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ZOOLOGICAL HEALTH-STUDIES.

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6. Natural Education.

AFTER a night's adventures in the repeated attempt to trace the mystery of a self-opening window, an American humorist came to the conclusion that "life has too many sorrows of its own to add a cat;" but the children of Nature might apply a similar comment to the gratuitous affliction of the night-air superstition. The idea that after sunset the outdoor atmosphere becomes suddenly homicidal, and must be excluded at any cost of discomfort, has made countless millions of youngsters mourn more than any other delusion whatever — more than any vice, we might add, not excepting even the alcohol habit.

Passing through the long tenement-rows of an American city in the twilight following a sweltering summer night, it is impossible to mistake the feeling of relief at the breath of any perceptible air current, or to overestimate the atmospheric horrors of the crowded dormitories whose inmates have barred out that inexpensive remedy of their sufferings. Here and there the cellar door of an early-rising Chinese laundryman may stand ajar, but far up and down the long parallel of brick barricades one may look in vain for a similar symptom of common sense, windows unincumbered with curtains or shutters being as rare as human souls freed from the blinds of prejudice. It must puzzle the air-famished little ones of these tenements to understand the arrangements of this universe, as they choke in foul, sweltering gases, while 550,000,000 cubic miles of purer air are stored on the other side of the closed window, and might be had free of cost.

In marked contrast is the perfect impunity with which the young of our instinct-guided fellow creatures enjoy the advantages of the plan that distributes the free antidote of midsummer-heat after sunset. Not kittens only, but fawns, puppies, lambs, kids, and young rabbits play in the moonlight; and our next relations, the tree-climbing four-handers, let their bantlings share their airy bivouacs, and often indulge in a midnight game of hide-and-seek, when the tangled foliage of their roost is darkened by the shade of a neighboring tree. The large Mycetes monkey of the South American coast forests has, indeed, a habit of advertising his whereabouts after sunset, without claiming any kinship with the night-apes proper. He is a daylight creature as unmistakably as the *homo sapiens* himself, but holds that moonlight nights were not made for slumber, and, like a howling dervish, gives the whole neighborhood the benefit of his convictions. Even in districts where no giant cats menace the peace of their retreat, these moon-worshipers can be heard bawling from a distance of three English miles. They are, however, by no means the only vocalists of the cool night hours. Ant-bears grunt and chatter; the aye-aye, or three-fingered sloth, utters its long-drawn wail; mayarros bark in the reed thickets; hundreds of birds become vocal, like the English nightingale or our night-fluting mountain-thrush. Have these all failed to avail themselves of the abundant chances for refuge from the air which Mrs. Hearsay dreads as a lung-poison?

Our own woods, too, swarm with four-footed

night-ramblers, and as a test of their enterprise a friend of mine often amuses himself with exposing pies and dumplings at the edge of his woodland cottage. Like Christian Christiansen of the Colorado mountain railway, these products of culinary art never come home all together, though fragments may be picked up here and there. Wild animals which have reached the years of discretion are remarkably shy about accepting such offers of free lunch; the dread of traps haunts them day and night, and in nine out of ten cases the midnight revelers are the youngsters that accompany their elders on moonlight adventuring trips.

A few hundred steps below my summer cabin in the mountains of Polk county, Tennessee, there is a fine spring, with an effluent widened into a little pond, as clear as a glacier-pool, and almost as cold. From the shade of a big spruce-pine near the rocks overhanging that pool, I have often watched squirrels and wood-rats conducting their half-grown youngsters to the water's edge, and setting them an example in "filling up" with the abandon of a slum politician. "Hold on! don't drink that cold water so fast! Take a sip first and wait a couple of minutes," Mrs. Crotchet would admonish her youngsters, but the children of Nature know better, and drink till the internal need of refrigeration has been completely satisfied. The truth seems to be that cold, pure water [not ice-water], drunk in warm weather is the only beverage that can be indulged in without stint.

The supposed danger of cold drafts in the heat is as miserable a superstition as the night-air idiocy, and the strong natural craving for that gratification will alone suffice to settle such questions to the satisfaction of all sane human beings when the doctrine of antinaturalism shall have been superseded by a gospel founded on the lessons of instinct. Rich, concentrated food, and such beverages as milk, should never be gulped down by the pint. The free-lunch counter of nature doles out such substances on small platters; a child procuring its supply of milk in the normal way has to suckle half an hour to aggregate the quantity which the autocrats of the breakfast-table make it swallow in half a minute: "Hurry up, finish that cup of milk — now here is another; be quick, the school-bell will be ringing the first thing you know;" "hurry up with your biscuits, too;" viz., gulp down the equivalent of some ten thousand kernels of wheat, which a person culling wayside breakfasts after the manner of Christ's disciples could not get down in less than forty minutes.

With cold drinking-water the case differs; so, of course, does the theory of prejudice, with its encouragements of greed suddenly turning to trembling scruples, though Professor Tyndall goes so far as to pronounce cold plunge-baths in warm weather not only non-dangerous, but highly salutary, while even a partial drenching on a shivering winter day may lead to very serious consequences. In his "Hours of Recreation in the Alps," he describes the amazement of his Swiss guide at seeing him take a header into a mountain torrent "before he had time to cool off a little;" viz., before he had waited long enough to forfeit the pleasure, as well as the physiological benefits, of his bath. [Bathing when warm or perspiring is dangerous only when one is exhausted.— ED.]

Betsy, a nursing baboon in the possession of my pet-loving neighbor, is very fond of ice, and when the weather is warm, she often permits the brown-eyed little brat in her arms to share the glittering titbits picked up at the foot of the water cooler. "That poor little thing will catch its death of cold," said one of the schoolgirls attracted by Betsy's reputation for social accomplishments, "snatch away that piece of ice before he eats it;" but at the execution of that threat, old Betsy slams down her fist, and in accents hoarse with indignation, demands the return of the plunder.

Not the bereavement, but the offer, of a smoking-hot morsel will affect her in a similar manner. "No practical jokes of that kind," her grunt seems to say, as she brings down her clenched paw, and faces the experimenter with a severe frown. Curiosity then prompts her to turn over the queer object and watch the ascending curls of smoke. What can it be? Betsy does not know; but instinct tells her that it is easier for the stomach to raise the temperature of cold substances than to reduce that of superheated ones.

"What a pity that ice-cream eating is not a sin," said a Venetian lady who knew the sweetness of forbidden fruit, but the fulfilment of her wish cannot be conceded even in a physiological sense. Our greasy ragouts are from fifty to eighty degrees hotter than the warmest viands served in the restaurant of nature. As a practical health hint, the most appropriate food of our species, fresh fruit, is kept in the storehouse of the wilderness at a temperature considerably below that of the outdoor atmosphere on a tropical summer day; in Ceylon, Sir Emerson Tennent saw the thermometer at 98° in the shade, while the juice of mangosteens, plucked fresh from the tree, was about fifteen degrees cooler.

The success of quaint old parson Kneipp has exploded another delusion which our dumb fellow creatures have defied since the days of creation, but the fame of the dew-cure appears not to have reached the interior of our country, and a newspaper correspondent of one of our Western curfew towns laments the perversity of the youngsters who run back to the park after ten P. M. — just because it is against the new law — and by wading barefoot in the dew-dripping grass, gather the seeds of pulmonary consumption, besides running the risk of having to pass the night in the calaboose. His description of the nightly escapades is amusing enough, but his remarks on the "aberrations of instinct" remind one of a British moralist's comments on the character of Shelley. "An angel astray," he calls the impulsive poet. "Astray? yes, indeed," sneers an American critic, "he must have strayed from his proper sphere pretty far when he got into a world where one cannot prosper without hypocrisy."

Betsy also attends to the moral hygiene of her bantling. In life and death perils she flies to its rescue at once, but in minor dangers betrays a desire of letting her youngster take an object-lesson in discretion. At the approach of heavy-weight dogs she snatches her squealing brat out of harm's way, but if he monkeys with horse-ants or pinching-bugs, she declines to interfere, and merely watches the result with a sort of grinning complacency. If cold weather drives them near the stove, she allows her kid to select a convenient medium climate, and sits passive on seeing him approach too near the source of artificial summer, doubtless reasoning, "Let him learn the difference between fire and sunheat, and keep the scar of a blister for future reference." If his pilfering propensities get him into conflict with a litter of kittens, a few scratches will help to impress him with the significance of proprietary rights.

Nature thus confirms the philosopher's verdict on the value of personal experience of natural, in preference to artificial, penalties. If a boy does not get up in time for the projected fishing-trip, do not beat him, but let him stay at home; do not scold him if he forgets his mittens on a cold morning, but reserve your comments till he complains of frost-numbed hands. Let the youngsters try their luck and learn by the consequences, as long as their experiments do not threaten to involve the compound fracture of bystanders. Betsy, moreover, does not carry her principle of *laissez faire* to the length of tolerating downright insolence. She can show her teeth, and use them, too, when her brat too far forgets himself. Her educational aphorisms evidently include the maxim that now and then a bite in time is worth nine.

Neither chickens nor monkeys abandon a good roosting-tree on account of drafts; the airier the better, while the daylight hours evolve a surplus of heat; but they do object to sleep-disturbing noises. A Georgia physician who collects notes on natural history, like Dean White of Selborne, noticed that a pair of robins left their nesting-place of many years when a neighbor put up one of those sleep-murdering contrivances called windmill pumps, and adds that a grove of song-birds and squirrels was depopulated by the switch-engines of a new railroad. Experience might have taught those fugitives to disassociate disagreeable noises from the idea of danger, but the traditions of the species run in a different groove. Hereditary instincts teach young birds and rodents to start at the sound of nocturnal disturbances; and rather than see their youngsters sicken, the tenants of that grove left the obstreperous invaders in possession of the field, and fled mountainward —

> To the woods, to the rocky glen,
> Far away, far away, from the haunts of men,—

bidding their human friends a long farewell, and showing their ultra-bestial indifference to unharmonious noises.

(To be continued.)

SLEEPLESSNESS.

NOTHING is more wearing to the tired mind and body than to lie down and seek for rest and repose which will not come. Anxious cares may exhaust our bodies, and rude contact with the world may perhaps wound us in our tenderest sensibilities; but if we can enjoy the sweet oblivion of sleep, our energies will be strengthened for the duties of another day. But how is it with the victim of insomnia? In vain he tries to rid himself of the world and everything in it. His drowsy eyelids may shut out the light, and the drawn curtain and luxurious bed may invite "balmy sleep," but there is no sleep for him. The anxieties of the day still pursue him, and thoughts and cares and apprehensions still chase

each other through his overwrought brain as he tosses from side to side in the fruitless effort to find forgetfulness. Or it may be he has no cares and apprehensions, and that a slight indigestion is the cause that is banishing sleep. For both of these conditions there are easily applied remedies which have proved successful times without number.

Insomnia from mental worry may be relieved by stopping the current of thought. There is a power in each one of us, if we know how to use it, to suspend cerebral action, and to force back the crush and hurry of the thoughts that are tormenting the brain. The process is a simple one; it is merely to insist and persist, by a strenuous and forcible action of the will-power, in fixing the mind upon a single object, however insignificant it may be,— the more so the better,— and holding it there, determined not to let go, and seeing nothing but that one object. It may be a nail driven in the wall, a hole in a wall, or any other fixed object. This is so simple a remedy that the reader may doubt its efficacy, but let him try it and be relieved, as others have been. If it does not send him to sleep, there is some trouble in the brain that needs a physician's care.

As respects sleeplessness from gastric or intestinal indigestion, the process by which relief may be had is just as simple as the other, and more easy of application. There is a wonderful power in the human hand, and the inexplicable results caused by its application in producing the phenomena of hypnotism, etc., are too well known to need more than mention here. This latent force — call it electric, magnetic, electro-magnetic, psychic, odic, or what you will — has stopped many a pain, soothed many an ache, and brought ease and comfort when other means have failed. The hand, or rather the two hands, with the fingers interlocked, when placed and kept upon the pit of the stomach for a few minutes, or half an hour if necessary, will almost surely arouse the sluggish contractions of the stomach, or, if placed lower down upon the abdomen, of the intestine. Do this persistently and steadily, and soon a movement will be experienced, with a gurgling sound, perhaps, and thus the cause of sleeplessness will be removed. All this can be easily explained by the influence of the pressure of the hand acting upon the great nerves of the stomach and intestines, and their reflex action upon the brain. — *Popular Science News.*

FLOWERS AS FOOD.

ALTHOUGH it is well known that many kinds of flowers are used in medicine, the fact may not be familiar to many that the blossoms of certain plants are employed as articles of food. In parts of India the flowers of a sapotaceous tree, *Bassia latifolia*, or mahwa, form a really important article of food. These blossoms, which are succulent and very numerous, fall at night in large quantities from the tree, and are gathered early in the morning, and eaten raw. They have a sweet, but sickly taste and odor. They are likewise dried in the sun, and sold in the bazaars. The Bheels dry them and store them as a staple article of food, and so important are they considered for this purpose, that an invading enemy, when on expeditions for the punishment or subjection of these tribes, often threatens to cut down their *Bassia* trees as the menace most likely to insure their submission.

An ardent spirit like whisky is distilled from these flowers, and is consumed in large quantities by the natives of Guzerat, etc. The Parsees and hill-people eat the flowers both raw and cooked, often with the addition of grain, and also make sweetmeats of them. A single tree will afford from two to four hundred pounds of the flowers.

The blossoms of another species, *Bassia longifolia*, are employed in a similar manner by the natives of Malabar and Mysore, where it abounds. They are either dried and roasted and then eaten, or bruised and boiled to a jelly and made into small balls, which are sold or exchanged for fish, rice, and various sorts of small grain.

The flowers of the Judas-tree, *Cercis Siliquastrum*, of Europe, have an agreeable acid taste, and are sometimes mixed with salads or made into fritters with batter, and the flower-buds are pickled in vinegar. The flowers of the American species, *Cercis Canadensis*, the redbud, are used by the French Canadians in salads and pickles.

The flowers of the *Abutilon esculentum, bencao de deos*, are used in Brazil as a boiled vegetable.

The flowers of the *Moringa pterygosperma*, or horseradish-tree, are eaten by the natives of India in their curries.

The large and showy flowers of the *Tropæolum majus*, the Indian cress, or nasturtium, are frequently used along with the young leaves as a salad. They have a warm taste, not unlike that of the common cress, and it is from this circumstance that the plant has obtained the name of nasturtium.

The young calyces of the *Dillenia scabrella*, and the *Dillenia speciosa*, which are swollen and fleshy, have a pleasantly acid taste, and are used by the inhabitants of Chittagong and Bengal in their curries, and also for making jelly.

The flowers of the *Rhododendron arboreum* are eaten by the hill-people of India, and are made into a jelly by the European visitors. Yet poisonous properties are usually ascribed to the species of this genus, and it has been said that the *Rhododendron Ponticum* was the plant from whose flowers the bees of Pontus collected the honey that produced the extraordinary symptoms of poisoning described as having attacked the Greek soldiers in the famous retreat of the ten thousand.

The flower-buds of *Zygophyllum Fabago* are used as a substitute for capers, and the flowers of *Melianthus major*, a plant of the same order, are so full of honey that the natives of Good Hope, where the plant grows wild, obtain it for food by shaking the branches, when it falls in a heavy shower.

Coccoloba urifera is remarkable from the peculiarity of the calyx, which becomes pulpy and of a violet color, whence the plant is called the seaside grape. This pulpy calyx has an agreeable acid flavor, and is edible.

The flower-stalks of *Hovenia dulcis* become extremely large and succulent, and are used in China as a fruit. It is said that in flavor they resemble a ripe pear.

The flowers of the pumpkin were cooked and eaten by some of the tribes of the American Indians, especially by the Aztecs, by whom they were highly esteemed.

The cauliflower, which has been known from remote antiquity, differs in a remarkable manner from all the other varieties of the cabbage tribe, whose leaves and stalks alone are used for culinary purposes. Instead of the latter being used, the flower-buds and fleshy flower-stalks, which form themselves into a firm cluster or head, varying from four to eight or more inches in diameter, here become the edible portion, and one of the greatest of vegetable delicacies.

The flower-buds of the *Capparis spinosa*, a plant which grows on walls, etc., in the south of Europe, are pickled in vinegar in Italy, and form what are commonly known as capers. These are chiefly imported from Sicily, though the plant is largely cultivated in some parts of France.

The cloves of commerce are the unexpanded flower-buds of *Caryophyllus aromaticus* (*Myrtaceæ*), a small evergreen native of the Moluccas, but cultivated in several parts of the East and West Indies. Before the expansion of the flowers, which are produced in branch panicles at the extremity of the branches, and are of a delicate peach color, the buds are collected by hand, or else sheets and mats are spread under the tree, and the buds brought down by beating it with sticks. They are cleaned, and then dried in the sun. A uniform brown color is imparted by slightly smoking them over a wood fire. The flower-buds of *Calyptranthes aromaticus*, another plant of the same order, may be advantageously substituted.

The flower-buds and the berries of the myrtle, *Myrtus communis*, were eaten as spices by the ancients, and are still used in Tuscany instead of pepper.

Long pepper is furnished by the immature spikes of the flowers of *Chavica Roxburghii*, which are gathered and dried in the sun. In chemical composition and qualities it resembles ordinary black pepper, and contains piperin.—*Scientific American.*

THE PASSING OF CHOLERA.

Dr. Klein, F. R. S., lecturer on general anatomy and physiology at St. Bartholomew's Hospital, London, delivered a lecture on cholera at that institution recently. The lecturer said that the prevention of cholera was beset with less difficulty than that of some of the communicable diseases which we have almost constantly among us in the city. He quoted an account by Ernest Hart of the great religious festival of Kumbh Fair at Hardwar, a town on the Ganges, at which, in 1891, from eight hundred thousand to one million pilgrims assembled. In the opinion of many experienced officials the most complete sanitary arrangement would be powerless to prevent the spread of cholera, if the fair was allowed to take place. The pilgrims coming from cholera-infected districts brought the infection with them, and two people died of undoubted cholera at Hardwar during the most crowded period. Owing, however, to the excellent and stringent sanitary precautions, the infection did not spread. No more cases arose in the town or camp, nor did the disease develop on the track of the dispersing pilgrims. This was unquestionably one of the most remarkable and brilliant achievements of sanitation in the whole history of cholera.

Not only in India, but also in Europe, has it been

demonstrated that cholera is a preventable disease. In 1892 cholera broke out in Hamburg. The unsanitary conditions of its dock and port population and the polluted supply of drinking-water brought for Hamburg the long-predicted day of reckoning. In former years the establishment of such a focus of cholera as Hamburg, which had vast communications and intercourse with the whole of Germany, would have been followed by innumerable foci of cholera all over Germany. Yet there was the remarkable fact that, with the exception of a few cases in a limited number of towns, Germany did not suffer from any further epidemic outbreaks.

And the same fact was illustrated in 1892 in a perhaps more striking manner in England. Sir John Simon had, years before, insisted on the importance of considering cholera, as well as typhoid fever, as a filth disease. It has since become an axiom in sanitary science to isolate the patient, to disinfect or destroy all articles soiled by him, to prevent such filth from gaining access to drinking-water and to articles of food, and to insist that the hands that had been in contact with such soiled articles should be scrupulously cleaned in order to avoid self-infection; in short, to prevent and to avoid swallowing the contagion. By carrying out these precepts, it has become possible to prevent the spread of cholera epidemically. This success implied two things: first, the locality before the introduction of a case for cholera should be in a proper sanitary condition; and second, on the appearance of a case of cholera, the measures for isolation and disinfection should at once be put into practise. — *Condensed from the London Times for Current Literature.*

He Blamed the Water. — A writer in the *St. Louis Magazine* relates the following incident: —

"A farmer drove up to our mill door with a grist. He had a fine team of horses, but was himself a sickly, meager-looking creature. As he handed out his sacks of wheat, he came to a water-bucket half filled with apples.

"'Here, boys,' said he, as he passed the pail to the miller, 'would you like some apples? I never eat them myself?'

"I asked him why, and he replied that they always distressed him. So the half-dozen hands about the mill devoured the ripe, golden fruit with a relish. Upon further inquiry I found that everything he ate distressed him to a greater or less degree. When asked what he lived upon, he replied: —

"'Principally salt meat, sausage, eggs, and white bread. But,' said he, 'the water is bad where I live, and I guess the only way for me to have better health is to sell out and move away.'

"Noticing his sleek-looking horses, I remarked, 'Do your horses drink the same water?'

"'O yes, they have no other.'

"'I see you use tobacco pretty freely,' I remarked.

"'O yes, I could n't live without that.'

"'But,' said I, 'your horses seem to thrive on the water. Do you think if they had to chew the tobacco that you do, and live on your diet, they would thrive, or would the water make them sick, too?'

"'Well,' said he, 'I had n't thought of that.'

"He went home, thinking about what I had said. As a result, he changed his diet, and left off tobacco; and now the water agrees with him to perfection, and he eats apples with impunity."

Work Helps to Lengthen Life. — Chief Justice Fuller, emphasized a fact which the medical profession has tried to impress upon the minds of those who are retiring from business after a longer or shorter life spent in its exacting details, — that idleness following an active and laborious life is almost sure to be followed by an utter breaking down of health or an early death. The dry rot of aimlessness eats out existence, and the body with nothing to do, and the brain with no work to accomplish, soon sinks into decay. This is true not only of the eminent jurist retiring from the bench of the Supreme Court, but also of those engaged in any work requiring active brain power. The brain is much more liable to become inert from the rust of idleness than from overwork. The business or professional man looking forward to the luxury of well-earned rest following long-continued labor should be careful lest, in putting on the brakes too suddenly, the brain become fallow, life cease to be a pleasure, and the halting footsteps and the cloudy brain, indications of decay, come long before their time. If you would live to a good old age, never cease to work, in moderation, but still work. — *New York Medical Times.*

Cheerfulness is one of the great factors in promoting health. Says Matthew Arnold: "To make habitual war on depression and low spirits, which in youth one is apt to indulge, is one of the things learned as he gets older. They are noxious alike to body and mind, and already partake of the nature of death."

THE NATURE AND ORIGIN OF FAT.

THERE are some parts of the body where fat acts as a cushion, and other uses are surmised. The brains are largely fatty matter. Do we then need to eat fat to nourish such tissues properly? We never hear it alleged that fat-eating promotes a high order of brain work, and the vital forces of the system have a power of transmutation that easily supplies all the fat that is needed for brains and cushions. Fat is easily found under many conditions, deficient action rather than energetic vitality being one of them, and degeneration rather than regeneration. More nourishment than the system needs for vital purposes is apt to be stored away in the adipose tissue. The fattest goose is shut up in the dark and crammed. The fatting steer is not permitted the range that gives the highest degree of health. Hogs are penned up and fed all they will eat. Wild game is considered better eating because left free to the exercise that prevents an accumulation of fat, with some exceptions.

We infer, then, that fat is often an accumulation of waste matter which the vital powers are not able to throw off. There is no proof that it can ever again serve as food. The hibernating bear and the starving man both get rid of it, but fat people do not endure starvation better than others. In cases of shipwreck it is not usually remarked that the fat people survive the longest. Lack of high vitality often favors the production of fat; and when vitality ceases, the muscle is transformed into adipose or grave fat. Paralytics show a tendency in the same direction.

The dwellers in very cold regions are often quoted to show that certain climates require fat-eating, but this is not proved. The enormous quantities they sometimes consume show that it cannot be very nutritious. This fat-eating may be one of their bad habits, not necessarily wholesome. We have some worse habits, such as taking alcohol and tobacco, and we, too, have falsely thought that alcohol keeps us warm. Let us ask if animals left to their natural tastes eat fat? Try the cat and the dog. Rats are ravenously omnivorous, but they pick out all the lean and leave the fat of a piece of meat as surely as the dainty child at the table; although the latter may be nagged into eating it, and at last come to like it, yet both are better off without it. Some remarkable experiments are quoted by Sercira in regard to feeding dogs on fat. One fed on butter starved to death in sixty-eight days, though he was stuffed out, and all his tissues infiltrated with fat. Human beings eat butter too, and it often shows in butter pimples and cold-sores, and quite unsuspectedly in the production of catarrhs and liver complaints. We should more readily see these results, were not our bad habits so numerous and their results so complicated as to confuse our observations.

While we stand aghast at the idea that our immense outlay for butter brings us small returns, we console ourselves with the belief that we need it as a relish. I have already hinted at the substitution of the more wholesome and nutritious fruit relishes. The practise can be greatly enlarged, especially for children whose habits we are forming.

The entire subject demands a much wider investigation than the limits of this article will allow, and it must be understood in daily life before we shall be likely to eat well and be at our best. Moses, the great legislator, thought so in his day, and gave reiterated directions for the disposal of the fat of animals, besides his wholesale rejection of swine. The entire fat of all animals was to be burned. "It shall be a perpetual statute for your generations, throughout all your dwellings, that ye eat neither fat nor blood." "The soul that eateth it shall be cut off from his people." "And the fat of the beast that dieth of itself and the fat of that which is torn with beasts may be used in any other use, but ye shall in nowise eat of it." These stringent regulations have preserved to the Jewish race an abounding vitality which other races may well covet.—*Julia Coleman.*

LONGEVITY AND ACTIVITY.—An item in an exchange reminds us that great men usually carry their full mental vigor and activity into extreme old age. Chevreul, De Lesseps, Gladstone, and Bismarck are evidences of this anthropological fact. Pius IX, although living in tempestuous times, reached a great age in full possession of all his faculties; and the dramatist Crebillion composed his last dramatic piece at the advanced age of ninety-four years; while Michael Angelo was still engaged upon his great canvasses at the age of ninety-eight, and Titian at ninety still painted with all the vigor of his earlier years. The Austrian general Melas was still in the saddle and active at eighty, and would have probably

won Marengo but for the inopportune arrival of Desaix. The Venetian doge Henry Dandolo, born in the beginning of the eleventh century, who, though he had lost his eyesight when a young man, was subsequently raised to the highest office in the republic, and although blind still managed successfully to conduct various wars, at the advanced age of eighty-three, in alliance with the French, besieged and captured Constantinople. Fontenelle was as gay spirited at ninety-eight as at forty, and the philosopher Newton worked away at his tasks at the age of eighty-three with the same ardor that animated him in his physical prime. Cornaro was as happy at ninety as at fifty, and enjoyed far better health at the age of ninety-five than at thirty.

These cases all tend to show the value and benefits to be derived from an actively cultivated brain in making a long life one of comfort and of usefulness to its owner. The brain and spirits need never grow old, even if our bodies will insist on getting rickety; and an abstemious life will even drag that old body along to centenarian limits in a tolerable state of preservation. The above list might be lengthened with an indefinite number of names, but it is sufficiently long to show what good cheer and an active brain will do to lighten the weight of old age. When we contemplate the blind doge Dandolo at eighty-three animating his troops from the deck of his galley, and the brave old blind king of Bohemia falling in the thickest of the fray at Crecy, it would seem as if there were no excuse for either physical, mental, or moral decrepitude, short of the age of fourscore and ten. — *National Popular Review.*

What Worry Will Do. — Worry is a baneful curse, and the source of untold evils. It seams the face with lines and furrows, and has a most depressing effect upon that hyper-sensitive organ, the stomach, which at times becomes a most unwilling and laggard servant. Indeed, it is safe to say that unless encouraged by a cheerful temper and bright, or at least hopeful, thoughts, the stomach will play truant or sulk, and do no work which it can shirk. The physiological explanation of this is the close alliance of the great sympathetic nerves, which are worse than the telegraph for carrying bad news; the worry and anxiety which depress the brain produce simultaneously a semi-paralysis of the nerves of the stomach, the gastric juice will not flow, and in consequence, there is indigestion.

One sign of mental health is serenity of temper and sufficient self-control to enable us to bear with equanimity and unruffled temper the petty trials and jars of life, especially those arising from contact with scolding, irascible, irritating people. It is well to remember at such times that these unfortunates are their own worst enemies, and the cultivation of the art of not hearing will help us very much. Indeed, that is a very useful art all through life, and well worth some trouble to acquire. — *Sel.*

A Clean Town. — The cleanest town in the world is said to be Broek, in Holland. It is only a few miles from the capital, and has been famous for its cleanliness from time immemorial. It is also notable on account of the fanciful style of its houses and yards and gardens and streets. The people, though only peasants, are well-to-do, and all feel a pride in their town. It seems to be the first business of their lives to keep their houses freshly painted, their gardens in perfect order, and their yards and streets as clean as a parlor. No carts are allowed in the streets, and no cattle. Though the raising of stock and the making of butter and cheese are their occupations, a stranger would never imagine that there were any cattle in the region, unless he went to the beautiful green meadows or the stables at the back of the houses, where the cows are kept in stalls scrubbed and washed like a kitchen. The streets are too fine and neat for the feet of animals to step on. They are paved with polished stones, intermingled with bricks of different colors, and kept so scrupulously clean that a lady could walk anywhere in white satin slippers. — *Pall Mall Gazette.*

Rules for Bathing. — The committee of the Royal Humane Society has published the following cautions for the benefit of bathers: —

"Avoid bathing within two hours after a meal. Avoid bathing when in any way fatigued. Bathe when the body is warm, provided no time is lost in getting into the water. The vigorous and strong may bathe early in the morning on an empty stomach. Those who are weak would better not bathe until two or three hours after a meal." — *Sel.*

Cleanliness the First Law of Health. — Cleanliness covers the whole field of sanitary labor. Cleanliness means purity of both air and water; cleanliness in and around the house; cleanliness of person; cleanliness of dress; cleanliness of food and feeding; cleanliness in work; cleanliness in the habits of the individual man and woman; cleanliness of life and conversation; purity of life, temperance, — all these are in man's power. — *Sir B. W. Richardson.*

TEN HINTS

TO THOSE WHO WOULD LIVE WHILE THEY LIVE.

I.

Fix deeply in mind the grand truth that life power rules the body, and that it alone can cure disease.

II.

Life power lives upon air, water, and food only; all else is hurtful.

III.

Few starve for food, but many for air. Breathe deeply a hundred times daily. Wear no tight clothing. Above all, ventilate your sleeping-room.

IV.

Beware of gluttony. If the appetite is dull, eat fruit only, or eat nothing. Use no fiery condiments, but live chiefly on natural grains, vegetables, and fruits. Never ask your stomach to chew your food — employ your teeth. Adorn your table not only with viands, but with flowers and smiles and kindly words.

V.

Shun stimulants and drugs as you do pestilence. For tea and coffee, drink hot water; and in illness let the same magic fluid be your physic.

VI.

Thick blood causes colds and countless other diseases. Keep the lungs active by deep breathing, the skin by baths and friction, the kidneys by free drafts of warm water, the bowels by correct eating; and the blood will be pure.

VII.

Make cleanliness your motto, and watch against filth in both house and grounds.

VIII.

Deformity is not awkwardness only, but danger. A high chest will give freedom to breathing and digestion, and help to cure many diseases.

IX.

Spend part of each day in muscular work, part in study, and part in good deeds to men and in the worship of God.

X.

You are a triune being — mental, moral, physical. A sound mind and pure morals depend much upon bodily health. Therefore make health a part of your study and of your religion. — *Frederic M. Heath, in "Why do Young People Die?"*

Ancient Dentistry. — "While no specific data can be obtained as to the origin of dentistry," says a writer in the *North American Review*, "we know it was practised among the Egyptians at a very early age. Herodotus (500 B.C.), in writing of his travels through Egypt, at that time one of the greatest and most civilized countries in the world, mentions the divisions of medicine in that kingdom into special branches, and the existence of physicians, each of whom 'applies himself to one disease only, and not more. Some [physicians] are for the eyes, others for the head, others for the teeth, and others for internal disorders.' It is thought that the Egyptians and Etruscans were further advanced in the art of dentistry than any other people in that early period, for teeth filled with gold have been found in the mouths of mummies, indicating their advanced ideas. These people were also the first to supply artificial substitutes in the mouth. Belzoni and others have found artificial teeth made of sycamore wood in ancient sarcophagi. The mode of fastening was by ligatures or bands of cord or gold wire, the substitutes being thus tied to their natural neighbors.

"In 1885, some specimens of prehistoric dentistry were brought to this country by an English dentist of Liverpool. One was a gold plate with several human teeth attached. The specimens were found in an Etruscan tomb. The plate was ingeniously made, and I was surprised to see gold used for a base by such an ancient people."

The Way to Rest. — To understand how to rest is of more importance than to know how to work. The latter can be learned easily; the former it takes years to learn, and some people never learn the art of resting. It is simply a change of scenes and activities. Loafing may not be resting. Sleeping is not always resting. Sitting down for days with nothing to do is not restful. A change is needed to bring into play a different set of faculties, and to turn the life into a new channel. The man who works hard, finds his best rest in playing hard. The man who is burdened with care, finds relief in something that is active, yet free from responsibility. Above all, keep good natured, and don't abuse your best friend, the stomach. — *American Analyst.*

THE HYGIENE OF THE SCHOOLROOM, THE STUDY, AND THE OFFICE.

For no class of persons is the matter of hygienic conditions a question of greater importance than for students, professional persons, and sedentary business men. The work of the schoolroom, the study, and the counting-house is more exhausting vitally, and makes larger drafts upon the constitution, than any other class of employments. The school period is recognized as peculiarly dangerous to life. Various nervous disorders, bone and joint diseases, and especially infectious maladies, are most frequent during this period of life. Sedentary men, when engaged in business or professional pursuits, with a few exceptions, become old prematurely, or are obliged to retire from active life just when they have attained that degree of experience and training necessary to fit them for the most efficient activity and the greatest usefulness. The causes to which these baneful effects are due are to be found in unhygienic conditions which relate both to the individual and to his surroundings.

In this paper I shall briefly consider those conditions of environment which are destructive to the health of the student in the schoolroom, of the lawyer, the clergyman, or the editor in his study, and of the physician or the business man in his office. The first and most important of all the conditions for the maintenance of the health of the individual who is confined within a comparatively restricted space, is an abundant supply of pure air. That necessitates frequent change of the air within the limited area of the room, and this demands provision for ventilation, in the making of which two primary questions arise: —

1. How much air is required?

2. How shall an adequate supply of air be obtained?

The quantity of air is one of the things which cannot be determined by an *a priori* reasoning, but is wholly a matter of experimental inquiry. The eminent Dr. Parkes, of England, Dr. Angus Smith, and other sanitary authorities tell us that each healthy adult person requires not less than three thousand cubic feet of air an hour.

A few years ago the writer had the pleasure of spending an afternoon with the eminent physiologist named, and found him engaged in prosecuting an experiment with an apparatus consisting of a series of air-tight cages, in each of which was a living rabbit. The cages were all placed in connection with each other by connecting tubes, and a current of air was made to enter the first cage at the left hand, and after traversing each of the cages in succession, it escaped at the last cage at the right hand. Between the last cage and the cage just preceding it was placed a flask containing a solution capable of absorbing or destroying the volatile organic poisons of the air, but without effect upon the carbonic acid gas, or CO_2, which it contained. The rabbit in the first cage at the left hand, having pure air to breathe, enjoyed perfect health after several months of confinement. The rabbit in the last cage, at the right hand, who breathed the air which had been contaminated by the rabbits in all the preceding cages, but had been purified by the solution in the flask, also remained in perfect health, although at the time I visited the laboratory they had been confined for more than six months. But the rabbits in all the intermediate cages, and their successors,

had died at varying intervals of time from the beginning of the experiment, the rabbit in the second cage having lived two or three months, while that occupying the third cage had lived a few weeks, and that in the fourth cage had survived but a few days under the poisonous influence of air which had three times before served the purpose of respiration. Carbonic acid gas is not a dangerous poison of the air, but is a practically accurate measure of the amount of poison present.

In order to obtain the amount of air indicated, efficient means of ventilation must be provided. This requires, first of all, two openings or sets of openings, one for the admission of fresh air, the other for the removal of impure air. The outlet openings should communicate, either directly or indirectly, through capacious ducts, with a ventilating shaft. This shaft, when placed on an inside wall, would require no heat; but if placed upon an outside wall or isolated out of doors, artificial heat or an exhaust-fan would be required. The size of this shaft must be such that the area of its cross-section will be equal to the area of the combined unobstructed areas of all the foul-air openings. As a means of aiding the circulation of the air, and affording an equable and comfortable temperature, the fresh air should be heated to a proper degree before entering the room. In order to obtain the area of the inlet openings, a knowledge of a few facts obtained by practical experiments is essential.

Experience has shown that in order to prevent unpleasant drafts, the velocity of the air at outlet openings should not be greater than five feet per second. The necessary area of outlet openings is then readily obtained by simply dividing the total amount of air to be supplied per second by 5. For example, suppose a room to be ventilated is calculated to accommodate thirty persons, each to be supplied with 2400 cubic feet of air per hour. The aggregate amount of air to be supplied will be 30 x 2400, or 72,000 cubic feet. Dividing this amount by 3600, the number of seconds in an hour, we have 20 cubic feet as the amount required for each second. Dividing this by 5, the velocity allowable, we have 4, which represents the necessary area for the foul-air outlets in square feet. It must of course be understood that the figures thus obtained represent actual openings, and not an opening partially obstructed by a grate or register. Forty per cent. must be allowed for when the opening is covered by an ordinary register.

As the outer walls and portions of the room adjacent to them are necessarily the coldest parts of the room, the circulation of the air through the room and the proper distribution of heat will be facilitated by placing the foul-air openings along the outer walls, and preferably under the windows. If the foul-air outlets are placed in an inner wall, or at the floor near an inside wall, one effect will be to draw toward this opening warm air which ought to have been utilized in warming the outer walls. Another effect, and one of the most disagreeable features attending this method of placing the foul-air outlets, is that the air which has been cooled by contact with the windows and outer walls and by its great specific gravity has fallen to the floor, will be drawn the whole distance across the floor to the opening on the opposite side, thus constantly maintaining at the floor a stratum of cold air. An arrangement of this sort is very frequently the cause of cold floors, and consequently cold feet, and the resulting headaches from which the occupants of such a room are almost sure to suffer.

The height of the ventilating shaft is a matter of importance, as it practically determines the force of the draft. It is easy to determine the draft that may be obtained from a chimney of given height by the following simple formula: The square foot of the height of the shaft, multiplied by the square root of the difference in temperature between the air in the shaft and the outside air, divided by four, equals the velocity of the air in the shaft in feet per second. In using this formula, it is necessary that two of the quantities should be known. I have chosen as a basis for obtaining the minimum difference in temperature, the temperature of 45° F., with the usual internal temperature of 70° F. At a temperature much higher than 70°, doors and windows are likely to be opened, and hence the working of any ventilating apparatus would be interfered with. The difference between 45° and 70° is 25°, which may be fairly taken as a basis for calculation.

The application of this formula will be made clear by the following simple example: Let us suppose that the conditions are as follows: Air is required for forty-eight students. At 2400 cubic feet per hour for each, the total amount needed would be 115,200 cubic feet per hour, or thirty-two cubic feet per second. The combined area of ducts of sufficient size to allow the transmission of this air at the rate of five feet per second would be $32 \div 5 = 6.4$ square feet, and the velocity will of course be five feet. The question we have to solve is, What would be the necessary height of the ventilating shaft to secure this velocity, the difference in temperature being 25° F? The solution of this very practical

problem is extremely simple. Bearing in mind the formula, we will let H represent the height of the shaft, D the difference between the internal and external temperatures, and V the velocity of air per second; $\frac{\sqrt{H} \times \sqrt{D}}{4} = V$. Substituting the quantities which are known, we have the following: $\frac{\sqrt{H} \times \sqrt{25}}{4} = 5$. Reducing, we have $5\sqrt{H} = 20$; $\sqrt{H} = 4$; $H = 16$; that is, the height of the shaft required by the conditions named would be sixteen feet.

Given an abundant supply of pure air, the next question is that of light. The influence of light upon vital organisms is evidenced by the difference in appearance between the plant grown in the shade or in a dark place, and one which has enjoyed the full influence of sunlight. Human beings are as susceptible to the influence of sunlight as are plants, as is illustrated by the pale, unhealthy countenances of miners, and the enormous goiters or cretinism of the deep Alpine valleys, in which the writer has seen a man with such enormously developed goiters that a sling passed over the neck was necessary as a means of support. The starfish folds its arms when a cloud passes over the sun, but quickly spreads them out again when under the genial influence of the sun's unobstructed rays.

The sun is not only a vital stimulant, but it is also a powerful disinfectant. There are certain plants which love darkness rather than light. Many fungi flourish only in the shade or in darkness. The same is true of the most dangerous classes of germs or microbes, particularly those which are the most active as causes of disease. Repeated experiments have shown that the germs of diphtheria, consumption, typhoid fever, cholera, and other fatal maladies perish quickly under the direct rays of the sun, and no less certainly, although with less promptness, under the influence of diffused daylight.

When a person is engaged in active muscular exercise out of doors, his vital resistance is increased by the muscular exercise, and there is an increased absorption of oxygen to such a degree that the individual is almost proof against contagion of any sort. The danger of exposure is also greatly lessened by the fact that it is impossible under certain conditions to encounter infectious elements in a concentrated form. But the conditions of a sedentary occupation are such as involve not only greater danger of exposure to infection, especially in the case of students, who, when assembled, represent the aggregate risks of the individual homes from which they come; but they are also in a comparatively defenseless condition through the reduced resistance of the body arising from the depression of all the vital functions resulting from an inactive life. Hence the importance of an abundance of sunlight cannot be overestimated. The future may give us schoolhouses with transparent walls, through which the sunlight may penetrate to every nook and corner of the building, exercising its beneficent, germ-destroying functions. —*J. H. Kellogg, M. D., in Education Extension.*

EXERCISES FOR WOMEN WHO DO HOUSEWORK.

"BILIOUSNESS" and nervous prostration are common to women whose days are devoted to housework without vacation or change of exercise. For such women there is relief in gymnastics, such as those who neither toil nor spin take for the sake of grace, beauty, and health. Here is a list of simple movements adapted from a list presented by Professor Banting: —

"1. Active turning and twisting of the body with forward bending.

"2. Active bending of both knees in the stride-standing position.

"3. (*a*) Standing against some support, raise one knee and then extend the leg to horizontal. (*b*) Change feet, and make the movement sharp and quick.

"4. Lying flat on the back, take a deep breath, then suddenly sit up without the aid of hands or elbows.

"5. Any forcible arm movements upward, forward, backward, or downward, after the fashion of old calisthenics.

"6. Sitting on a stool, with the feet held under one of its rounds, make a rotation of the body. Let the trunk move backward, sideways, and forward in the largest circle possible.

"7. Kneading the stomach. Begin just under the last rib of the right side. With fist clenched, knead the abdomen from right to left, slowly and deeply, as in kneading dough.

"8. Lie flat on the back and rotate the thighs alternately, making the largest circle possible with the foot.

"9. Stand, with hands on the hips, fingers forward. Take ten long, deep breaths."

You see we must try to excite the intestinal muscles to work, we must make the diaphragm (the muscle between the stomach and the chest) press

forcibly against the liver and gall-bladder. We must make a more equal distribution of blood over the entire body, and relieve any congestion of stomach or liver.

Now the rotatory motion of the trunk restores the normal action of the bowels, increases the secretion of bile, aids the arterial current of blood, and quiets the nerves of the lower part of the back. It relieves the congestion of the venous blood, overcomes the evil of tight corsets and of too closely fitting gowns, and gives to the skin its power of throwing off waste.

Not for one moment, however, may you think that these few exercises are all that you need. They are simply the absolutely necessary movements. If you live in the country and can ride horseback, take a half hour's trot every day, rain or shine, winter or summer. This one exercise is worth all the gymnastics and indoor exercises ever invented.

A long, brisk walk or a short run in daylight or darkness is of immense value, especially on a rough road, across ditches, and over fences. You may feel too tired, too weak, too weary, but it is the poor circulation in your brain that gives you such notions.

Notice a woman who dresses sensibly, takes quiet care of her house and children, performs a moderate number of social duties, and tries to live by method, and you will see that she walks, stands, and sits gracefully and comfortably. Add to this proper gymnastics, and she will feel so well all the time as to be unconscious of herself, and will never have nervous prostration or be bilious. — *Kate C. Hurd-Mead, M. D., in Popular Health Magazine.*

TAKE RATIONAL RECREATION. — The man who undertakes to cultivate some fad, like the growing of plants, the raising of fish, photography, entomology, boating, bicycle riding, athletic sports, microscopy, drawing, music, fishing, hunting, and other things which may come under the head of personal recreation, has always something within his reach which makes him independent of the outside world. This taking a man out of himself into a new atmosphere, releasing his thoughts from ordinary channels, is the most valuable thing that can be done in these busy business times. It is like the uncoiling of a spring, or the taking off of pressure from a boiler. It allows the mind to readjust itself, to recover from fatigue, and to gain new strength for work in its regular way. It seems impossible to bring this too often to the minds of business men. There are all too few men who pay any attention to the lesson to be learned. The records of hospitals and physicians show too clearly that overwork is killing altogether too many men, and that it is not the quantity of work that a man does, but the continuity and lack of rational recreation, that produces the injury. — *Sel.*

HOW TO BREATHE. — Cultivate the habit of breathing through the nose, and taking deep breaths. If this habit were universal, there is little doubt that pulmonary affections would be decreased one half. An English physician calls attention to the fact that deep and forced respirations will keep the entire body in a glow in the coldest weather, no matter how thinly one may be clad. He was himself "half frozen to death" one night, and began taking deep breaths, and keeping the air in his lungs as long as possible. The result was that he was thoroughly comfortable in a few minutes.

The deep respirations, he says, stimulate the blood currents by direct muscular exertion, and cause the entire system to become pervaded with the rapidly generated heat. — *Popular Science News.*

USES OF YAWNING. — A Belgian physician says that yawning is an exceedingly healthy function generally, besides having a very salutary effect in complaints of the pharynx and Eustachian tubes. According to the results of late investigations, yawning is the most natural form of respiratory exercise, bringing into action all the respiratory muscles of the chest and neck. It is recommended that every person should indulge in a good yawn, with stretching of the limbs, morning and evening, for the purpose of ventilating the lungs and tonifying the muscles of respiration. An eminent authority claims that this form of gymnastics has a remarkable effect in relieving throat and ear troubles, and says that patients suffering from disorders of the throat have derived great benefit from it. He makes his patients yawn either by suggestion, imitation, or by a series of full breaths with the lips partly closed. The yawning is repeated six or eight times, and should be followed by swallowing. By this means the air and mucus in the Eustachian tubes are aspirated. — *Popular Science News.*

CONDUCTED BY

MRS. E. E. KELLOGG, A. M.

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SELF-CONTROL.*

(Concluded.)

CONTROL of temper can be aided by attention to physical habits, especially as regards the diet. A child fed largely upon stimulating foods will be likely to have an irritable, excitable temper. You have doubtless heard the story of the father who brought his son to the physician, saying that by prayer, precept, and flogging he had done his best to reform him, but without avail. The family physician, after learning that the boy's staple diet was meat and sausage, pie and cake, at meals, with a lunch between meals, said to the father, "If you will put a leech back of each of your boy's ears once a week for a month, you will do more to reform him than all your preaching and pounding will do in a year." The father asked for the philosophy of this prescription. "Why," said the doctor, "your boy has bad blood, and too much of it; he *must* behave badly, or he would burst!" Then said the father, "I'll change his diet from beef and pie to hominy and milk." In three months thereafter a better boy for his age could not be found in the neighborhood.

Mothers must do their part in aiding children to the formation of habits of self-control by providing them with a wholesome, easily digested, unstimulating dietary. While we try to teach our children to do right, we must take care that we make it as difficult as possible for them to do wrong. If by careful feeding we keep the child's physical condition in an unexcitable state, we lessen his temptation to give way to irritability, and make self-control more easy. Very much of the child's ability to control himself is dependent upon his physical condition. The will is under the control of the nerve centers. The will inhibits or restrains the action of the muscles and of the intellectual organs just as other nerve centers restrain the action of the heart. An unhealthy condition of the nerves will therefore lessen the individual's power of self-control. Hence every cause productive of an unhealthy or abnormal nervous condition should be sedulously avoided. All hygienic measures, such as good wholesome food, plenty of sleep, proper clothing, and abundant air and exercise, lend a most helpful influence toward the upbuilding of strong self-control.

Children can early in life be helped in their efforts to attain self-control by having held before them high ideals of self-control, by being told of great and good men who have exercised wonderful control over themselves. But one caution: do not speak of this at a time just after the child has exhibited a degree of uncontrol, thus making him feel you are telling him the incident for the sake of a moral for him. On almost any other occasion he would be in a more receptive state for instruction. At all times make your remarks as impersonal as possible. Your seed will take deeper root if it be judiciously sown, if your morals are not too pointed. It is a good thing when a child has shown any evidence of self-control, to emphasize it in his own mind as a blessed victory, and show him how much happier he is than he would have been had he not controlled himself. The verses in the Bible that refer to strength are a great help with the little ones, as every child naturally desires to be strong physically; and moral strength can be made to seem quite as desirable as physical strength. But what shall be done at the moment with the child who, having lost control of himself in an access of rage, lies kicking and screaming upon the floor? Perhaps we cannot better answer this question than by quoting the suggestions of a prominent kindergartner: —

"Shall we punish him?— As well put out fire with kerosene. Shall we reason with him?— As well reason with Vesuvius in full flow. Shall we try to soothe him with kind words and caresses?— As well

*Abridged from lecture before Sanitarium Mothers' Class.

pat a cyclone on the back, and coax it to be still. No; I assert boldly that the only thing to be done at this juncture is to let the child alone, to leave the room entirely.

"After the outburst is over, what shall be done?—Obviously find out the cause of the disease if possible, and if we be the offenders, repent it in anguish and bitterness, and strive to cast out the devils which we ourselves invited in.

"In the first place — and this, I contend, is not weakness, but common sense — try not to enter into controversies with him, avoid provocation, and endeavor to ward off absolute issues. Distract his attention; try to get the desired result in some other way, but give no room for an outburst of temper, if it can be avoided, remembering that every stone broken from the city's walls renders it more defenseless.

"Don't fret him with groundless prohibitions; don't speak to him quickly and sharply; and never meet passion with passion. If you punish him when you are angry, he clearly sees that he, because he is small and weak, is being chastised for the same fault which you, being large and strong, may commit with impunity.

"After one of these outbursts of temper, don't reprove and admonish him until he is rested. The demon has come down like a hurricane upon the waters of his spirit, and the noise of the waves must be stilled before the mind can listen to reason. When the sun comes out, after the storm, is the time to note wreckage, and take measures for future safety. Select some quiet, happy hour, then, in which you can gently warn him of his besetting sin, and teach him to begin to guard against it. Until this time comes, and he is in a condition for counsel and punishment, an atmosphere of grief and disapproval may be made to encompass him, which he will feel more keenly than spoken words. And when the time for punishment does come, let us try to make it, as far as possible, the natural penalty, that which is the inevitable effect of given cause; for, as 'face answereth to face in water,' so the feeling of justice within the child to the eternal justice of world-law.

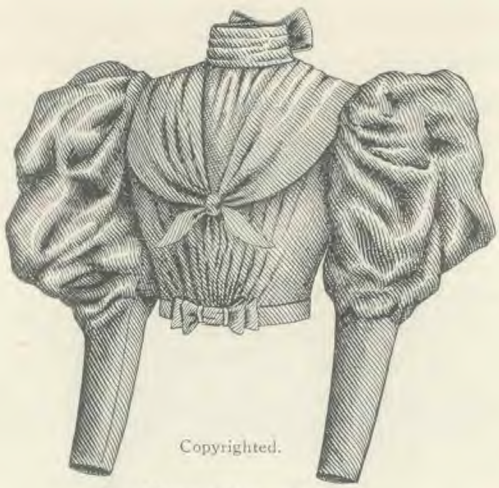
"Finally, let us be patient but firm, and let slip no opportunity for teaching self-control and giving strength of will."

All along the pathway of the child's life there must be careful watchfulness on the part of the mother to anticipate occasions when provocations to uncontrol are likely to occur, and try to divert the child from the evil. And let her take care not to place unnecessary temptation to uncontrol in his way. I think few parents realize how frequently temptation comes to a child through their own thoughtlessness or ignorance. How many times each day are the child's innocent purposes thwarted to suit our convenience. How frequently is he denied some simple pleasure for no other reason than that it would be too much trouble on our part to grant it. Says Helen Hunt Jackson: "Most people would be astonished at being told that simple humanity requires them to gratify every wish that even the smallest of their children manifest, when the pain of having that wish denied is not made necessary either for the child's own welfare, physical or moral, or by circumstances beyond the parents' control. Inconvenience, hindrance, self-denial, one or all, or even a great deal of all, to ourselves, cannot give us the shadow of right to say that the pain of the child's disappointment is necessary. Selfishness grasps at help from such hackneyed sayings as, 'It is best for children to bear the yoke in their youth;' 'The sooner they learn that they cannot have their own way, the better;' 'It is good discipline for them to practise self-denial,' etc. But the yoke they must bear, in spite of our lightening it all we can, is heavy enough; the instances in which it is for good and sufficient reasons impossible for them to have their own way are quite numerous enough to insure their learning the lesson very early; and as for the discipline of self-denial — if men and women brought to bear on the thwartings and vexations of their daily lives and their relations with each other one-hundredth part of the sweet acquiescence and brave endurance which average children show under the average management of the average parents, this world would be a much pleasanter place to live in."

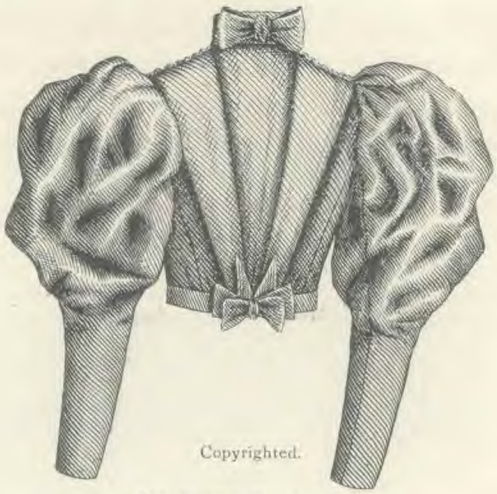
Train the children early to control the tongue, which is a very common irritant, and has a reactionary influence. Teach them habitually to speak in a quiet tone of voice, to think before they speak. The time-worn rule, "When angry, count ten before you speak," is a most valuable one for children as well as grown people. "He who stops to think before making an irritating remark will generally leave it unsaid;" and when he has thus obtained control of his tongue, he will have gained, to a great degree at least, control of himself.

Thus teach the child self-control in the little things, and you will so organize his life that he can control himself when great occasions arise. "If any offend not in word, the same is a perfect man, and able also to bridle the whole body."

E. E. K.



THE MYRTLE WAIST.— FRONT.



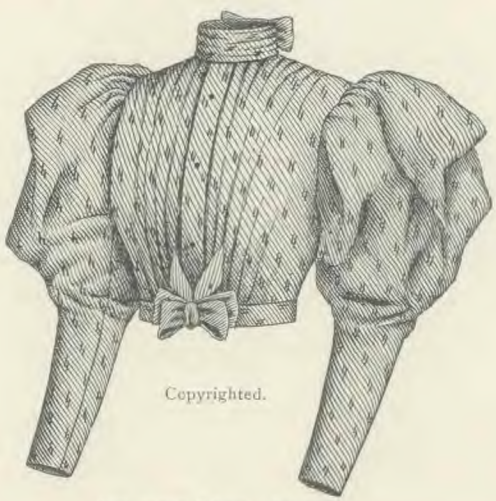
THE MYRTLE WAIST.— BACK.

BATTLE CREEK SANITARIUM DRESS SYSTEM.— XVII.

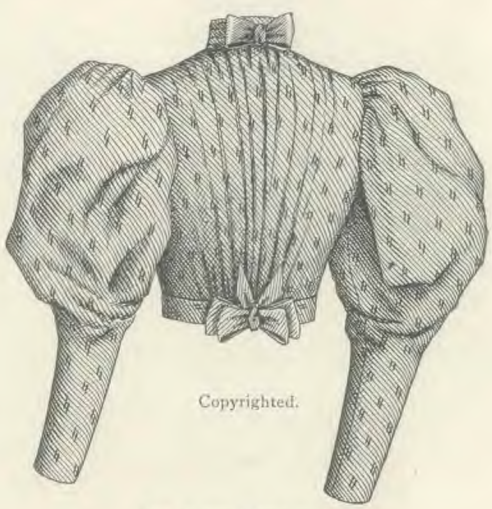
WE reproduce in this number two favorites of last season, the Myrtle and the Alicia waists. These waists, having a lining, are particularly in requisition during cool days or for evening wear. As they were simple and in such excellent taste when designed, they can never really seem old style, but will always be as serviceable and attractive as at first.

These patterns are certainly most desirable and economical to have in a family, as when, for example, several of its members desire waists, one may be trimmed precisely like the illustration, while the decoration of the others may each be so varied as to make it seem like an altogether different garment. A pattern of either the Myrtle or the Alicia waist is also a most convenient thing to have on hand, as a dress may be made at home at any time without calling in the services of a dressmaker. To women in isolated neighborhoods, where for miles there may be no dressmaker, and to all women having more leisure than means, such patterns are positively invaluable.

These waists, like all the garments designed from this dress system, are cut so as to swing the whole weight of the skirt attached from the shoulders. Two sets of sleeve patterns will accompany each waist, one for the leg-o'-mutton sleeve, and one for a plain sleeve. Price of pattern of either the Myrtle or Alicia waist, 25 cents. For all patterns, address Sanitarium Dress Dept., Battle Creek, Mich.



THE ALICIA WAIST.— FRONT.



THE ALICIA WAIST.— BACK.

FITTING HERSELF IN.

"WELL, there's one thing certain," said Alice Barnes, "I'm not likely to get much unless I get it for myself. And there's another thing very uncertain, and that is how I'm to do it. I've thought and thought about it, yet I don't see my way. All the wise folks nowadays are writing and talking about girls' doing for themselves. They say: 'Find out what you can do best, and then do it.'

"'But I can't do anything best,—that is, any of the things that people can make a living at. I can't teach, and I can't write stories, nor do astonishing fancy-work. I can only do the common, every-day things; and father would n't let me go away from home to do those, even if I wanted to, which I don't."

Alice was situated exactly as a great many young girls find themselves. The oldest girl in a large family with a slender income, she had picked up a moderate amount of schooling, and had done plenty of work. She could play a little, paint a little, and sew and cook a great deal. The younger children, for whom she had given willing service, were now growing old enough to assume their own share of the household burdens; and Alice was beginning to find time to think of things which she wanted, and things which she would like to do if she only knew how.

"I need more books, and I need more clothes; and father has enough to do without my looking to him. O, dear! I wish I had been brought up to something regular to do; but how could I be?"

With a tender thought of the toil-worn mother, whose right hand she had been all through these years of struggle, she took up a monthly magazine which had strayed her way.

Around the Fireside,—this is just the kind of a paper I'd like to take. It's full of good talk about girls' helping themselves; and, ten to one, before the year was out, I might get some suggestion that would show me a way. But I could n't afford it any more than I could fly."

In turning over the advertising pages, her eye fell upon the terms for subscription. "'And one to the person who gets up the club.' There, now, I might try that. I could do any amount of walking about and talking. Five subscriptions, and then I should have it. It's no harm to try, anyway."

To think and to act meant one with Alice; and it was not long before she was entering the house of one of her neighbors in the little rambling country town.

"May I come in?" she asked, pausing at the door.

"O dear, yes, of course you can, Miss Alice, if you'll only excuse the mess I'm in. I set aside all my other work to-day to see if I could n't fix over the children's last summer's hats; millinery costs so much, you know, when there's four of 'em, and myself, too, though everybody knows I don't spend much on myself. But the girls is gettin' a little fussy since they've grown so big, and it's hard to suit 'em any more; and the same way with their dresses. They want more fixings about 'em; ain't satisfied no more with Jane Ann Perry's work,—that just does plain sewing,—but thinks they ought to have a reg'lar dressmaker, at a dollar a day! Now, look here at this."

With all her sympathy for Mrs. Drake's perplexities, Alice could not help smiling at her perfectly "wooden" arrangement of ribbons and flowers.

"Let me see if I could twist that into any better shape," she said, taking the hat out of Mrs. Drake's hands.

"O, you're so good, Miss Alice. There now,—if you haven't the real milliner knack. Some folks can do anything they sets their hands to. I ain't a bit of knack myself."

"O, I've had to have a knack," said Alice, laughing. "I have so many at home to do for. Mother never has time for such work. But don't you think some magazine like this would help you on such things, Mrs. Drake? It gives a lot of information about doing things at home."

"Bless your heart, Miss Alice, I never have a minute for reading, even if I could afford the money, and I can't. But I do hope you will have good luck. My! ain't you made that hat look just like a new one?"

Alice next took her way to the house of young Mrs. Garde, who was one of her good friends.

"Yes, Alice, I'll take the magazine. I'd take a dozen, if they would show me any way to make things a little smoother around my fireside. My hands are so tied with these children that I have no time to see to things in the kitchen; and if I had, I don't believe things would be much better. We're living the forlornest kind of a life. Frank is half sick most of the time, and I'm beginning to think it's the wretched cooking. How can a man live on poor bread all the time and be well? It's sour one week, and heavy the next; and that's about all the variety we have."

"Too bad," said Alice, "I wish with all my heart I could get you a good girl."

"You can't. I've searched the entire country. Mother has sent two or three out from the city, but they always get homesick, and go back. I see nothing but to resign ourselves to the prospect of being hopeless dyspeptics. It makes me feel so good-for-nothing, too. You will never make such a failure when you come to the real duties of life."

"Don't talk so," said Alice, shaking her head. "Why, I was just making up my mind that I am good for nothing. I can do plenty of things, but they're not the kind that I can make my living by, unless I go regularly and hire out, and I don't want to do that so long as I have a good home."

"Of course not. It seems a pity," said Mrs. Garde, with a sigh, "that just such abilities as yours could n't be fitted in somehow to places where they are needed."

"O, don't put a book at me," said the mistress of the next house at which Alice called.

"Why, Mrs. Warner, what is the matter?" asked Alice in concern, as that lady, after placing a chair for her, sat down and burst into tears.

"O, it's my eyes troubling me again. Your book would do me no good unless you came and read it to me. And books are not the worst part of it, although it's hard enough not to be able to read. But look at that mending-basket, piled up with two weeks' mending. I try to do a little bit at a time, but it hurts my eyes so I can't go on, and the doctor says they will never get well unless I give them perfect rest. Why," she said, half laughing, "I had to pin the children's clothes on this morning where the buttons were off."

"Never mind the pins, but do take care of your eyes," said Alice. "It is real trouble, and I am so sorry for you. Let me read you one of these stories. Or perhaps you would rather I did some of this mending. Do let me help you a little. It would n't take me very long to do that whole pile."

"Of course it would n't, you are so quick and handy. How fortunate you are, Alice,— eyes and strength, and so bright and smart. You can do anything you want to do. Yes, you may do it if— if you will let me pay you for it. And you don't know what blessed help it will be. No; you sha'n't touch them unless you'll agree to that."

"It is just the kind you can't get anybody to do," continued Mrs. Warner. Alice laughingly consented, and settled herself to work. "I sent for Sarah Crandall the other day to come and do up odds and ends for me, and she sent word she'd come in three weeks. She's always engaged ahead. What is the reason, I wonder, that you can't find folks to do the little useful things just when you need them most?"

Alice walked home with some new ideas in her brain. "I have n't made up my club, but I wonder if I have n't done better than that. I believe it's just as they say, there's enough to do of what I can do, if it only could be fitted. I 'm going to try if I can't fit myself in somehow."

A week later she said,—

"Mother, I 'm going to work."

"I suppose so. You are always at work."

"But I mean I 'm going to earn my own living."

"Not away from home?"

"Well, partly."

"Alice, you can't. Have n't I often said you should n't go away as long as there is a home for you?"

"Don't be frightened, mother," said Alice, laughing. "My going won't be serious. I am going two days in the week to Mrs. Garde's to bake and to wind up her housekeeping so that it will run smoothly between whiles. I'm going one day every week to Mrs. Warner's to do mending, and half a day to Mrs. Drake's whenever she wants me, to help her fix up her girls' clothes. And don't you think that what I can do at home the rest of the time will pay for my board?"

"Of course it will."

"Well, what I earn outside will clothe me, and a good deal more. So I am self-supporting; for when any of these people are done with me, there will surely be others to whom I can fit in my work."— *Sydney Dayre, in Christian Register.*

WASH hair-brushes in a quart of warm water containing half an ounce of ammonia. Set the bristle side of the brush in the water for about three minutes, then rub the brush dry with a towel. Be careful that the water does not reach the back of the brush. After rubbing well, set the brush bristles down until perfectly dry.

To clean enameled saucepans, wash inside and out with hot water and soda, and scour with a mixture of salt and fine ashes — two parts ashes to one of salt. Rinse with hot water, and dry.

CORKS may be pressed into bottles more firmly if they are boiled before wanted for use.

UNSELFISH INTEREST IN OTHERS.— "What makes every one love to be with you?" the Princess Alice once asked her grandmother, the Duchess of Kent. "I am always so sorry to have to leave you, and so are all the others who come here. Won't you please tell me, grandma?"

The old lady smiled, and for a moment that was all she did.

The Duchess of Kent knew the secret of her influence over her friends, but how to explain it without vanity or egotism to this most natural and truthful little girl at her side was not altogether an easy task. Alice's sweet directness could never be put off with a pooh-pooh or a disclaimer, as the dear old lady knew from an intimate acquaintance with her character.

"I think, my child, that this is the reason," the duchess replied at last. "I was early instructed that the way to make people happy was to appear interested in the things which interested them; namely, their own affairs, and that this could only be accomplished by burying one's own grief, annoyance, satisfaction, or joy completely out of sight.

"Forgetfulness of one's own concerns, my dear, a smiling face, a word of sympathy, and unselfish help, where it is possible to give it, will always make others happy, and the giver equally so."

Where could a better lesson for all our girls be found than this one, given so many years ago by the kind old duchess? — *Eleanor Kirk.*

IT ALWAYS COMES.

It always comes — spring, with its promise sweet,
Its dear fulfilments glad to repeat
To us who sigh and fret at its delays,
And count uncheerfully the passing days;
Who say, complaining, that the spring is late,
The earth is as it has been, desolate;
One whirl of snow our hopes to martyrdom
Will banish swiftly. But the springtimes come!

It always comes — the summer, with its blooms,
Its suns, distilling from them rich perfumes;
Its earing corn, its grasses strong and tall,
And waiting for the rhythmic scythe-strokes all;
Its still, sweet nights, more odorous than the days;
Its ripening things, its blossom-bordered ways.
Unto one chilling wind our faith succumbs,
We say, "It is not near." But still it comes!

It always comes — the harvest full and fair,
Despite our anxious, half-despairing care,
Our trustless watch above the growing blade,
As if God could not guard what he has made;
Unhastened and unhindered by our fears,
Its serried ranks uplift their shining spears—
The barrier God has reared around our homes
While we sat doubting. Harvest always comes!

It always comes — God's help to human need,
In measures often that our hopes exceed;
God's answer to the prayer our lips repeat,
In common blessing or surprises sweet.
Does he not see how doubtful the heart is,
How fearful ever the hand we reach to his?
As if to us his presence were not near,
Nor could be found. Yet it is always here!

—*Olive E. Dana.*

DAINTIES FOR THE LUNCH BASKET.

Picnic Biscuits.— Dissolve a half cake of compressed yeast in one cup of thin cream, add two cups of warmed flour and beat very thoroughly. Put in a warm place until well risen, then add sufficient flour to make a very soft dough; divide into two portions; roll each portion to about one-half-inch thickness. Spread one sheet of dough with chopped figs or raisins, cover with the other; cut into biscuits of fancy shapes; allow them to rise until very light, and bake.

Almond Wafers.— Beat the whites of two eggs to a stiff froth, add one tablespoonful of sugar and one-half cup of almond meal. Beat together thoroughly, Drop in small spoonfuls on an oiled tin, and bake.

Almond Puffs.— To the stiffly beaten whites of two eggs add one spoonful of lemon juice and ten scant tablespoonfuls of almond meal. Turn into slightly heated gem irons, and bake fifteen or twenty minutes.

Date Sandwiches.— Spread slices of thinly sliced graham or whole-wheat bread with nut butter and then with chopped dates.

Fruit and Nut Sponge Drop Cake.— Beat the yolks of four eggs to a cream, add two teaspoonfuls of lemon juice, and beat again. Add one cup of nut meal (shelled pecans chopped and pressed through a colander will serve the same purpose), and one cup of dates stoned and rubbed to a smooth cream. Beat all together very thoroughly, lastly add the whites of the eggs beaten stiffly and two tablespoonfuls of gluten meal No. 1, or browned whole-wheat flour, folding this in very carefully. Drop in spoonfuls on a slightly oiled tin, and bake ten or twelve minutes. Handle carefully until cold.

TYPHOID FEVER NURSING.

(Continued.)

At the end of the second or during the third week of a typhoid attack there is apt to be a fall of temperature. Some writers call it a "deceptive fall," as the fever usually returns within a few days, and may continue for several days or weeks longer. It is due to the fact that the active inflammation and ulceration are subsiding. In some cases, where the fever has been moderate and the local inflammation terminates by resolution and without sloughing, the patient from that time begins to convalesce; but in the majority of instances the fever rises again at the end of twenty-four or forty-eight hours. This is caused by the sloughing of dead tissue, and the absorption of poisonous matter, into the open blood-vessels of the ulcerated intestinal tract, the diseased organisms and foul matters in the alimentary canal being thus carried to every part of the body.

During the third week the nurse must be ever on the alert to recognize and meet complications. The patient is very apt to be delirious, and will often overexert himself, and bring on hemorrhage or perforation of the bowels. He must be kept in a recumbent position, and as quiet as possible without the use of violent restraining force. Scattered rose-colored spots usually appear on the abdomen at this time, coming and going in successive crops. At this stage of the disease there is danger that the patient may starve to death from the inability to digest and assimilate food. The open blood-vessels in the mucous lining of the bowels may permit not only particles of dead tissue, with their germs and ptomains, to enter the blood, but also pus corpuscles and blood clots. These small masses of pus and putrid tissue will float on in the larger vessels till they come to the fine capillary network in some gland or in the lungs or liver, where they are liable to be arrested, and to set up secondary infecting centers. This process is favored by the sluggishness of the glandular circulation, and also by the blocking of the smaller vessels with blood corpuscles.

The sensibilities being blunted, the patient is very apt to pass the discharges from the bowels and bladder involuntarily. The nurse must be careful that the patient does not suffer from retention of the urine. There is sometimes great distention of the bladder even when the patient seems to pass water frequently. Its walls having lost the power to contract, only a small amount of urine passes at a time, that being forced out of the urethra by the over-distention.

It is during the third and fourth weeks that the patient is likely to be threatened with heart failure, the energies of the heart and all the other vital organs flagging because of the damage done by the destruction of tissue, by the poisons in the blood, and by the wasting from the inability to assimilate food. Abscesses and bed-sores form very rapidly at this time; and unless constant care is taken, large quantities of tissue will sometimes die in a few hours in the depending portions of the body. To prevent this, the patient should be frequently turned, and the parts sponged with hot and cold water, or sprayed with alternate hot and cold.

Any red or abraded spot should be sponged with witch-hazel extract or alcohol and water, one part of alcohol to three or four of water. A solution of water and alum, a teaspoonful of pulverized alum to a half pint of water, is also a good astringent to harden the surface. The writer has found the best treatment of any denuded surface to be thorough cleansing with a solution of hydrozone, one part in eight of water, followed by either a warm spray of a saturated solution of boracic acid or a poultice of the same made by wetting a wad of sterilized gauze

in the hot boric solution, and changing it frequently. The application should be made for an hour or two at a time, three or four times a day. After the parts have been thoroughly dried, they may be covered with a powder of equal parts of boracic acid and bismuth powder in small sterilized cheese-cloth bags. The bags should be large enough to cover the sensitive surface, and may be held in place by a light bandage. The powder should not be more than an eighth of an inch thick in the bags.

The nurse should be careful to keep all wrinkles in the bedding or any unevenness in the mattress smoothed out, and the bed free from crumbs. The bedding and night-dress should be kept clean and dry, and the patient bathed frequently. This extreme cleanliness, which is so needful to keep the skin whole, is often very difficult to attain with helpless, unconscious patients, where all the discharges are involuntary. It is best in such cases to get twenty-five or thirty yards of cheese-cloth and several rolls of cotton-wadding, and make a number of small pads about three fourths of a yard square. The bed should be protected by rubber or oilcloth under the draw-sheet. A smaller piece of water-proof cloth may be laid over the draw-sheet, and under that the cheese-cloth pad, which may be kept in place and smooth by safety pins, one at each corner. As soon as these pads become wet or soiled, they should be removed, and at once immersed in boiling water or some disinfecting solution. The better and easier way, however, is to burn them, if the expense of doing so is not felt to be too great. Hot water and proper disinfecting, if done before the pads are permitted to dry, will render them safe to use again for a few times ; but as soon as the wadding becomes lumpy and broken, the pads should be destroyed. Old clean cloths, if large and free from seams, will also answer the purpose ; and newspapers, or better still, brown wrapping-paper, may be used in place of the oilcloth to protect the bed.

Besides the smoothness and cleanliness of the bed and bedding in fever or any other disease likely to be protracted in duration, the proper material is important. It is scarcely necessary to say that the feather-bed should be discarded. Besides the danger from the germs which it is likely to contain, it overheats the patient, and increases the fever and also the danger from bed-sores. New excelsior or wood-wool are the cheapest and best materials for mattress filling, being clean, cool, and light, and may be destroyed at the end of the illness without much loss. In the country, straw, corn-husks, pine-needles, hay, or moss may be used, — anything that will be elastic, clean, and make an even surface for the weary body to lie on. The more expensive mattresses of hair or the air or water beds all make very comfortable resting-places for the sick, but these are often beyond the means of the patient or his friends, and comfort and cleanliness can be had without them. A bed-frame of metal and woven-wire springs form the ideal sanitary support for the mattress to rest on. Over the under mattress a light thin cotton one should be placed, and some waterproof covering interposed between them.

The sheets should both be changed daily, and oftener if soiled. Never, in any case, should any discharge be allowed to dry on the bedding. The pillows must be frequently aired, and their covers changed often. The upper bedding would better be blankets, preferably of wool ; however, soft cotton blankets will do very well, and are cheap, light, and easily washed. Short night-dresses are better than long ones. They should open all the way down the front, and be very wide between the shoulders, so as to be easily changed, which should be done at least twice a day in fever cases.

If the previous directions about the use of water to cool the fever are followed, the body will be fairly clean ; but whenever it becomes soiled with discharges or there has been free perspiration, a warm or tepid sponge bath should be given. A soap-and-water shampoo should usually be given once a day. The parched skin should be kept flexible by being oiled with some mild unguent, as vaseline, cocoa-butter, or olive-oil, after each sponge bath. Use only a very small amount of the oil, else it will leave the surface sticky and the patient uncomfortable.

All the orifices of the body are liable to become irritated and inflamed from the poisonous discharges. Directions for cleansing the mouth have already been given. The nose and ears should also be given careful attention, and the rectum, urethra, and vagina should not be neglected. For cleansing all these orifices the writer has found nothing more efficient than a solution of one part of hydrozone to eight of water, used with a small hand-spray. For some parts, as the nose, a weaker solution, one part of hydrozone to twelve or fifteen of water, should be used. After cleansing with the hydrozone, the boracic-acid solution may be used. The parts should then be gently wiped and oiled. A solution of borax or the normal saline solution, a teaspoonful of salt to the quart of water, makes a very good cleansing solution ; and if there is no spraying apparatus at hand, the parts may be cleansed by letting water drip upon them from a sponge or a clean rag.

When necessary to use the catheter to draw off the urine, the external parts should be made clean and aseptic before the instrument is inserted; and after the urine is drawn off, the bladder should be washed out with the normal saline solution or aseptic water warmed to about 106° F. If there is pus present, the bladder douche will be more cleansing if four teaspoonfuls of hydrozone be added to each quart of the saline water, which should be either distilled or boiled, and strained through a clean cloth before it is used. From one to two quarts will be needed for a bladder douche, and it should be given once or twice a day, as the symptoms may indicate. If there is much pain after the catheter is removed, it may be relieved by either hot or cold sprays or compresses. The writer has found an ointment of one part of carbolic acid, ten parts of boracic acid, and one hundred parts of vaseline to be very soothing to the irritated external mucous surfaces. It may be spread on cheese-cloth and laid on the parts. If the nurse is not accustomed to use a catheter, it is especially necessary that the instrument be a new, soft rubber one. As soon as it is removed from the bladder, it should be rinsed, first with cold, then with boiling, water, and after being thus disinfected, it should be wrapped in a clean towel and laid away until needed again, when it should be scalded, disinfected, rinsed in boiled water, and lubricated with boiled vaseline before use. The rubber pipe of the douche-can should be attached to the catheter before removing it after the urine is drawn; and as soon as the bladder is full, the pipe should be removed, and the douche-water allowed to run out through the catheter. The bladder should be thus filled and emptied at least two or three times.

From the first of his illness, the patient should be accustomed to using the bed-pan, for it is especially dangerous for him to get up during the third and fourth weeks. At this time the dead glandular tissues are sloughing, and there are extensive ulcerations of the bowels; and the ulcers having perforated all but the outer coat of the intestines, the walls are so thin that a very slight strain will suffice to tear them open, which occurrence usually causes death in a few hours. Violent hemorrhages are also likely to occur from the ruptured blood-vessels, resulting in collapse, which is indicated by a fall of the temperature two or three degrees below the normal, a pale surface, a profuse cold perspiration, a weak, slow pulse, and shallow respirations.

The discharge of blood from the bowels may not occur until after all the symptoms of profound shock are manifest. The abdomen often becomes much distended with gas, this condition being followed by a free discharge of blood and clots from the bowels. Where the hemorrhage is moderate, the first evidence is often a stool mixed with blood, after which the unfavorable indications may all subside, and the patient begin to improve. If the other symptoms are not alarming, and the heart's action keeps good, there is usually no cause for unduly alarming either the patient or his friends, as recovery usually occurs unless the hemorrhages are frequently repeated, or some other complication ensues.

Whenever evidences of hemorrhage are manifested, the patient must be kept absolutely quiet, and great care must be exercised, in moving or changing his position, not to twist or strain the body in any way. All food must be withheld for a time, and drink given in small quantities, but frequently. It may be either hot or cold, as preferred, and should be given even if the patient is not able to call for it, as after severe bleeding the heart is liable to fail for want of sufficient fluid in the blood-vessels to furnish the volume of blood needed to stimulate its muscles to contract. Water may also be given hypodermically or by enema.

It was formerly thought advisable in these cases to give opium and astringents to stop all action of the bowels, but it has been found that moderate peristaltic action serves to arrest the blood flow by closing the open ends of the eroded vessels, as well as to relieve the bowels of gas and foul matter, and that the only true method is to treat the ulcerated bowels as we would any other foul discharging surface, by cleansing and disinfecting. Small enemata of water at a temperature of 90° to 106° F., will often give the patient great relief, and free the bowels from the danger of rupture from gaseous distention and poisoning. These enemata may be repeated several times a day. The good effects may be increased by giving, after the water enema, a small medicated enema, from ten to thirty drops of oil of turpentine, mixed with a few teaspoonfuls of starch water, being added to a pint of water. This may be retained from fifteen to twenty minutes, and then allowed to pass off. This simple measure will often result in the discharge of a great deal of gas from the bowels, and also relieve the hemorrhage and distention. Subcarbonate of bismuth also often proves a very soothing application. It protects the ulcerated surfaces, prevents putrefaction of the bowels, and hinders the passage of poisonous matters from the bowels into the blood.

A hot bag or fomentations applied for a time

to the middle spine, with an ice-bag over the abdomen, is a good measure, especially where the bowels are hot and sensitive. When the abdomen feels cold, and the blood-vessels are distended with stagnant blood, fomentations or alternate heat and cold may arrest the bleeding by starting the flow of blood through the surface abdominal vessels, and also relieve the internal congestion of the mucous membrane of the bowels. A hot foot-bath and hot sponging to the surface is also calculated to arrest the inward bleeding. When the hemorrhage is very profuse, and it is desirable to save as much blood as possible, ligatures may be put around the thighs and around the arms near the shoulders, so as to arrest the venous circulation, and keep it from being wasted through the bowels. This should not, however, be continued longer than fifteen or twenty minutes at a time, lest the extremities suffer from blood stagnation.

In many cases of typhoid fever there is looseness of the bowels. It was formerly thought best to treat this complication with opium and astringents. The overactivity of the bowels was considered the chief danger to be overcome, when it is really the poisons in the alimentary tract which nature thus seeks to eliminate. The rational method is to cleanse the stomach and bowels of all morbid matter by mild laxatives and frequent enemata. If the stomach is foul, it may be washed out, and thus a great deal of morbid matter be kept back from the bowels, and from being absorbed into the blood and tissues.

Sometimes there is a stubborn constipation instead of relaxation of the bowels. The writer has seen a delirious fever patient become rational after thorough cleansing of the lower bowel by an enema. In such cases it is well to give an enema consisting of half a teacupful of oil mixed with as much weak hot soapsuds. This injection should be retained from one-half hour to two hours before taking the water enema, which will give time for the hardened fecal masses to become softened, and the sensitive surfaces of the bowels lubricated, so that the water enema will be more effective, and the passage less painful. The enema should be given hot when the bowels are too loose, from 101° to 108° F., but when a laxative effect is desired, from 98° to 100° F. An enema consisting of a pint of warm starch-water or flaxseed tea, given after the water injection and retained for a time, will soothe and help to heal the abraded surfaces. A mild saline cathartic, like seltzer, may also be given occasionally.

The diet has much to do with the condition of the bowels in typhoid fever, as well as in all other diseases. This important subject will be fully considered in a future paper. As a last admonition, I would impress on every nurse caring for a critical case of fever or any other disease, the importance of watchfulness as to every symptom, as well as the condition of every part of the surface of the body. A small red spot over a bony prominence may, if neglected, become a serious bed-sore, and cause the patient's death. A small pimple which would be of no significance to a healthy person, may become a great carbuncle, if not disinfected and healed at once. The neglect to treat a small scratch, burn, or other broken surface may have equally serious results. Again, the failure of the nurse to notice that the back or any other part of the body is livid from blood stagnation, and the consequent neglect to turn, rub, and by other methods stimulate surface circulation, may be the means of the patient's death. The writer has seen more than one apparently dying patient revive and recover after receiving a prolonged hot and cold spray to the back. Failure to watch the heart's action, the temperature, and the respiration may prove a fatal neglect to the patient; also, delay in attending to evacuating the bowels or the bladder. The nurse should be ever on the alert, ready to note any change, and to meet all these complications and others which are liable to arise in critical cases. Conveniences should be kept always at hand for any emergency likely to occur.

(To be continued.)

NEVER whisper or talk in the sick-room about an apparently unconscious patient. No matter how weak or indifferent, or in how much of a stupor he may appear to be, he may yet be conscious of every word you say, and be discouraged by any unfavorable remark you make in his hearing. In his weak condition it may be the last strain the nervous system is able to bear, and thus your own words may prove the means of making your unfavorable prognosis of his case true. Persons in such a condition sometimes only partially hear and understand remarks thoughtlessly made in their presence; and their minds being weak, and the imagination unrestrained, their worst fears are excited; and the stimulus of hope being taken away, the feeble flame of life is thus sometimes extinguished when it might otherwise have rallied for many more years of life.

GOOD HEALTH
J·H·KELLOGG·M·D·EDITOR·
BATTLE CREEK·MICHIGAN·

A LEAN PEOPLE.

AMERICANS are proverbially a dyspeptic, lean-visaged race, with a few exceptions now and then among city aldermen, plethoric judges, and doctors who do a consulting practise, the total number of whom is not sufficient, however, to bring the average up to the normal standard. Leanness is due to the inability to digest and assimilate fat-making food. The non-digestion of starch is unquestionably one of the most common causes of disordered digestion. This is doubtless the chief cause of the extensive use of beef and other forms of flesh food in this country. Meat is readily dissolved in the stomach, and its digestion is not accompanied by the flatulence, acidity, and other distressing symptoms present in amylaceous dyspepsia. A beef diet is the most ready means of obtaining relief from those annoying symptoms, and hence is one of the most common diet prescriptions made by physicians, and one which is perhaps more frequently than any other made use of by patients for themselves. The result is relief from a certain set of symptoms, but at the same time the development of others which, if less disagreeable, are in the end not less serious. An exclusive meat diet robs the system of its proper supply of fat, and overwhelms the body with a great quantity of ptomains, leucomains, and tissue poisons, which decrease the resistance of the body to disease.

Bouchard, Rogers, and others have shown that the poison-destroying function of the liver depends upon the amount of glycogen which it contains. This is almost exclusively derived from the starch of farinaceous foods; hence a person who, in consequence of inability to digest starch, confines himself largely to a meat diet, is exposed to a double injury,— the introduction of toxic substances into the system, and the lessened ability to destroy toxins and ptomains.

The dyspeptic who is suffering from the inability to digest starch, in exchanging a farinaceous for a flesh diet, simply exchanges one class of morbid conditions for another, the biliousness, or general toxemia, the uric acid diathesis, and the resulting rheumatism, neurasthenia, and allied conditions which proceed from a meat diet being far more serious in their ultimate effects than the acidity, flatulence, and other annoying symptoms experienced from the indigestion of starch. The fermentation of proteids in the stomach, intestines, and colon, which always accompanies a flesh diet, produces toxic substances of a peculiar character, while the fermentation of starch results in the formation of acids and gases which are annoying and irritating, but not to any degree toxic. A certain amount of fat in the tissues is necessary as an aid to vital resistance. The excessively lean as well as the overfat person is more liable to attacks of disease than the person who possesses a normal amount of adipose tissue. Starved pigeons can be readily infected with certain microbial maladies against which they are proof when well fed.

The substitution of a meat diet for one consisting of farinaceous foods, while a convenient mode of dissipating certain unpleasant symptoms, is, nevertheless, not the best remedy for this condition. What the patient requires is not the withdrawal of starchy foods, but the ability to digest them. In extreme cases, starch may be temporarily administered in a digested state as is offered in various malted extracts, — maltine, bromose, malted milk, and similar preparations.

THE PRACTICAL VALUE OF SO-CALLED "HIGHER EDUCATION."

UNTIL recent years a classical course was considered an essential part of a good education. Indeed, twenty years ago a man was scarcely regarded as an educated man unless he possessed a classical degree. This same delusion is still largely prevalent, although the world is beginning to find out that real education does not consist in a collection of what might be called intellectual chaff, husks, and dry bones, but in that sort of training and discipline which is best calculated to prepare a man for the field of activity in which circumstances have placed him. If the term "activity" be restricted to intellectual pursuits, probably quite a large percentage of intelligent persons would be found to assent to the above proposition; yet there are still a vast number who cling to medieval ideas of education, and regard a knowledge of Greek and Latin as an absolute essential to the educated man.

As bearing upon one phase of this question, the following remarks by Mr. Henry Clewes, a well-known and successful New York banker, are interesting and instructive, as Mr. Clewes is a practical man, and deals with facts rather than theories: —

"Think of a man's going into business with three fourths of his brain cells filled with classical knowledge, dead languages, and high-sounding but unpractical ideas!

"I have been severely criticized for saying that I would not have a college-bred man in my office. Here is my reason: To become a successful merchant, banker, or broker, one must begin young. Most college boys, when ready to enter an office, are over twenty years of age. I have a son at college —a six-footer, in his twenty-first year. Can I ask him to undergo the training I deem necessary for every business man? Would he be willing to begin at the foot of the ladder, with boys of sixteen, and on a salary of $150 per year? Why, that youth not only knows more, in every branch of knowledge, than all of the office boys and clerks in this office, but he knows more than his father, too.

"A collegian cannot, or perhaps will not, humble himself sufficiently to learn the rudiments of the business man's vocation. He rebels against the discipline necessarily imposed upon a subordinate. He has been used to regard himself as a brilliant young gentleman for several years; can you blame him for objecting to sitting on the same bench with errand boys? And has he enough practical knowledge to deserve a place behind the desk? In my opinion, the average graduate does not even know enough of arithmetic and of calligraphy to earn, upon his arrival in an office, a salary of five dollars a week. My legible hand secured for me the first good position I ever held; the average college graduate writes a fearful scrawl, and is proud of it. I understand that none of our universities employs a teacher of calligraphy. This is a sad defect, of which the collegian does not become aware, as a rule, until it is too late to remedy the evil.

"I have practically tested the problem whether a college education is desirable for a business man. Years ago I employed several college men, one after another; but none of them succeeded in benefiting either my business or himself. So I got rid of them. Of the boys who came to me equipped with nothing beyond a common-school education, a sound mind, and an ambition to work, dozens are now independent business men, while as many hold responsible positions with large firms."

AN INFECTED TOWN. — According to the *Journal of Hygiene*, Mentone, France, which forty years ago was a healthful village, inhabited by a vigorous peasantry possessing superb physiques, has undergone a sad change. At that time it was discovered that the region "was a most healing climate for consumptives, and it became the Mecca for the unfortunates of Europe so stricken. The inhabitants abandoned their farms to wait upon the strangers. The strong, healthy women forsook their dairies, and became the washerwomen of the consumptives' clothes. No precautions were taken; the disease was not then understood as now, the theory of the tubercle bacillus not having been discovered. As a result, the place to-day is bacillus ridden, — a pest-hole, death itself. The formerly strong inhabitants are emaciated, a coughing, bleeding people, filled with the germs of consumption. The soil and the air are both contaminated with them. It is no longer a resort. The same fate, it is believed, awaits many other similar health resorts, unless active means are taken to destroy the germs which cause the disease. This will be a most difficult task, because consumptives themselves, as a rule, are not thoughtful of the danger they spread, or of the rights of others. They should bear in mind that if all others had been careful, they themselves might have escaped.

DISEASED TEETH.

Ulceration of the teeth is a very common ailment. Decay of a tooth is exactly analogous to ulceration in other parts of the body. This destructive action upon the teeth is due to the presence of germs in the mouth, which produce chemical substances of such a nature as to dissolve the enamel, and thus expose the inner portion of the teeth to the action of destructive microbes.

Defective teeth, by interfering with the complete and thorough mastication of food, seriously impair the digestion. On the other hand, impairment of digestion, with its consequent perversion of the secretions, is a very common cause of decay in the teeth. Many persons suffering with disorders of digestion cannot hope to recover without giving attention to the teeth, that being necessary as the first step toward reforming the condition of the stomach. If possible, the natural teeth should be preserved by filling when decayed, and by such other measures as any good dentist will recommend.

The microbes harbored by decaying teeth are swept into the stomach in drinking or eating, and there set up fermentative and putrefactive processes, whereby the food elements are converted into poisonous substances. Some of these poisons are possessed of such strong odors as to taint the breath. Decaying teeth may also be the means of introducing into the body such destructive microbes as the germs of consumption, and others giving rise to serious and even fatal disease.

Decay of the teeth is generally the result of lack of use and of cleanliness. By the use of dry food as previously stated, the teeth are polished and kept free from the colonies of germs which settle upon them when they are not scoured by attrition of hard substances. Meat eating is especially favorable to the destruction of the teeth. The small particles of meat which collect between the teeth encourage the development of germs of the most destructive character. Preservation of the teeth requires habitual and scrupulous cleanliness. They should be thoroughly cleansed before and after each meal,— before the meal for the purpose of protecting the stomach from the germs which accumulate in the mouth from the air, and lodge about the teeth ; and after the meal for the purpose of removing every particle of food, so that the growth and development of germs which subsist upon remnants of foods left behind in the mouth shall not be encouraged.

It is well to employ some suitable antiseptic as well as a cleansing agent for the teeth, but many harmful substances are recommended for this use. The writer has had an antiseptic dentifrice prepared, the basis of which is an extract of the famous soap-tree of South America, and cinnamon-oil. The first of these ingredients is as cleansing as soap, and avoids the impurities and chemical substances found in it. Oil of cinnamon is one of the best antiseptics, preventing the growth of germs even when not used in sufficient quantity actually to destroy them.

The rapid decay of the teeth in civilized countries, which is principally due to the excessive use of meats and of soft foods, such as mushes, soups, bouillons, etc., has in our time led to a full realization of the dream of Giles Corey, who was put to death for witchcraft at Salem nearly two hundred years ago, and who wrote: —

> " I saw a man pull all his teeth,
> It took him but a minute ;
> He op'ed his mouth and put them back ;
> I thought 'e deuce was in it."

The tartar which sometimes accumulates upon the teeth is due to the action of germs. Tartar should never be allowed to remain,— indeed, the

teeth should be so often and so carefully cleansed as to prevent the slightest accumulation of it. When allowed to grow and remain, tartar separates the gum from the teeth, and produces an unhealthy state which often causes the loss of the teeth. Fig. 12 shows human teeth on which are formations of tartar. In Fig. 13 are shown the same teeth with the tartar removed. The teeth of Orientals, negroes, and in fact of nearly all primitive people, are generally remarkably sound, because of their simple diet and scant use of meat.

If the natural teeth cannot be saved and made serviceable, they should be replaced by artificial ones. No one can preserve good digestion while munching food with toothless gums, or subsisting on a dietary that does not require the use of teeth.

THE PROPER NUMBER OF MEALS. — The number of meals which should be taken by a person in health depends somewhat upon the habits of the individual, his occupation, the number of hours he labors, etc. There is good reason to believe that for a large proportion of those who now take three to five meals a day, two would be much better. According to Hippocrates, the ancient Greeks ate but two meals a day. The same was true of the ancient Hebrews and Persians. This is also the custom of the natives of India, of South America, and of many semi-civilized nations. Among savage tribes, one meal a day is the prevailing custom. The Eskimo walrus-hunter sets out in his kajak on a day's hunt at the break of day, but eats nothing until after he returns with his prey, just before sunset.

The modern frequency of meals is the outgrowth of a gradual losing sight of the true purpose of the eating of food, and of regarding the gratification of the palate, instead of the nourishment of the body, the chief object to be attained. That the system can be well nourished upon two meals a day is beyond controversy, seeing that not only did our vigorous forefathers require no more, but that hundreds of persons in modern times have adopted the same custom without injury, and with most decided benefit to themselves. Students, teachers, clergymen, lawyers, and other literary and professional men are especially benefited by this plan. The writer has followed the plan for more than thirty years, and with great benefit. The special advantages gained by it are: 1. The stomach is allowed a proper interval for rest. 2. Sleep is much more recuperative when the stomach is allowed to rest with the balance of the body. 3. Digestion cannot be well performed during sleep.

Dujardin-Beaumetz, an eminent French physician, Bouchard, and other well-known European authorities insist that seven hours is the proper length of time to be allowed for the digestion of each meal. If this plan is followed, and the proper length of time permitted to elapse before going to sleep after the last meal, it will be found impossible to make any arrangement by which opportunity can be secured for the necessary eight hours' sleep at night. Not more than two meals can be taken when a person complies with all the laws of health.

If more than two meals are suited to any class, it is those who are engaged for twelve or more hours a day in severe mental and physical labor. Such persons are better prepared to digest the third meal than those whose occupation is wholly mental or sedentary; at least they can take it with less detriment, though a third meal is not needed, even for such, provided the two meals are taken at suitable hours. For many years, the practise at the Battle Creek Sanitarium has been to furnish its guests with two regular meals daily, the first at eight A. M., the second at three P. M. The employees, numbering at the present writing something more than six hundred, are also furnished with but two meals, at 6 A. M. and 1 : 30 P. M. The universal testimony of all who have become accustomed to these hours for eating is that more work and better work can be accomplished then when three meals are taken. In cases requiring more than two meals, as when liquid food or only small quantities of food can be taken at a time, we find it wise to plan two minor meals, at 12 A. M. and 7 P. M.

NEW REMEDY FOR ASPHYXIA. — Dr. Bier, a German physician, has made the interesting discovery that the application of ice to the mouth is an effective means of exciting respiration.

COLD BATH IN TYPHOID FEVER. — At the French Congress of Internal Medicine held last year, Glenard extolled the use of the cold bath in typhoid fever, it having been proven by twenty years' experience in France to be almost a specific for this disease. Moussons recommends, besides the cold bath, an enema of cold boiled water twice daily, and free water-drinking.

ANSWERS TO CORRESPONDENTS.

REMOVAL OF SUPERFLUOUS HAIR.— A reader asks for directions for removing superfluous hair.

Ans.— The only really satisfactory method of removing superfluous hair is by what is known as electrolysis. A galvanic current of sufficient strength is applied to the root of each individual hair by means of a fine gold or platinum needle. Both the root and the follicle from which the hair grows are thus destroyed. By repeating this process until every individual hair has been removed, a cure may be effected.

CONTAGIOUSNESS OF CONSUMPTION.— Mrs. S. A. S. inquires: "Is consumption likely to be contracted by inhaling a consumptive's breath or by sleeping with a person whose lungs are affected?"

Ans.— Consumption cannot be communicated by the breath of a patient suffering from the disease, even though germs are found in the expired air. Consumption is transmitted chiefly through the inhalation of germs in the form of dried sputum which has been ground to dust and floats in the air. There is more or less danger of inhaling infectious germs in sleeping with a consumptive.

A DILATED STOMACH, ETC.—S. R. C., Ark., asks the following questions: "1. In Dr. Dewey's book, 'The True Science of Living, or the New Gospel of Health,' are the premises the author lays down in the first part correct physiology? 2. Can the brain and body live as stated, sixty to seventy-five days without nourishment, the brain feeding on the fat and muscle already stored up? 3. Is there any more value as a health measure in the leaving off of breakfast, as Dr. Dewey recommends, than in leaving off supper? 4. Can or will nature indicate the kind and quantity of food needed by the organism? 5. Is it possible for great benefit to the health to result from so simple a thing as leaving off the breakfast? 6. Can an individual not a physician, tell whether he has a dilated stomach or not? 7. Can he do anything toward remedying the condition?"

Ans.— 1. We could not conscientiously endorse all the position taken.

2. Dr. Tanner lived forty days, Dr. Griscom forty-two days, and an Italian faster lived over sixty days, without food. The body stores up nourishment in the form of fat and glycogen. These stores can be drawn upon in the absence of food. The length of time a person can live without food depends largely upon the nature of the food material stored up in his tissues.

3. It is far better to omit supper than breakfast; but if one eats supper, it is well to go without breakfast.

4. Among human beings, the natural instincts have been so far perverted that they are not altogether reliable.

5. Yes; but as above indicated, it is far better to omit the supper.

6. Most chronic dyspeptics have dilated stomachs. Persons suffering from bilious attacks and sick-headaches almost universally have a dilated stomach.

7. Yes. A little work entitled, "The Stomach: Its Disorders and How to Cure Them," recently published by the Modern Medicine Publishing Company, will give you the desired information. (See advertising pages.)

EXERCISES TO INCREASE STATURE.— J. S., Mich., writes: "1. I noticed, not long since, an article from Dr. Kellogg in the Ann Arbor *Argus*, in which he mentions the fact that several young men had added several inches to their height by means of exercise. What exercises were employed? 2. Were the young men under the care of an experienced trainer? or could the exercises be taken at home? 3. Would you briefly outline such a course for a boy of twenty-one to take at home?"

Ans.— 1. General all-round gymnasium exercises.

2. Yes. The cases referred to were under the care of an eminent English trainer. However, similar exercises can be obtained at home with proper directions.

3. Bicycle riding to develop the legs, and boating to develop the arms, will, together, give first-class, all-round development.

CEREAL COFFEE.— Mrs. M. K., Minn., asks: "1. Is coffee made of roasted barley injurious? 2. Is coffee made of wheat or oats good?"

Ans.— 1. Cereal coffees are often injurious in consequence of containing pyroligneous acid, due to the imperfect method of manufacture.

2. Yes.

MASSAGE.— W. S. S., Wis., asks to have massage described.

Ans.— See work entitled, "The Art of Massage," published by the Modern Medicine Publishing Company, Battle Creek, Mich.

BURNING SENSATION —ACCUMULATION OF GAS, ETC.— Mrs. S. I. L., Ohio, writes: "I am sixty-seven years old; am troubled with a burning on the surface of the right side, sometimes in the region of the liver under the shoulder-blade, and sometimes in front and under the breast and around the hip; have an accumulation of gas in the abdomen. I also have cold feet, and there is considerable sediment in the urine. There is no pain whatever. 1. What is the probable cause of the above symptoms? 2. Which of the Sanitarium health foods is best adapted to my case?"

Ans. 1. The symptoms indicate disturbance of the abdominal sympathetic nerve. Fomentations at night followed by a wet girdle to be worn during the night, and a cool sponge-bath on rising in the morning will doubtless be beneficial. Benefit may also be derived from the use of the abdominal supporter.

2. Granose, bromose, nuttose, and granola are especially good for you.

RHEUMATISM.— Mrs. E. B. R., Minn., writes in relation to her daughter who has been troubled for a number of years with rheumatism in her hands. She suffers great

pain at times. If she tries to knit, her hands feel as though a current of electricity were running through them. They have a pale, bloodless look. Mrs. R. asks: "1. Is there any cure for this trouble? 2. Is there any virtue in the Dover Electric Ring?"

Ans. — This case is one which requires treatment at a sanitarium. Some benefit might possibly be derived from treatment at home, but more effective measures are required than can usually be obtained elsewhere than in a fully equipped sanitarium. The patient should have skilful applications of massage, electricity, and galvanism, together with a careful course of hydrotherapy.

THE RALSTON CLUB. — Mrs. M. A. R., Oregon, asks: "1. Is it a benefit to a person to belong to a Ralston Health Club? 2. Were the Ralstons the originators of the physical culture movement?"

Ans. — 1. The Ralston Club seems to be an ingenious scheme for selling books. The books contain some useful hygienic hints, but also much which cannot be considered as resting upon a scientific basis.

2. By no means.

SKIN DISEASE. — J. Mc P., Canada, writes thus: "My wife has a skin trouble, the locality of which is the neck and the lower part of the face. It comes out in the form of a red spot, which sometimes swells and suppurates, but as often stays red and inflamed for a few days, and then disappears. Please advise as to home treatment."

Ans. — This affection behaves like a boil. It is due to infection of the tissues. Increasing the resistance of the body, and especially that of the affected part, is the only means of protection. This may be done by pure diet, the morning cool sponge-bath, abundant exercise out of doors, and daily sponging of the parts most affected with hot and cold water alternately.

RESULTS OF A FRACTURE. — J. L. C., Tenn., writes as follows: "I am fifty-two years old. Five years ago my leg was badly broken two inches above the ankle-joint by a kick from a horse. The bones were shattered, and protruded from the flesh. It made what the doctors called a 'good recovery,' but is still quite painful, particularly when I first get up in the morning. After getting 'limbered up' I feel pretty well until night. What treatment should I use to strengthen this limb and relieve the pain?"

Ans. — Fomentation of the affected parts, followed by a moist pack to be worn over night will probably be found beneficial.

WHITE BLOOD CORPUSCLES — NERVE AND STOMACH TROUBLE, ETC. — J. H. S., Ohio, writes as follows: "1. I had my blood tested last fall, and it was found that there was a preponderance of white corpuscles and a deficiency of the red corpuscles. What shall I do to increase the number of red corpuscles? 2. I also have nerve and stomach trouble, and cannot keep warm unless I am in a hot room. When I get out of doors in cold weather, I feel cold and chilly if I walk slowly; while if I walk fast, I get into a perspiration before I am warm, and so take cold. What is the cause of this condition of the system? 3. Please prescribe treatment."

Ans. — 1. Improve your digestion. Eat such highly nourishing foods as bromose and nuttose.

2. There is evidently a disturbed condition of the sympathetic nervous system, possibly a dilated stomach and prolapsed bowels.

3. Improvement of the digestion will relieve the sympathetic irritation, and also improve the blood.

SNORING. — M. Mc M., Canada, writes: "A lady, aged fifty-seven, is subject to snoring. Is there anything that will break up the habit?"

Ans. — Snoring is often due to a habit of sleeping with the mouth open, in which case it may be cured by applying a cap over the chin, attached to a night-cap in such a way as to hold the mouth closed. A rubber protector placed over the mouth to prevent the entrance of air will also prevent snoring. Snoring is induced by the passage of air through both the mouth and the nose at the same time. In some cases it is due to partial obstruction of the nose which compels the opening of the mouth during sleep. In such cases the nose must be treated by a competent specialist for the cure of the difficulty.

FATTY DEGENERATION OF THE HEART. — Mrs. E. H., Maine, inquires: "1. Is there any remedy for fatty degeneration of the heart? 2. What is the best treatment for fatty tissues?"

Ans. — 1. No. The disease cannot be radically cured, but great improvement of the patient's condition may be attained by careful treatment.

2. Exercise and proper diet. See "Home Hand-Book of Domestic Hygiene and Rational Medicine," published by the Modern Medicine Pub. Co., Battle Creek, Mich.

LINGERING EFFECTS OF OLD INJURIES — UNNATURAL APPETITE — CONSTIPATION, ETC. — F. A. E., N. Y., writes thus: "1. Two years ago I received an injury which partially destroyed the ulnar nerve of the left arm. The elbow joint is quite stiff. Over a year ago my left collar-bone was broken. My head was also bruised somewhat, which for a time caused unconsciousness. One or both of these injuries seem to have affected me ever since. I am not as strong physically or mentally as I was before. I have now an unnatural appetite, a craving for food when I do not need it. I am troubled at times with constipation and frequent urination; have also catarrh in the head, and take cold very easily. Please outline a course of treatment for my general health. 2. Is there any course of treatment which will help the stiff joint?"

Ans. — 1. It is quite possible that the confinement resulting from the injury may have impaired your digestion more than the injury itself. Fomentations to the stomach at night, followed by a cool sponge-bath on rising in the morning, will be found helpful in your case. It might be well for you to wear a moist abdominal bandage during the night.

2. Fomentation of the joints just before retiring, followed by a moist packing to be worn during the night, and massage skilfully administered, are the best remedies for a stiff joint. In many cases the stiffness can be overcome only by a surgical operation for breaking up the adhesions.

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?

Nos. 344–347.—Here is a group of four children living in Illinois who are greatly in need of a home. Their father died last fall, leaving the mother with seven children to provide for, which she is not able to do. The eldest, a girl twelve years of age, is in good health, is strong, and has had good care and training. She has dark brown hair and eyes. The boys, aged seven, five, and three years respectively, have also had good care, and are easily controlled. They have blue eyes and light hair, and are said to be nice appearing children. Who will relieve this mother's anxiety, by giving these children the influences of good Christian homes?

No. 348 is a boy about eight years of age, with blue eyes and light hair. He is a strong, healthy boy, and rather large of his age. He has not been allowed to run the streets, and has had good training. His parents are both dead, and the grandmother, with whom he has been living, is no longer able properly to care for him. He lives in Michigan.

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 350 is a little Michigan boy nearly two years old, with dark eyes and light hair. He has a happy disposition, and is in excellent health. The mother, having to work out by the day, cannot give him such care and training as she wishes him to have. Some home may be brightened by his presence, and with the influence of Christian surroundings he would surely prove a blessing to those who take him.

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. 352 is a little boy baby about four weeks old. His father is in very poor health, and the mother has to work to support the family, so cannot care for the child. He has blue eyes, and is healthy and good natured. He is now living in Michigan.

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

Two more girls aged sixteen and fourteen years respectively have been brought to our notice, but as yet we have not received a full description of them. Their father is an invalid, and the mother, having to support the family, is not able to give the girls the proper care and education. Are there not those

who will offer them homes where they can work for their board and attend school?

We have a bright little boy about seven years of age on our list, whom we advertised some time ago, and thought had been provided with a home. We have just heard from the father that the family with whom we placed him in communication desire to take a smaller boy. He has dark hair and eyes, and is said to be genteel and quite manly in appearance. Will not some mother take this boy into her heart, and thus relieve the father of his anxiety to see his child cared for?

A girl about twelve years of age who has been left a half orphan, is in need of a home and a mother's care. The father is willing to pay something toward her support while in school. She is a strong, healthy girl, and no doubt, when not in school, could fully pay for her board in work. The father is not willing to give her up entirely. A home in Michigan or Illinois is preferred.

We are in receipt of a letter from a lady in whose home we placed a baby a few years ago. The letter was accompanied by his photograph. We would not have recognized him as the delicate baby he was when we last saw him. We quote from the letter as follows: —

He is well and happy, and just as full of life as he can be. He loves to help with the work, and when I let him, he is well pleased. I don't know how I could get along without him. He is so much company when the others are all at school.

Two little boys who had been temporarily provided for have recently been placed in good permanent homes. One has gone to Wisconsin to live, while the other has been placed in a country home in one of the New England States.

We feel a great interest in the children who come under our notice, and are always pleased to know that they have been provided with good homes. Occasionally we receive encouraging letters from some of them, telling of their pleasant surroundings, and of their progress in their studies. We shall be glad if others in whom we are interested will write us in regard to their welfare, and as to how they are getting along in their new homes.

From another gentleman who adopted a boy some time ago, we have received the following encouraging words: —

Our little boy is no longer little, for he weighs 104 pounds. He weighed seventy-six pounds when he came. We all love him dearly, and are not sorry that he came, for we feel that we could not do without him. His teacher says he is remarkably apt in his studies.

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 not that the visiting days are Sunday, 4 to 6 p. m., and Wednesday, 2 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 Chicago Medical Mission, 40 Custom House Place, Chicago, Ill.

LITERARY NOTICES.

Two new leaflets of the PHILANTHROPIST SERIES: No. 30, "Ministerial Declaration against State Regulation of Vice;" and No. 31, "Christ's Teaching on the Social Evil," by the Rev. Lyman Abbott, D. D., have been published.

The "Ministerial Declaration" is a strong and timely protest against state regulation of vice, signed by Bishops Potter and Andrews, the Rev. Dr. John Hall, the Rev. Dr. W. T. Sabine, the Rev. Dr. S. H. Virgin, the Rev. Dr. R. Heber Newton, and other well-known ministers of New York. It is a most valuable document for Social Purity and White Cross workers to distribute.

Dr. Abbott's "Christ's Teaching on the Social Evil" is a most powerful plea, from the Christian point of view, for the sinful woman; for an equal standard of morals for both men and women; and against the regulation or licensing of vice. It is one of the best leaflets for popular distribution ever issued, and merits the widest possible circulation. Each leaflet contains eight pages; price, by mail, 20 cents a dozen; $1 a hundred. Address the American Purity Alliance, The United Charities Building, Fourth avenue and Twenty-second street, New York.

IN the May issue of *Table Talk*, one finds much that is seasonable in the culinary line, as well as many hints valuable to the home-maker. The Inquiry Department, which is filled with questions direct from the housekeeper, contains many tested recipes in the replies, for plain, simple, and choice dishes. "A Lunch with Longfellow" is described by Howard Paul; "Some Features in Jewish Cookery," by Miss Cornelia C. Bedford; "Books of Interest to the Housekeeper," by L. Hastings West. The publishers of this magazine offer any of our readers a sample copy, if they will send their address to Table Talk Publishing Co., Philadelphia, Pa.

HENRY NORMAN, the correspondent of the London *Chronicle*, whose despatches from Washington have had such an important influence on the Venezuela question, has long been a student of international politics. His book of the "Far East" has already become an authority. Last autumn he visited all the countries (and made the acquaintance of their important men) which combine to form what is called the "Eastern Question." His first published article on this interesting trip will appear in *Scribner's* for June, under the title, "In the Balkans — the Chessboard of Europe." It is a most vivid presentation of the curious principalities that make up that interesting corner of the world — Roumania, Montenegro, Servia, Bosnia, etc.

THE FUNK AND WAGNALLS STANDARD DICTIONARY. — Extensive tables of coloring substances appear under the words representing the primary colors, constituting a novel and valuable feature, also many other tables, as *coins*, *measures*, *weights*, etc., the table of measures alone giving the U. S. and English equivalents of more than eight hundred measures, thus giving the name of the country to which any measure belongs, its class, — dry, liquid, linear, etc., — and its metrical equivalent. These tables will undoubtedly prove of immense value to the merchant, scholar, and teacher.

The places of quotations used to verify or illustrate the meanings of words have been so indicated that they can be found easily — the name of the author and the title of the work, volume, chapter, and page, and the name of the publisher and date of publication being given. This is a decided gain over other dictionaries, and will be very helpful to the student. Nearly one hundred thousand volumes were read, by more than five hundred persons, in the course of the selection of these quotations, representing a search through practically all English literature, from Chaucer down to the present time.

EVERYTHING in the *Housekeeper* (Minneapolis, Minn.) is original and practical. Its mission is to be helpful to the housewife, for it recognizes the fact that there are millions of women who must accomplish much with little. Its success is demonstrated by its immense circulation. The pages of the *Housekeeper* present an abundance of good reading, classified under appropriate headings, in the several departments of Literature, Fashion, Fancy Work, Home Talks, Mothers' Council, Home Remedies, Floriculture, Money Making for Women, Our Young Folks, Household Helps, Miscellany, etc.

The paper is issued twice a month, consists of twenty large pages, and has been published for twenty years. It is the only "domestic" semi-monthly published in America. The subscription price is one dollar per year.

"LITTLE KNIGHTS AND LADIES." — Verses for young people. By Margaret E. Sangster, author of "On the Road Home," etc. Illustrated. 16mo., cloth, ornamental, $1.25. Harper & Brothers, New York.

PUBLISHERS' DEPARTMENT.

A. R. HENRY, president of the board of directors of the Boulder Sanitarium, recently returned from a visit there, and states that the building is nearly completed, lacking only the elevator and furniture. These have since been furnished, and in a short time this fine new building, estimated to cost nearly sixty thousand dollars, will be ready for dedication. The upper floors are already occupied, and the present prospects are that by the time the building is ready it will be filled with patients.

We are glad to learn that numerous patients who have gone from the East to Boulder, suffering from a disease which in most climates would be hopeless, are, almost without exception, making rapid progress toward recovery.

***

DR. WM. HUBBARD'S many friends will be glad to know that his health is now wholly restored. Dr. Hubbard has charge of the eye, ear, and throat department in the institution at Boulder, and reports that he thinks the climate of Colorado, combined with hygienic treatment, capable of curing almost anybody.

***

DR. BRAUCHT writes us that a fine location has been purchased for a sanitarium in Samoa, which will be the first institution of the kind in that part of the world. The work there has developed so rapidly, and continues to do so at such a remarkable rate, that it is evident that permanent headquarters are necessary. The foundation is being laid for a lasting and most efficient enterprise there.

ELDER H. P. HOLSER writes from Switzerland that the new bath-rooms at Basel are working well, and that they have already some patronage in the neighborhood, though they are hardly under way as yet. The French health journal is well liked; its subscription list has already reached six thousand, and is steadily increasing.

***

WORK is being rapidly pushed on the Battle Creek (Mich.) Sanitarium chapel, now in process of construction as an extension to the gymnasium. It is hoped that it will be ready for dedication before many weeks.

***

THE Medical Missionary Board have recently established a hygienic lodging-house for friendless men in Chicago. There seems to be a providential opening there for work of this kind in connection with the free laundry, dispensary, and other enterprises now being conducted by the board in that city.

***

"WOULD MAKE A CHRISTIAN HAPPIER."— Intelligent people everywhere are constantly giving more and more attention to the all-important question, "What is good, wholesome food?" and it can be truthfully asserted that nowhere else in the world has this question been so correctly, so scientifically, and so satisfactorily answered as at the Battle Creek (Mich.) Sanitarium. So great has become the demand for the superior health foods devised and invented

at this far-famed institution, that the Sanitarium Health Food Company has been compelled to erect several large factories in rapid succession.

Regarding these foods, Hon. W. H. H. Johnston, secretary of the Pensions' Committee of the United States Senate, recently wrote: —

"I have used the foods prepared at your institution more or less for several years in my family, and consider them indispensable to good living. I am now using the new preparation, Granose, and other foods, and find my digestion and health improving. The principle of living, involving diet, treatment, and general habit or conduct of life, as advocated and taught by the Sanitarium managers, I deem to be the correct one, and if generally adopted and adhered to, would make a Christian happier, and a sinner more likely to become a Christian."

* *
*

GRANOSE, Granola, Caramel-Cereal, and other special foods, manufactured by the Battle Creek Sanitarium Health Food Co., and originated at the Battle Creek Sanitarium, are the result of painstaking investigations carried on in the extensive laboratories connected with this institution, and have been largely instrumental in the cure of thousands of invalids.

Hon. Wm. K. Ackerman, late auditor of the World's Fair, and comptroller of the city of Chicago, thus commends these foods: —

"Accept our thanks for the package of your new food preparation known as 'Granose.' We have enjoyed it very much, and regard it as one of the most delicate and delicious articles of diet ever prepared — good not alone for sick people, but for well people, to prevent them from getting sick. To the aged and to children it will be especially welcome. The inventor of 'Granose' and its twin sister, 'Granola,' should be regarded as a public benefactor. May God bless all your efforts in this direction."

* *
*

THE National Educational Association will hold its next annual meeting at Buffalo, N. Y., July 3–10, 1896. No better locality for this meeting could have been selected. One of the most important railroad centers of the country, it is easily reached from any direction, while its facilities for the accommodation of so large and important a gathering, by means of commodious public halls, excellent hotels, and private boarding-houses, are unusually extensive and admirable. Buffalo is a beautiful city of charming homes, and will be second in size in the State when Brooklyn shall have been included in the Greater New York. Situated at the eastern end of Lake Erie and at the head of Niagara River, it is so favored by winds and isothermal conditions that its summer climate is very pleasant.

The Michigan Central will on this occasion make a rate of one standard first-class fare for the round trip, *plus* two dollars Association membership fee.

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BAY VIEW CAMP-MEETING. — For the Chautauqua Assembly meeting to be held at Bay View from July 7 to August 14, 1896, the Michigan Central will sell excursion tickets to Bay View and return for one fare for the round trip. Tickets will be sold on July 6 to 16 inclusive, limited for return until August 15, 1896.

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.

THIS institution is located on a beautiful site of one hundred acres, including a fine mountain peak, and commanding extensive landscape views which, for variety and beauty, can hardly be equaled. The site adjoins the thriving city of Boulder, and is about one hour's ride by rail from Denver, the streets and principal buildings of which are easily discernible from the peaks around Boulder. The equipment consists of a large building especially erected for the purpose, two fine cottages, and every appliance for the application of hydrotherapy, and for the special treatment of pulmonary ailments, to be found in the best establishments of like character. Particular attention is given to the dietetic treatment of patients, and to systematic exercise, in addition to the special treatment for specific ailments. The altitude is between five and six thousand feet, just that which has been determined to be the best for pulmonary troubles. Though but a few months have elapsed since the work of this institution was fairly begun, a large number of persons suffering from pulmonary tuberculosis have already been cured, and are now rejoicing in sound health. The rational hygienic treatment, with the climatic advantages, has proved effective in the cure of cases which, without the combined advantages of these superior measures, must certainly have succumbed to the disease.

GUADALAJARA SANITARIUM,

STATE OF JALISCO, MEXICO.

D. T. JONES, Superintendent.

ADDIE C. JOHNSON, M. D., } Physicians.
J. H. NEALL, M. D., }

THIS institution, established in 1894, is the first and still the only one of the kind in Mexico. It affords, in addition to the unsurpassed climatic advantages of the region in which it is located, facilities for the employment of hydrotherapy, electricity, massage, manual Swedish movements, and dietetics, in the treatment of all forms of chronic disease. The altitude is the same as that of Denver,—from five to six thousand feet. Guadalajara has the advantage of a climate more nearly uniform than any other with which we are acquainted. Located in the tropics, it enjoys almost perpetual sunshine, while its altitude is such as to prevent excessive heat. There is probably no better place on earth for a pulmonary invalid. It is only necessary that the advantages of this institution should become known to secure for it extensive patronage.

INSTITUTE SANITARE,

BASEL, SWITZERLAND.

THIS institution affords the only place in Europe where patients can receive the advantages of a thoroughly hygienic diet, baths, electricity, Swedish movements, massage, and various other methods of treatment, applied after the manner and in accordance with the same principles which govern the Battle Creek Sanitarium and its several branches. The physicians are persons who have received a thorough training in the institution at Battle Creek. Terms are moderate. No better place for sick persons or semi-invalids abroad than the Institute Sanitare.

Address, 48 Weiherweg.

Modern Medicine Library.

$1.00 a Year.

THE publishers of MODERN MEDICINE will issue each month during the year 1896, under the above title, a brochure on some practical medical topic. The first number consists of a paper by Dr. J. H. Kellogg, entitled, "**What is the Matter with the American Stomach?**" which presents the results of new and interesting inquiries respecting the morbid conditions of the stomach, and their causes.

The following additional numbers are already in preparation:—

"**The Liver: Its Diseases and Modern Methods of Treatment,**" by Dujardin-Beaumetz.

"**Auto-Intoxication and Its Relations to Diet and Therapeutics,**" by Bouchard and Rogers.

"**The Importance of Intestinal Asepsis and Antisepsis in Abdominal Surgery.**"

"**Scoliosis: Its Etiology, and Rational Treatment by Massage, Swedish Movements, Gymnastics, and Electricity,**" by Dr. T. J. Hartelius, Director of the Central Institute of Gymnastics, Stockholm, Sweden.

"**Diabetes: Its Causes and Successful Modes of Treatment.**"

"**Enteroptosis, or Dislocation of the Abdominal Viscera and Its Relation to Neurasthenia, Indigestion, Constipation, Rheumatism, Bright's Disease, and other Chronic Maladies; Its Cause and Rational Methods of Cure,**" by Trastour, Glenard, and others.

"**The Value of Strength Tests in the Prescription of Exercise, and a Comparative Study of the Strength of Individual Groups of Muscles, and of Homologous Muscles, in Men and in Women,**" by J. H. Kellogg, M. D.

Several of these brochures will be good-sized pamphlets, any one of which will be well worth the price charged for the entire series.

MODERN MEDICINE PUBLISHING CO., Battle Creek, Mich.

HOT-WATER BAGS.

Style A.
WHITE RUBBER.

As a foot-warmer, or for applications of either moist or dry heat, this bag is invaluable. For moist heat, wring a flannel cloth from hot water, and lay on the bag. It is a durable article, and one not willingly dispensed with after once using.

STYLE B. FLANNEL COVERED.

The same bag covered with flannel or sateen, which to many makes it much more agreeable as a foot-warmer.

Style B.
FLANNEL COVERED.

SPINE BAGS.

RUBBER SPINE BAGS. Very strong and durable; essential in the treatment of some forms of Dyspepsia, Spinal Irritation, and many nervous diseases.

- - - SEND FOR CATALOGUE - - -

SANITARY AND ELECTRICAL SUPPLY CO., Battle Creek, Mich.

CHICAGO & GRAND TRUNK R. R.

Time Table, in Effect March 20, 1896.

GOING EAST. Read down.					STATIONS.	GOING WEST. Read up.				
10 Mail Ex.	4 L'v'd Ex.	6 Ac. Ex.	42 Mix'd Tr'n.	2 Pk. H Pass		11 Mail Ex.	1 Day Ex.	3 R'd L'v'd	23 R. C. Pass.	5 L've Ex.
a m	p m	p m				p m	p m	p m		a m
9.00	3.10	8.15	a m	.....	.....p.Chicago.A.....	6.45	1.50	9.10	.....	6.30
11.25	5.05	10.30	6.00	.....	.....Valparaiso.....	5.05	11.35	7 4.	.....	4 30
p m										
1.05	6.30	12.00	10.05	.....	.....South Bend.....	3.10	10 15	5.44	.....	3.07
1 46	7.12	12.45	12.40	.....	.....Cassopolis	2.15	9.40	5.18	.....	2.25
2.33	.....	01.33	3.42	.....	.....Schoolcraft.....	1.30	.....	.....	.....	.....
2.44	7.55	1.48	4.50	a m	.....Vicksburg.....	1.10	8.52	.....	p m	1.30
3.30	8.36	2.40	6.20	7.00	.....Battle Creek	12.15	8.15	3.55	9.35	12.50
4.33	9.26	3.25	.....	7.47	....Charlotte.....	11.14	7.23	3.07	8.40	11.55
5.10	9.55	4.00	.....	8.20	.....Lansing.....	10.40	6.53	2.40	8.00	11.25
6.30	10.45	5.03	.....	9.30	.....Durand.....	9.35	6.08	1.55	6.50	10.25
7.30	11.17	5.40	.....	10.05	.....Flint.....	8.35	5.35	1.28	6.47	9.35
8.15	11.50	6.15	.....	10.43	.....Lapeer.....	7.49	5.02	1.00	5.10	9.05
8.42	a m	6.35	.....	11.06	.....Imlay City.....	7.28	.....	.....	4.48	.....
9.50	1.00	7.30	.....	12.05	.....Tunnel	6.50	3.5	11.55	3.50	7.55
	p m					a m	a m	a m	p m	p m
9.25	.....	.....	.....	.....	.....Detroit.....	.....	.....	10.40	4.05	8.00
	a m	p m					p m			p m
.....	8.15	5.25	.....	.....	.....Toronto.....	.....	9.20	.....	.....	1.00
	p m	a m					a m			
.....	8.15	7.25	.....	.....	.....Montreal	.....	9.15	.....	.....	.....
	a m	p m					a m			
.....	8.12	7.15	.....	.....	.....Boston.....	.....	8.30	.....	.....	.....
	a m	p m					p m	a m		p m
.....	7.50	4.25	.....	.....	.....Susp'n Bridge.....	.....	10.15	7.05	.....	2.05
	a m	p m								p m
.....	7.00	5.40	.....	.....	.....Buffalo.....	.....	.....	.....	.....	1.00
	p m	a m					a m	p m		p m
.....	8.53	8.03	.....	.....	.....New York.....	.....	8.15	6.10	.....	9.00
		a m								p m
.....	.....	10.20	.....	.....	.....Boston.....	.....	.....	.....	.....	7.00

Trains No. 1, 3, 4, 6, run daily; Nos. 10, 11, 2, 23, 42, daily except Sunday.

All meals will be served on through trains in Chicago and Grand Trunk dining cars.

Valparaiso Accommodation daily except Sunday.

Way freights leave Nichols eastward 7:45 a. m.; from Battle Creek westward 7:05 a. m.

† Stop only on signal.

A. R. McINTYRE, *Asst. Supt., Battle Creek.*

A. S. PARKER, *Pass. Agent, Battle Creek.*

The New Crusade.

(FORMERLY THE "MOTHERS' FRIEND.")

A Monthly Periodical Issued in the Interest of the Home and Society.

EDITED BY MARY WOOD-ALLEN, M. D.

The success of the "Mother's Friend" in the first year of its existence, induces the publishers to **enlarge its size and broaden its scope.**

While continuing to emphasize the educational phase of Purity Work, it will also discuss the Rescue Work, the questions of legislation in behalf of morality, and all topics of health and heredity.

It will aim to present in a plain and practical way, an answer to the many moral problems that are continually presenting themselves to parents, and are not treated in other periodicals.

The **NEW CRUSADE** will wage a peaceful war against all forms of evil, and strengthen the good name which it has earned as the "Mother's Friend."

Send for circular concerning **club rates and advantages secured** to those who desire to club with other periodicals.

Personal problems can be presented to the editor, and if of general interest, will be answered through the publication.

Single Copy, 5 cts.
Subscription, 50 cts. per Year.

For sample copy or further particulars, address the publishers,

WOOD-ALLEN PUBLISHING CO.,
ANN ARBOR, MICH.

MICHIGAN CENTRAL

"The Niagara Falls Route."

Corrected March 1, 1896.

EAST.	*Night Express.	†Detroit Accom.	†Mail & Express.	*N. Y. & Bos. Spl.	*Eastern Express.		*Atl'ntic Express.
STATIONS.							
Chicago.....	pm 9.30		am 6.50	am 10.30	pm 3.00		pm 11.30
Michigan City	11.30		8.48	pm 12.08	4.50		am 1.19
Niles.....	am 12.45		10.15	1.02	5.55		2.45
Kalamazoo....	2.09	am 7.20	11.52	2.16	7.21		4.25
Battle Creek...	2.55	8.10	pm 12.50	2.50	7.58		5.05
Jackson.....	4.30	10.00	2.40	4.10	9.20		6.30
Ann Arbor....	5.40	11.05	3.50	5.00	10.12		7.30
Detroit.....	7.10	pm 12.20	5.30	6.00	11.15		9.00
Buffalo.....				am 12.10	am 6.45		pm 5.30
Rochester.....				3.00	9.55		8.40
Syracuse.....				5.00	pm 12.15		10.45
New York.....				pm 1.45	8.45		am 7.00
Boston.....				3.00	11.35		10.50
WEST	*Night Express.	*N.Y. Bos. &Chi. Sp.	†Mail & Express.	*N. Shore Limited.	*Weste'n Express.	† Kalam. Accom.	*Pacific Express.
STATIONS.							
Boston.....		am 10.30		pm 2.00	pm 3.00		pm 7.15
New York.....		pm 1.00		4.30	6.00		9.15
Syracuse.....		8.30		11.30	am 2.15		am 7.20
Rochester.....		10.37		am 1.20	4.10		9.55
Buffalo.....		11.45		2.20	5.30		pm 8.30
Detroit.....	pm 8.45	am 6.30	am 7.15	8.30	pm 1.00	pm 4.45	11.05
Ann Arbor....	10.12	7.30	8.38	9.25	2.00	5.55	am 12.15
Jackson.....	11.40	8.35	10.43	10.30	3.02	7.35	1.25
Battle Creek...	am 1.00	9.48	pm 12.15	11.43	4.18	9.11	2.55
Kalamazoo....	1.40	10.27	1.05	pm 12.21	4.57	10.00	3.36
Niles.....	3.25	11.48	3.00	1.45	6.27		5.00
Michigan City.	4.35	pm 12.50	4.25	2.45	7.22		6.00
Chicago.....	6.30	2.40	6.35	4.30	9.05		7.50

*Daily. † Daily except Sunday.

Kalamazoo accommodation train goes west at 8.05 a.m. daily except Sunday.
Jackson " " " east at 7.27 p.m. " " "

Trains on Battle Creek Division depart at 8.10 a. m. and 4.35 p. m., and arrive at 12.40 p. m. and 6.35 p. m. daily except Sunday.

O. W. RUGGLES, General Pass. & Ticket Agent, Chicago.

GEO. J. SADLER, Ticket Agent, Battle Creek.

THE CYCLONE WASHER

Stands Without a Rival.

Gives more satisfactory results with less expenditure of energy than any other washing machine. **Buy a "Cyclone" and save your strength,** is what the people say. We give the following from among the testimonials we are receiving daily.

TERRA CEIA, FLA., Jan. 29, 1896.

CYCLONE WASHER CO.,

I received the washer some time ago, and to say that I am pleased with it is too tame. I am perfectly delighted with it. Have shown it to several, and they are all pleased with the work and talk of buying one. Shall begin for orders and will want a dozen in a few days.

Yours truly,
MRS. E. A. LENNARD.

BATTLE CREEK, MICH.,

MESSRS. COON BROS.,

Gentlemen: It gives me pleasure to add one more to your list of testimonials for the "Cyclone Washer." We have one in our family, and do not see how we could get along without it. The washing, instead of a drudgery, has become a mere pastime. It ought to be in every family.

Sincerely,
FRANK ARMSTRONG.

MANUFACTURED BY **COON BROS.,**
20 HANOVER STREET,
BATTLE CREEK, MICH.

Agents Wanted Everywhere.

BATTLE CREEK (MICH.) SANITARIUM

HEALTH FOODS

ESTABLISHED 1876

Granola,

An Invalid Food prepared by a combination of grains so treated as to retain in the preparation the **Highest Degree of Nutrient Qualities,** while eliminating every element of an irritating character.

Thoroughly Cooked and Partially Digested, this food preparation is admirably adapted to the use of all persons with weak digestion, defective assimilation, general or nervous debility, brain workers, feeble children, and invalids generally, as well as travelers and excursionists, who often need to carry the **largest amount of nutriment in the smallest bulk,** which is afforded by Granola in a pre-eminent degree.

One Pound More than Equals Three Pounds of Best Beef

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

Send for illustrated and descriptive circular of Granola and other Health Foods to the BATTLE CREEK SANITARIUM HEALTH FOOD CO., BATTLE CREEK, MICHIGAN.

The KALAMAZOO BOOK HOLDER.

Best For Webster's.
For Standard.
For Bradstreet's.
For Dun's.

BEST FOR ANY LARGE BOOK.

For Sale by . . . Leading Booksellers all over the Country.

For Catalogue, Address

IHLING BROS. & EVERARD, Man'f'rs,
KALAMAZOO. MICH.

Perfection Vaporizer,

A New Instrument which has no Equal as a Means of Applying Medicaments to the Nose, Throat, and Lungs.

The PERFECTION VAPORIZER has the following advantages over all others:—

1. It furnishes a continuous stream of medicated air, without the necessity of continuously working the bulb.

2. By its aid, medicated air may be introduced into the nasal cavity with sufficient force to cause it to enter the ears, frontal sinuses, and other connecting cavities.

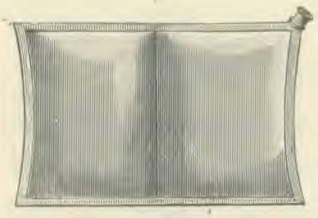
3. It permits thorough treatment of the coats of the nose and throat at the same time, and so economizes time.

4 It is strong, does not upset easily, is durable and efficient. It embodies all the good qualities of any other volatilizer or vaporizer in addition to the above.

The Perfection Vaporizer is indispensable in the successful treatment of COLDS, BRONCHITIS, NASAL and THROAT CATARRH, diseases of the EARS, and in all other affections of the nose, throat and lungs.

PRICE, $3.

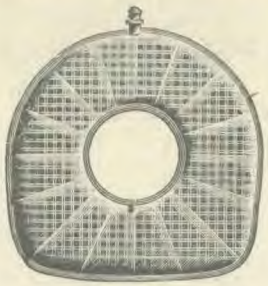
Modern Medicine Company,
Battle Creek, Mich.



AIR PILLOWS.

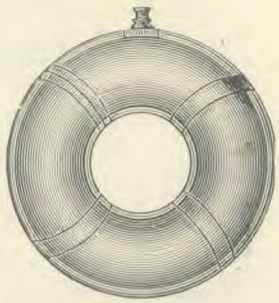
Air pillows are always cool and restful. They can be adjusted at will. Just the thing for camping out or traveling. Can be packed in small space by letting the air out.

Hospital Cushions.



These cushions are made with special reference to hospital use. They are extra strong.

INVALID AIR CUSHIONS.



These cushions are unsurpassed in the comfort they afford to very thin persons in sitting, and are also essential as a means of preventing the formation of bed-sores.

SEND FOR CATALOGUE.

SANITARY AND ELECTRICAL SUPPLY COMPANY,

BATTLE CREEK, MICHIGAN.

AIR MATTRESSES.

THE Air Mattress has proved itself to be unequaled for *comfort and durability*. Not only does it fit the form perfectly when reclining, but may easily be made hard or soft by regulating the quantity of air contained. It is always perfectly clean, free from vermin or unpleasant smells. It requires no springs, as nothing is more elastic than air; and it is always "made up." It is cool and soothing in summer, and warm and comforting in winter. In cases of sickness it is indispensable, as it prevents bed-sores.

MADE IN ALL SIZES.

This cut shows Camp Mattress folded  in a shawl-strap ready for traveling.

PRICES ON APPLICATION.

SANITARY AND ELECTRICAL SUPPLY COMPANY,

BATTLE CREEK, MICHIGAN.

Battle Creek (Mich.) Sanitarium

HEALTH FOODS.

EAT GRANOLA AND GRANOSE
DRINK CARAMEL CEREAL
Established 1876

Food Cure for Constipation.

AN inactive state of the bowels is one of the most common causes of many serious maladies. Chronic headache, biliousness, hemorrhoids, backache, and perhaps more serious constitutional ailments, may be readily attributed to habitual constipation.

Mineral Waters, Laxatives, "After-Dinner" Pills, do not Cure.
Orificial Surgery does not Cure.

Constipation is due, in the majority of cases, to errors in diet, and hence can be best cured by diet. An excellent remedy for this common malady has been found in **GRANOSE**, a new food recently invented at the Battle Creek Sanitarium, where it is extensively employed as a food remedy in many forms of indigestion, especially in cases of constipation.

GRANOSE CURES CONSTIPATION, not by producing a laxative effect, but by removing the cause of the disease. Granose is prepared from wheat. It is not a medicine, but a food so delightfully crisp, delicate, and delicious, that everybody likes it. **TRY IT.**

A well-known Boston merchant writes of Granose: "The Granose is splendid; everybody is after it at our table."

For Circulars, etc., address BATTLE CREEK SANITARIUM HEALTH FOOD CO., Battle Creek, Mich.

J. FEHR'S
"COMPOUND TALCUM"
"BABY POWDER,"
The "Hygienic Dermal Powder" for Infants and Adults.

Originally investigated and its therapeutic properties discovered in the year 1868 by Dr. Fehr and introduced to the Medical and the Pharmaceutical Professions in the year 1873.

COMPOSITION.—Silicate of Magnesia with Carbolic and Salicylic Acid.

PROPERTIES.—Antiseptic, Antizymotic, and Disinfectant.

USEFUL AS A GENERAL SPRINKLING POWDER,

With positive Hygienic, Prophylactic, and Therapeutic properties.

GOOD IN ALL AFFECTIONS OF THE SKIN.

Sold by the Drug Trade generally. Per Box, plain, 25c.; perfumed, 50c.; Per Dozen, plain, $1.75; perfumed, $3.50.

THE MANUFACTURER:

JULIUS FEHR, M. D., Ancient Pharmacist,
MOBOKEN, N. J.

Only advertised in Medical and Pharmaceutical prints.

Battle Creek Sanitarium,

The Oldest & Most Extensive Sanitarium Conducted on Rational & Scientific Principles in the United States

BATTLE CREEK, MICH.

Special Advantages:

An Elevated and Picturesque Site.

Remarkably Salubrious Surroundings.

BATHS OF EVERY DESCRIPTION.
ELECTRICITY IN EVERY FORM.
MASSAGE and SWEDISH MOVEMENTS
By Trained Manipulators.
PNEUMATIC AND VACUUM TREATMENT.
MECHANICAL APPLIANCES of All Sorts.
A FINE GYMNASIUM,
With Trained Directors.

CLASSIFIED DIETARIES.
UNEQUALED VENTILATION.
PERFECT SEWERAGE.
ARTIFICIAL CLIMATES created for those needing Special Conditions.
THOROUGHLY ASEPTIC SURGICAL WARDS and OPERATING ROOMS.

All Conveniences and Comforts of a First-class Hotel.
Incurable and Offensive Patients not received.
Not a "Pleasure Resort," but an unrivaled place for chronic invalids who need special conditions and treatment not readily obtainable at home.

For Circulars, address, **SANITARIUM, Battle Creek, Michigan.**