and romantic mountain scenery as Boulder.

Although just opened, the main building of the institution is nearly filled with patients. The appliances for treatment are not yet completed, but are being rapidly gotten into complete readiness, so that efficient work is already being done.

We think it may be said without exaggeration that at the present time there is no other place in the world where a consumptive can have so excellent an opportunity for recovery as at the Colorado Sanitarium. The invalid under treatment at this institution enjoys not only the advantages of the unrivaled climate of the Rocky Mountain region, but the benefit of all the facilities for the medical management of pulmonary ailments known to modern medical science. The mile-high climate of Boulder is one of essential value in the treatment of tubercular disease of the lungs. It is at the same time a highly beneficial adjuvant in the management of a large number of chronic ailments, especially disorders of the stomach and liver.

Dr. Place has worked earnestly and successfully in building up the work at Boulder; and in leaving that work to take

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charge of a pioneer medical mission in India, he will be missed by a multitude of friends, many of whom expressed themselves as quite unreconciled to his leaving the work which has been so rapidly and successfully developed under his care.

By vote of the local board of managers, in compliance with the recommendation of the Medical Missionary Board, the faculty of the Colorado Sanitarium was increased by the addition of Drs. W. H. Riley, Kate Lindsay, G. W. Burleigh, and Mrs. D. W. Read. There is an exceedingly hopeful outlook for a most successful and useful future for the Colorado Sanitarium.

* *

DR. BELKNAP reports for the Portland Sanitarium a houseful of patients, a large number of surgical cases on hand, and so much work that another physician is very greatly needed.

* *

We are glad to learn personally from the Rev. Howland and wife, who recently visited the Sanitarium at Battle Creek, of the prosperity of the medical mission connected with the Guadalajara Sanitarium, and of the good health and courage of all the workers there.

* *

THERE is opportunity for a splendid sanitary work in every State of the Union, and in many points in Europe. Indeed, a sanitarium has long been called for in China, and another in India. It is hoped that before long the latter may be an accomplished fact. Mr. D. A. Robinson, the advance agent of the medical mission which it is proposed to establish in India, with a sanitarium for its headquarters, writes us that the foot-hills of the Himalayas afford an exceedingly favorable location for a successful sanitarium. A medical corps is already being fitted out for the purpose of establishing the work in India.

* *

MR. M. H. JOHNSTON and wife (Sallie Hawes Johnston) have recently left Battle Creek to engage in self-supporting medical work in Asheville, N. C., which presents a very favorable field for such work. Their numerous friends in Battle Creek wish them much success in their labors.

* *

A DELIGHTFUL OUTING.—Frequently during the summer season, it is the custom of the Sanitarium management to give the numerous patients of that institution outings at Lake Villa, on Goguac Lake. These are regarded by all participants as very pleasant occasions.

Special trains on the Citizens' Electric Street Railway are chartered by the Sanitarium, and all patients are given free transportation. For those too feeble to ride on the cars, carriages are provided.

Once arrived at the lake, guests find themselves surrounded with nature's most beautiful environment, and numerous facilities for genuine, but not dissipating, enjoyment. A large steamer is chartered for the day, and all guests are given the opportunity of taking a delightful trip around the lake. Here provision is also made for the feeble, they being lifted, "wheel-chair and all," onto the lower

deck, by strong arms and willing hands. A flotilla of sail and row boats affords abundant facilities for those desiring amusement in this line.

After a most enjoyable forenoon spent in boating, and a variety of entertaining exercises, the company is usually called to order about 1 p. m. just in front of the Villa, and in full view of the ever-beautiful Goguac, where an interesting musical and literary program is presented. This completed, a bountiful dinner is served at 2 p. m. on the broad veranda of the Villa, to which ample justice is done by the several hundred hungry patients. After dinner, while reclining in hammocks, cots, and chairs, beneath the grateful shade, the guests are entertained by various aquatic sports and contests in front of the Villa. The afternoon is further occupied by such a variety of entertaining exercises and recreations as cause the few remaining hours to pass all too swiftly away. At 4:30 p. m. the first train leaves for the Sanitarium, and at 5:30 the second. Shortly after six, all are comfortably "at home" again at the "dear old Sanitarium on the hill," glad to have spent the day so pleasantly, but delighted, too, to have safely returned.

Thursday, July 16, was the occasion of such an outing, which was pronounced by all so fortunate as to be present, one of the most successful ever given by the institution. The literary program was especially fine, the contributors being made up entirely from prominent people now sojourning at the Sanitarium. Among these may be mentioned the Rev. S. Sherin of St. Paul, Minn., well known as one of the organizers of the National Education Association; the Rev. F. P. Culver of Anniston, Ala., one of the most able young divines of the South; the Rev. Lewis C. Sheafe, a cultured and eloquent colored clergyman from Urbana, O.; the Rev. Dr. F. W. Colgrove, late president of the Ottawa (Kansas) University; Professor A. B. Prescott, the eminent chemist of Michigan University; and the Rev. Dr. C. F. Ames, of Boston, the brilliant successor of the Rev. Dr. James Freeman Clarke.

* *

A NEW FOOD FOR DIABETICS.—Since the discovery that a flesh diet is dangerous for diabetics, often giving rise to diabetic coma, numerous attempts have been made to find a suitable substitute.

The Sanitas Food Co., of Battle Creek, Mich., has finally perfected a food which exactly fills this want. This food, known as nuttose, is made entirely from nuts. It is nearly as rich in proteids as beef, containing from 15 per cent. to seventeen per cent. of this necessary food element. In addition to this it contains 30 per cent. of fat.

Nuts contain almost no starch, the amount contained being so small that it may be entirely ignored.

Nuttose supplies carbonaceous food in the form of fat, in a state of perfect emulsion, and the proteids in a state of extremely fine division, so that it quickly dissolves in the digestive fluids. It is one of the most easily digestible of foods.

Nuttose closely resembles beef or mutton in appearance and flavor, can be prepared in all the different ways in which meat is prepared, and is a delicately flavored, highly relishable food. It is, on this account, greatly superior to

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the various gluten preparations which have heretofore been offered as the only alternative for a meat diet.

Nuttose is certain to prove a godsend to thousands of diabetics. It is furnished at a very moderate price, less than any reliable gluten preparation. Its nutritive value, in the form in which it is furnished, is twice that of beef, mutton, or chicken. It is put up in one and one-half pound cans, hermetically sealed, and will keep indefinitely.

For a nice sample, address Sanitas Food Co., Battle Creek, Mich.

* *

THE Battle Creek Sanitarium Health Food Co. finds its facilities severely taxed to meet the growing demand for its products. Within the last few months, a number of carload orders have been received from New York City and other Eastern points. The foods are rapidly growing in favor wherever they are introduced. The special characteristics of these foods are their excellent quality, their genuine merit, their moderate price, and their exact adaptation to the special conditions for which they are recommended. Caramel-cereal is generally accepted as the most perfect substitute for coffee in flavor and aroma which has ever been devised. Many persons find it hard to convince themselves that they are not sipping genuine Mocha or Java. These peculiar characteristics of caramel-cereal are not due to any artificial flavoring or other substance added, but to the method of manufacture, whereby natural and agreeable flavors are developed.

* *

THE Sanitarium Health Food Company has recently equipped an extensive canning-establishment, in which it is putting up a very fine line of canned goods. The output of the canning department the present season will not be very large, but it will be exceedingly choice.

The canning-factory, as well as other branches of the health food department, is conducted with special reference to the healthfulness and purity of its products. The coloring matter, chemical preservatives, and other artificial and foreign substances so commonly used in connection with canned goods, are strictly avoided, so that every can of the output of the Battle Creek Sanitarium Food Company's cannery may be relied upon as absolutely pure. The delicate flavor and fine appearance of these goods are due to the fact that from the beginning to the end of their production, the greatest care is taken to secure the very choicest products possible. The best varieties of seeds are selected. The crop is grown on land especially adapted to it, selected from the five hundred acres of splendid farming land comprised in the Sanitarium farms, which include every variety of soil, from the blackest muck to the heaviest clay or the warmest sandy loam.

The canning is under the superintendence of a workman of long and varied experience, and it turns out a product unexcelled for purity and excellence, which, in these days of general adulteration and sophistication, is a great boon to the consumer.

It is proposed to sell these goods directly to consumers and thus save a considerable proportion of the one hundred per cent. profit which is usually distributed among the manufacturer, commission merchant, wholesaler, jobber, and retail dealer.

The productions of the present year consist chiefly of the finest sweet wrinkled peas and the finest grade of tomatoes. Those who are interested should address, for information respecting prices, etc., the Battle Creek Sanitarium Health Food Company, Battle Creek, Mich.

* *

THREE FOR A DOLLAR!—Three what?—Three charmingly executed posters in colors, drawn by W. W. Denslow, Ethel Reed, and Ray Brown, will be sent free of postage to any address on receipt of one dollar. All who are afflicted with the "poster craze" will immediately embrace this rare opportunity, as but a limited number of the posters will be issued. The scarcity of a good thing enhances its value. Address Geo. H. Heafford, General Passenger Agent of the Chicago, Milwaukee, & St. Paul Railway, Old Colony Building, Chicago, Ill.

* *

ONE THOUSAND FARMERS WANTED to settle on one thousand choice farms on the line of the Chicago, Milwaukee, & St. Paul Railway, in Dakota.

These lands are located in twenty different counties, and are to be had now at prices ranging from \$7 to \$15 per acre; a few months hence their value will be doubled.

For a home or for investment, no luckier chance in the West has ever before been offered. Now is the time to invest. No better farming land exists anywhere. No greater results can be obtained anywhere.

Schools and churches abound everywhere. Near by are markets for all farm products. South and North Dakota are the banner diversified-farming and stock-raising States of the West. Everything grows in Dakota except ignorance and intemperance. A new boom is on. Take advantage of the tide which leads to Dakota and to fortune.

For further information, address or call upon W. E. Powell, General Immigration Agent, 410 Old Colony Building, Chicago, Ill.

* *

HARVEST EXCURSIONS.—In order to give every one an opportunity to see the grand crops in the Western States and enable the intending settler to secure a home, the Chicago, Milwaukee, & St. Paul R'y has arranged to run a series of harvest excursions to South and North Dakota, and to other States in the West, Northwest, and Southwest on the following dates: July 21, August 4 and 18, September 1, 15, 29, and October 6 and 20, at the low rate of two dollars more than ONE FARE for the round trip. Tickets will be good for return on any Tuesday or Friday within twenty-one days from date of sale. For rates, time of trains and further details apply to any coupon ticket agent in the East or South, or address Harry Mercer, Michigan Passenger Agent, Detroit, Mich.

DIRECTORY OF SANITARIUMS.

THE following institutions are conducted under the same general management as the Sanitarium at Battle Creek, Mich., which has long been known as the most thoroughly equipped sanitary establishment in the United States. The same rational and physiological principles relative to the treatment of disease are recognized at these institutions as at the Battle Creek Sanitarium, and they are conducted on the same general plan. Both medical and surgical cases are received at all of them. Each one possesses special advantages due to locality or other characteristic features.

ST. HELENA SANITARIUM, OR RURAL HEALTH RETREAT,

ST. HELENA, CAL.

W. H. MAXSON, M. D., Superintendent.

IRVING E. KECK, Business Manager.

THIS institution is beautifully located at the head of the Napa Valley. It is a fine large building, with excellent appointments, and all facilities required for the treatment of chronic invalids of all classes. It has also a record for a large amount of successful surgical work. There are several able physicians connected with the institution. The scenery is delightful, the climate salubrious; the water supply which is furnished by mountain springs, is pure and abundant. Hundreds of cases of diseases generally considered incurable have been successfully treated at this excellent institution during the twenty years of its existence.

CHICAGO SANITARIUM,

28 COLLEGE PLACE, CHICAGO, ILL.

THIS institution is a branch of the Battle Creek (Mich.) Sanitarium. It is favorably located near Lake Michigan, in the southern portion of the city, close to Cottage Grove avenue, and facing the old Baptist University grounds. A few patients are accommodated. Facilities are afforded for hydrotherapy, and the application of massage, electricity, Swedish movements, and other rational measures of treatment.

NEBRASKA SANITARIUM,

COLLEGE VIEW (LINCOLN), NEB.

A. R. HENRY, President.

A. N. LOPER, M. D., Superintendent.

COLLEGE VIEW is a thriving village located in the suburbs of Lincoln, with which it is connected by an electric railway. College View is the seat of Union College, one of the leading educational institutions of the West. The Sanitarium has a beautiful location, facing the spacious college grounds, and gives its guests the advantages of a quiet, homelike place, combined with appropriate and thoroughly rational treatment. It has a full equipment of excellent nurses, and has already won for itself an enviable reputation in the West.

PORTLAND SANITARIUM,

PORTLAND, ORE.

L. J. BELKNAP, M. D., Superintendent.

THIS institution is beautifully located in the center of the city, in a fine building with spacious grounds; and although it has been in operation scarcely more than a year, it already has a good patronage, and has evidently entered upon a successful career. Facilities are provided for the dietetic and medical treatment of chronic ailments of all kinds. The advantages for treatment include, in addition to various forms of hydrotherapy, electric-light baths, and apparatus for the application of electricity in its various useful forms, manual Swedish movements and massage.

COLORADO SANITARIUM,

BOULDER, COLO.

O. G. PLACE, M. D., Superintendent.

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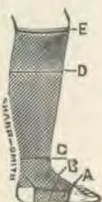
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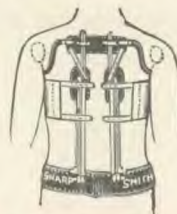
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