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INTERNATIONAL HEALTH STUDIES.

BY FELIX L. OSWALD, M. D.
Author of "Physical Education;" "The Bible of Nature," Etc.

10.—The Polar Regions.

THE progress of spring in its yearly advance from the lower latitudes to the borders of the polar circle is the symbol of a biological secret. Life is a child of the tropics. The arch-types of all our northern plants and animals are found in the equatorial regions, and only a fierce struggle for existence, continued through countless ages, has at last pushed the hardier species of our terrestrial organisms to the border of the eternal winter lands. The northern-most nations of the human race, too, were at first undoubtedly the most manly and most enterprising representatives of their species,—"twice-picked men," as the colonists of our far-western territories call themselves, and sifted by a continuous process of selection from the stoutest tribes of the temperate zone.

But in the land almost devoid of vegetable products, man, like many of his dumb fellow-vegetarians, had to pay the penalty of having strayed too far beyond the borders of his natural habitat. In the Arctic regions the carnivorous white bear has become the colossus of his species, the carnivorous polar fox is both larger and bolder than most of his Southern congeners, the Arctic whale has outgrown every resemblance to his small tropical kinsman, the river-dolphins and manatees. The Northern musk-ox, on the other hand, has shrunk, like the Shetland pony, to a mere dwarf variety of his species, and the continued influence of an uncongenial climate has stunted the Arctic tribes of our own race, in mind as well as in body. The favorite arguments employed by the champions of animal diet in their disputes with the exponents of vegetarianism, are, indeed, strikingly refuted by the degeneration of the purely carnivorous natives of Lapland and Labrador. The average hight of an adult Esquimau is four feet and ten inches. The features of the race combine all the repulsive expressions of animalism characterizing the nomads of our northwestern borderlands, and the head of a typical Greenlander tapers remarkably toward the upper part of the skull, *i. e.*, toward those portions of the cranium where our phrenologists locate the nobler faculties of the animal soul. An advanced stage of mental development cannot be expected in a climate making life a continual struggle for the bare necessities of existence, but the natives of the polar regions are not only ignorant but decidedly unintelligent. They cannot count beyond ten; their interest in the outlandish curiosities of a foreign ship is limited mostly to the eatable portion of the cargo, and the Rev. J. D. Hansen, who passed many years in the Moravian missions of Western Greenland, tells many amusing anecdotes about the hopelessly non-spiritual condition of the natives.

"What sort of walrus have they got in heaven?" a dying chieftain asked his dogmatical instructor.

"Walrus? Why, none at all; no such things in heaven, my friend," replied the astonished pastor.

The eyes of the departing brother assumed a look of intense reproach. "And you could n't tell me that before? No heaven that for me, then; our people could not begin to exist without walrus meat."

Their traditional superstitions are uncouth and

puerile to an extravagant degree. Among many of the pagan tribes, corpses are left unburied in some out-of-the-way place till the advent of warm weather initiates a process of putrefaction, and thus drives away the evil demons supposed to hover about the provisional grave. Only then the relatives of the deceased make preparations for definite sepulture, by excavating a pit in the next pile of loose stones. During the removal of the body, the neighbors take occa-

IN THE ARCTIC SEAS.

sion to give their departed friend a piece of their mind. "A year ago you refused to lend me that rusty old meat-ax of yours, did n't ye? Said you lost it, when I asked you the second time. Much good will it do you now to have hidden it away. Your mean old ghost can ride on it now, for all I care."

Others tender the defunct brother a farewell gift of good advice: "Do n't pick another quarrel with old W—— if you meet him in ghostland. He 's the best wrestler from this part of the coast, and you have n't got your cousin to help you this time, remember." "When you worked on that Danish whaler they taught you to chew tobacco, and I bet you have a plug or two stowed away in that old fur coat you're wearing. But do n't try chewing in ghost-camp; or if you do, take care you do n't spit on a person's new fur shoes, like you did in our place, or some fellow might knock your teeth out."

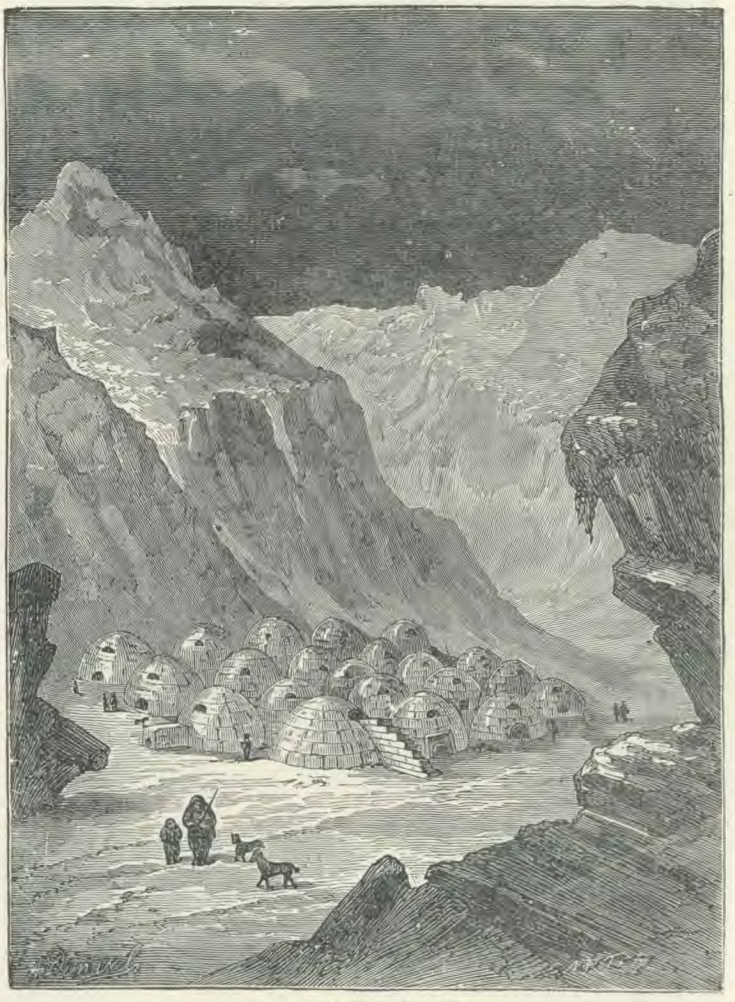
Lapland hunters scrupulously abstain from calling a bear by his right name, and only refer to him as "God's dog," or "the old gentleman in a hair coat;" and if they manage to kill a full-grown specimen, they never carve it up till they have straightened out the ruffled feelings of its ghost by all sorts of prevarications. "Don't suspect me, old fellow; I had nothing to do with it, nor had any of my kinsmen. It must have been one of that party of Swedish hunters that killed you. Yes, I now remember I did hear them talk about it last week. Yes, yes, it must have been one of those Swedes, depend on it."

The moral contrast between those Arctic dwarfs and their tall Scandinavian neighbors is not less striking. When the traveler Newland had passed a week in a Norwegian farm-house (the home of a widow), he thought it time to ask his hostess for his bill. The old lady pointed toward the ocean and then toward her little patch of truck farm. "As long as the sea gives us fish, and the land potatoes," said she proudly, "no traveler shall say that we accepted money for being hospitable." Esquimau visitors to a foreign ship, on the other hand, need continual watching. They are incorrigibly addicted to petit larceny, and are unconscionable beggars. While warm weather lasts, no arguments will induce them to work. They hunt and fish in a leisurely way, but refuse hard labor, and, indeed, give their white visitors a wide berth, till the advent of the frost season turns them into mendicants, and not rarely into sneak-thieves. Winter camps in the neighborhood of their settlements have to be constantly on the alert for two-legged night-prowlers, and a few years ago a whole gang of the hunger-crazed wretches were shot down like wolves in an attempt to force the provision-store near an intrenchment of Russian sailors. Like all natives of a sparsely-settled region, they consider absolute inhospitality an unpardonable sin, and readily share their pittance with their distressed neighbors; but the very idea of thrift seems foreign to their minds, since most travelers agree that a few weeks' steady work in the warm quarter of the year would suffice to secure them against famine for a couple of years, besides greatly improving the comforts of their wretched winter hovels. A fox-den in a frozen sand-hill could not be much more primitive and dismal than the human habitation of the Northern Greenlanders. Loose stones, chunks of turf and frozen dirt, piled together in a happy-go-lucky way, and cemented

with frozen mud-water, form the vault of a ten-by-twenty feet bake-oven-like den, the interspaces of the walls being left open till the winter storms close them with snow and ice. Drift-wood abounds in many of the southern bays, but only chieftains ever use it in the construction of their hovels. After the middle of May, frequent rain-storms drench the miserable dens, but their inmates think it not worth their while to make their roofs weather-tight. Wood is too troublesome to work, and moss is too precious as an article of dog-food, after being boiled in a kettle of rancid walrus grease. A thatch of moss, in the eyes of a Greenlander, would appear as extravagant as a roof shingled with loaves of bread.

"He abuses the right of a man to be homely," Madame de Sevigne said of a grotesquely ugly old abbot; and with equal propriety it might be said of the Arctic hovel-dwellers that they abuse a Northlander's prerogative to eat unwholesome viands. "Every devourable scrap of animal substance is considered digestible," says Dr. Wiedemann, of the Novarra expedition, "and on my first voyage I once made a deliberate attempt to surfeit a native with gristly and otherwise unattractive bits of meat-refuse, but gave up the plan as a hopeless experiment. A boy of twelve years seems to rely on his stomach to supplement the work of mastication, and the flavor of putrefaction appears to be accepted as a sort of spice, like mustard or onions, in making their viands more appetizing. Rancid walrus brain, superannuated whale blubber, tripe by the yard, thick train-oil, bear's liver in a wholly indescribable condition, are all prized as tid-bits, decidedly preferable to the routine diet of dried or frozen fish."

Sir John Barrow saw an Esquimau gulp down fourteen pounds of stale seal blubber without any perceptible diminution of appetite, and the term "refuse," as applied to meat scraps, seems really to have no meaning in the language of the Arctic nations. Animal substance, the dryest bones, perhaps, excepted, is always welcome in preference to much worse stuff frequently swallowed in times of famine,—oiled sea-grass, clay, and moss-felt, flavored with scrapings of lamp-grease. The idea of cleanliness is equally foreign to the conceptions of a native Greenlander. Men, women, and children sleep huddled together in kennels that would affect a decent dog with hydrophobia, if it is true that the worst disease of our Southland curs is due to the foul atmosphere of an unventilated stable. Details of description are superfluous, if we imagine the consequences of keeping masses of rancid meat in the same dens that serve as dormitories and sick-rooms, and of using the same bedclothes for years, nay, for generations, in spite of constant accumulation of filth and vermin. Furs, here a synonym of clothing, are likewise worn till



AN ESQUIMAU VILLAGE.

they cannot be patched any longer, and may have originated many of the strange skin-diseases which in the lower latitudes are propagated only by transmission.

The accounts of Barrow, Kane, Richardson, Hall, and Chamisso establish the fact that the immoralities of the wretched pigmies transcend anything recorded by Martial and Suetonius during the most depraved period of pagan Rome. Wholly unmentionable vices are practiced with more than the indifference of brute animals, and even the bestializing influence of an

almost exclusively animal diet seems a hardly adequate factor of explanation. The sexual apathy of our carnivorous red-skins is a chief cause of their gradual extinction, and the beef-eating *gauchos* of the South American prairies are neither more prurient nor more precocious than their semi-frugal neighbors. A more plausible theory is the conjecture that the aberrations in questions have much to do with the inactivity enforced by the snow-blockades of the terrific polar winters. Protracted indolence has rarely failed to lead to similar results. Paphos, Lesbos, and Samos, with their climate-favored idleness, were centers of ill-fame, even in the tolerant ages of Grecian pleasure-worship; and the morals of the South Sea savages were rivaled in the *ennui*-ridden monasteries of the the Middle Ages.

Effeminacy, in the modern sense of the word, is nevertheless a foible effectually eliminated by the terrors of an Arctic climate. "Be hardy, or die," is nature's stern alternative where the mercury sinks to the verge of congelation for seven months in the year, and where the failure of other food-supplies often drives famished hunters to pursue sea-birds to their haunts in the crevices of a storm-tossed iceberg.

(To be continued.)

SHORT TALKS ABOUT THE BODY, AND HOW TO CARE FOR IT.

BY A DOCTOR.

12.— The Liver.

THE liver is the largest gland of the body, and weighs about three pounds. Women have more liver than men, and a little less heart. This is probably due to their more sedentary lives, requiring a larger liver to keep the system in good condition. The liver is located at the right, above the lower border of the ribs; it reaches over to the left side, and lies close to the heart, overlapping the stomach.

The liver is one of the most interesting organs of the body, and its work is the most complicated, unless we except that of the brain. It carries on several separate and distinct lines of work, yet its structure is very simple. We are best acquainted with the work of the liver in making bile, yet I doubt whether that is its most important work. The bile is largely, if not entirely, made up of waste elements taken from the blood. It is a golden yellowish fluid in the human body. Because bile is green when vomited from the stomach, many people suppose that this is its natural color. The change is due to the action of the gastric juice. The uses of the bile are: —

1. It is an excretory fluid, as noted above.

2. It is a digestive fluid. It converts fats into an emulsion. Fats are not acted upon in the stomach, but when the food reaches the small intestines, the bile is poured out upon it, and a small portion of whatever fatty substance there may be present, is changed into an emulsion.

3. It acts upon the mucous surfaces so as to stimulate the absorption of food after it is digested.

4. The digestive fluid of the stomach is acid, the bile is alkaline, and being poured into the small intestines simultaneously with the food from the stomach, prevents an irritating action of the gastric juice upon the small intestines. Pure gastric juice is so strong an acid that it will irritate the hand if it is placed upon it. Should a frog be placed in the stomach during digestion, the legs would be eaten off. Yet there are people who worry about having lizards and other living creatures in the stomach, when it is impossible for any animal to live there. Were not the stomach protected in a peculiar manner, it would itself be digested with the food. This often happens in cases of sudden death after a person has just eaten a hearty meal. The perforations were formerly regarded as resulting from ulceration. The bile neutralizes the gastric juice, and thus prevents injury to the intestines.

5. It stimulates peristaltic action, by which means the food is moved along through the entire length of the intestines.

6. It is an antiseptic, and preserves the food from fermentation and decay in its slow progress through the twenty-five feet of alimentary canal, and this is one of its most important uses. With the food is always taken a quantity of germs; the temperature of the interior of the body is most favorable to their rapid work, and they would surely set up fermentation but for this preventive agent. About fourteen hours are required for the complete process of digestion from the time food enters the stomach until it is entirely absorbed. If this same food should be placed under like conditions of warmth and moisture outside the body for that length of time, it would become exceedingly putrescent.

We have here six different uses of the bile, and if a single one of these offices be absent or interfered with, it seriously affects the health of the individual.

Now in addition to making the bile, the liver itself is a digestive agent. All the food which is digested, with the exception of a small portion of the fat, is

absorbed and carried by the portal vein to the liver. The heart pumps blood into the general circulation, but all the blood which goes to the stomach, spleen, and other abdominal viscera, is carried to the liver before it is allowed to go into the general circulation. The liver acts as a filter for the blood received through the portal circulation. It strains out the impurities from hard water, it takes as much as possible of such chemical substances as baking-powder and soda and also condiments, that less harm shall be done the rest of the body.

Besides being a filter, the liver completes the work of digestion. We talk about the stomach being the great digestive organ, when really it is only the antechamber where the process of digestion is commenced. Here are twenty-five feet of intestines, besides the liver, and the work of these upon the food is vastly more important than that of the stomach. If food all ready to be absorbed be injected into the veins of an animal, it is of no use at all. When the stomach and intestines have done all that they can do to the food, it will not nourish an animal, but is carried off as waste matter by the kidneys. The liver, by acting upon all its elements, does something to the food which no other organ can do. What it does to the nitrogenous elements we do not know, but we do know what it does to the farinaceous elements. When we take starch into the mouth, the saliva begins to change it into sugar. Starch constitutes from one half to two thirds of all our food. It furnishes heat for the body, and muscular force and brain force, so we need a large amount of it. In the process of digestion, a large amount of sugar is manufactured. If all this were poured at once into the circulation, it would thicken the blood and render it so sluggish that the blood corpuscles would all be destroyed, and it would have to be hurried out of the system to save the person's life. So the liver goes immediately to work to change the sugar back into liver starch, and stores it up in its tissues. Why is this? — Starch is insoluble, sugar is very soluble. If the maple-tree should store its nourishment for use in the spring in the roots in the form of sugar, it would all be washed away. So it stores its food in the shape of starch; and the liver does the same thing. Examine the liver after the digestion of a full meal, and you will find it an inch lower down than before, because it is filled with liver starch. Then it begins slowly to change the starch back into sugar again, and doles it out for use as needed for force, for heat, etc. We may call the liver an automatic stoker for the body.

The liver is also a sort of rendering establishment. It takes what would otherwise be offensive and dangerous elements, and utilizes them, just as the rendering establishments of large cities take the dead animals and other offensive garbage and makes them of service and value. The liver takes all the broken-down tissues, the millions of dead blood corpuscles, and works them over and changes them into material of which new blood corpuscles can be made. The coloring matter found in these corpuscles is worked over into material which furnishes coloring matter for the eyes and hair, as well as furnishing color to the bile. Nature shows wonderful economy in thus taking old, worn-out material, and converting it into such a variety of new uses.

The bile, containing waste alkaline substances, also makes a little soap out of the fat, and that soap aids in preparing the rest of the fatty material so that it can be absorbed.

(To be continued.)

THE VALUE OF SLEEP.

FEW realize the important part sleep plays in all the affairs of life. It soothes the afflicted, rests the weary, and heals the sick. How different the world looks after a good night's slumber! At night, tired, fretful, discouraged, the morning dawns in hope and cheer, if sleep pressed tenderly our eyelids. But many, disregarding all this, never seek repose, but wait for repose to seek them, — even urge them to much-needed rest. Sleep is so precious a thing it must sometimes be wooed ere it is won, especially if it has often been rejected. Many never realize its value until they have sought for it in vain. Robert Collyer, in "Talks to Young Men," speaks forcibly of the value of sleep, and from his well-chosen remarks on this subject, we select the following: —

"Now, let me draw a few simple lessons from this truth I have tried to open. You, young men, must remember that one grand factor in your well-being and your well-doing will lie in a good sound sleep. You may think it does not matter; take my word for it — the word of a man who has had to walk through life's rugged ways to his threescore years and three — that it does matter a great deal.

"*Your sleep is the hidden treasure of your youth to-day, and to-morrow it will be the margin you will have to draw on for your old age.* Do you think you can racket

round into the small hours, snatch a brief repose, and then be just as good as ever to hold and bind? It is not true. Many a young man sells his birthright in this way, and cannot have it back again, though he seek it with many tears. Take your honest eight hours sleep, if you may; there is life in it, and grace. It is one of the good angels which will save you from the temptation to drink, give you an even mind, brighten all your powers, and do many things for you no other power can do.

"So when you get farther on, and are in the thick of the world's business, do not forget what virtue lies in this good habit. You may make more money by sitting up nights, but the chances are you will not keep it; carve out a good business, and then have to quit; or grow eminent in your profession, and then break down. Good fortune turns greatly on good habits, and this is one of the best. We can go just so far, and then we have to fall back on nature and on God for new power. But if we say, 'I will work double tides,' and so get fevered and out of true with the true laws of success in life, then the day comes when our power turns to something like paralysis.

"Your true business or professional man is the man who rises well rested, with a cool, clear brain and steady nerve—the man who can shake off business after business hours, go to sleep like a yearling child, and rise like the sun, rejoicing as a strong man to run a race. . . . And it is a great mistake in good men to say this is a shameful waste of time, when it may be, and so often is, the best possible use of time; or that we should be at our work or our prayers, while still we need this on which the worth of the work or the prayer is to turn. I say, that to sleep one hour more in such a case is better than either to labor or to pray, and may bring us nearer both to God and man."

HOW TO BE BEAUTIFUL.

EVERY one wishes to be attractive, and it is not only natural, but perfectly right and proper, providing the wish does not arise from a desire to gratify vanity. We suppose God created Adam and Eve very beautiful indeed; but man has sought out many inventions, and thereby degenerated so much that it is now as impossible for every one to possess perfection in face and figure, as it is to have the same intellectual talents. But why waste time in bemoaning lack of regular features, when there is so much that may be done to enhance natural attractiveness by the cultivation of a perfect physique and beauty of mind? We cannot all have beautiful faces, but the beauty of health and character may shine through the plainest guise, and make it charming. To this end we quote a little of the much Miss Willard says on this subject in that good book for girls, "How to Win":—

"There are scientists who teach that it is possible to modify the outline of an eyebrow, the bulge of a forehead, the protuberances of a cranium, by the slow processess of an education which shall develop memory at the expense of perception, or conventionality at the expense of reason. There are others who declare that every person's outward seeming rightly studied,—the angles of his jaw and forehead, the direction of ear and nostril, the contour of lips and chin,—is a perfect self-revealment to the specialist in physiognomy. For myself, I believe the day is not distant when the schools shall teach these principles, and in that day the physical basis of character, the expression given by outward form to inward grace or gracelessness, how to overcome the one and cultivate the other, shall replace much of what the schoolmen of our time are serving up under the name of 'knowledge.' I believe the day is not far off when the symbolism of human features shall be so based on scientific research, that a rogue can by no means palm himself off as a saint, and the wolf in sheep's clothing will be a physical impossibility.

"We write our own hieroglyphics on our own faces, as plainly as ever etchings are traced by artists. Perfect unity with God's laws written in our members, obedience to the decalogue of natural law, and the ritual of this body which was meant to be the temple of the Holy Ghost, would have made us all beautiful to start with; would have endowed us by inheritance with the fascinating graces of Hebe and Apollo. But generations of pinched waists and feet, of the cerebellum overheated by its wad of hair, the vital organs cramped, the free step impeded, and the gracious human form bandaged and dwarfed, all these exact from every new-born child the penalty of law inexorable, law outraged and trampled under foot through long and painful years. When I note the mincing gait of fashionable girlhood, the betwisted ringlets, compressed waist, and overlying draperies; when I contemplate the fact that the edicts of the theater and the demi-monde, from which come the 'latest styles,' have deprived us of watch-pockets and burdened us with 'bustles,' I am more nearly disheartened about women than anything else can make me. Like an irate physician of New York, 'I wish, since those

wasp-waists are so nearly asunder, I had a pair of scissors that the work might be completed.'

"A heathen woman in China, on seeing one of our abominable current fashion-plates, exclaimed: 'You say we do wrong to bind up the foot, but you Christians kill God's life when you bind up a woman's waist.' The graveyards are full of victims of diseases that come of tight-lacing, and the hospitals groan with their degenerate offspring; while the puny physique and delicate health of American women is a reproach among the nations; but I have yet to see a single one of our species who will admit that her corset is 'the least bit tight,' and no one seems to perceive that this claim proves her to be a downright monstrosity in form, since the ample and stately Venus of Milo is an acknowledged standard. But when women, now old, tell me of the brass stomachers and terrific high heels worn by their grandmothers, and that in their own youth they 'strung their corsets', by making a fulcrum of the bed-post, and pulling with all their might and main, 'I breathe freer,' metaphorically speaking, thinking that some women, at least, are coming to their senses, and keep urging the introduction of hygiene as a special study in all branches of the public schools. We need this as women hardly less than do our brothers, for I verily believe, and shamefacedly confess, that the corset-habit among women is as difficult to break as the alcohol and the tobacco habit among men.

"If the laws of God that seek the health of the body were obeyed but by a single generation, the next one would be physically beautiful. I am always glad when one of our 'society girls' says to me, 'Coffee and tea hurt my complexion, so I have left off drinking them;' or, 'Greasy food coarsens one's looks, and I can't afford to eat it;' or, 'Buckwheat cakes and sausage make my face "break out," so though I love them dearly (!) they have been put aside.' The motive might be higher; it should be grounded in a reverent purpose to know and do the will of God at the table where grace is so often said over most graceless food. But untold good will come of a simpler and more wholesome diet, no matter what is its procuring cause."

HEALTH is so precious that it is worth while to cultivate it, even at the expense of a little time and self-denial. With just a little care, men might often cheat both doctor and sexton.

THERE is no disease, bodily or mental, which the adoption of vegetable diet and pure water has not infallibly mitigated, wherever the experiment has been fairly tried. Debility is converted into strength; disease into healthfulness. On a natural system of diet, old age would be our last and only malady. The term of our existence would be protracted; we should enjoy life, and no longer preclude others from the enjoyment of it; all sensational delights would be infinitely more exquisite and perfect; the very sense of being would then be a continued pleasure, such as we now feel it in some few and favored moments of our youth. By all that is sacred in our hopes for the human race, I conjure those who love happiness and truth to give a fair trial to the vegetable system. Reasoning is surely superfluous on a subject whose merits an experience of six months would set at rest for ever. But it is only among the enlightened and benevolent that so great a sacrifice of appetite and prejudice can be expected, even though its ultimate excellence should not admit of dispute. It is found easier, by the short-sighted victims of disease, to palliate their torments by medicine than to prevent them by regimen.—*Percy Bysshe Shelley.*

Patient (at Christian scientist's office),—Is the healer in?

Attendant—Yes, sir; but she is sick to-day, and can't attend to any business.

THE OLDEST MAN DEAD.—Victoriana is dead. He who was probably the oldest man who has lived in this century has passed to the happy hunting-grounds, at the age of 132. Victoriana was an Indian. He passed his last days in Soboba, an Indian village situated in the northern part of San Diego county, Cal., in the beautiful valley of San Jacinto, at the foot of the San Jacinto mountains. Victoriana was an interesting figure in his way. Residents who had known him for upwards of thirty years vouch for his honesty and trustworthiness in all his dealings. He was a chief, as was his father, and his word was law with his brother Indians.

His last years were passed in total darkness, his eyes having gradually shrunk and dried up until he became blind. His trusty horse carried him into the town of San Jacinto long after he had lost his sight. He had a robust frame and was seldom sick. Towards the end of his life he ate less and less, and finally dried up and died. His hair was perfectly white, which is a rare occurrence with the Indian race. Victoriana's age was supposed to have been 132 years, and it is quite probable that it was more. Mrs. Victoriana, his fourth wife, survives him.—*Sel.*

MOURNING FROM A SANITARY STAND-POINT.

BY S. ISADORE MINER.

In this age of progress and of general looking into things, occasionally some one brings to light some foible of society that when picked to pieces is found to have originated in neither necessity nor good taste. And surely if neither these factors figured in its origin, there is less to condone its continuance, especially when to this is added the fact that it is positively detrimental and injurious to mankind.

Such a custom is the one that requires the wearing by women of the unwieldy and cumbersome costumes rather absurdly designated as "mourning," after the death of a relative; and to such degree have the ill-effects of this evil become patent, that though in this country the question has scarcely begun to be agitated, in England two societies are in working existence, pledged to radical measures of reform. The elder of these societies was established fourteen years ago, and the hold the custom to which it is avowedly opposed, has upon the public, is shown by the fact that very few from the common walks of life are even aware of the existence of such an association. The reason for this is that the affairs of the society or societies are largely in the hands of clergymen, of whom their membership is also largely composed; and as the object of the societies presents two phases, that of reform in funeral display and in mourning, since the members are mostly of the masculine gender, and as society imposes no restrictions upon them as a class, the second phase of the question is very lightly dwelt upon. But a few of the notables of the sex have now taken the subject up, and as soon as women as a body can be aroused to championship, the world will not only hear of it, but feel it.

The exponents of the new reform base their need of the work on several counts, first and most important of which is its sanitary aspect. It is demanded of woman that when bereft of her near of kin, she shall, in addition to the load of sorrow her grief naturally imposes, weigh her body down to a level with her spirits, by the affecting of long, clinging robes of somberest hue, further depressed by innumerable bands of unhealthful crape, and anywhere from six to ten yards of black material in form of veils. It is furthermore expected that she shall, to a large extent, immolate herself, not in quite the manner of heathendom, it is true, but if not on a funeral-pyre, then in a house of hushed procedures and drawn blinds, the blessed God-given and health-giving sunshine being thought altogether too enlivening to mitigate the gloom of the female mourner, the male bereaved, however, being allowed to revel in it freely out-of-doors. Still, did not custom prohibit a too free mingling with the outside world, it would require a woman with the solidity of the sphinx and the strength of a Hercules, to trail her habiliaments of woe through either public or private thoroughfare, no matter in what crying need of exercise the state of her health might be. Even were society open to her, she would still be so hampered that it would be a source of annoyance rather than of pleasure. She would not dare indulge in a smile (unless it be the ghost of one), a modest laugh, or even a care-free expression, or join in light conversation, lest the incongruity of her manner and dress give offense. In addition to all this, it is stated on good medical authority, that the dyeing material which gives to crape its lusterless blackness, is positively poisonous, and as such not only ruinous to bodily health and the complexion, through the skin, but to health through the medium of the respiratory tract, since particles of the rough material are constantly being rubbed off and inhaled. The "crock" from damp crape is sufficiently difficult of removal externally to convince one of its penetrability of the mucous membranes.

But this strongest objection to modern full-mourning attire is backed by others hardly less weighty. From an economic point of view, the custom presses hard upon the family purse, that, too, at a time when it least can afford it, having already been depleted by perhaps a long sickness and heavy doctors' bills. Suffi-

cient clothing may already have been procured for the season's needs, but this must now be laid aside, to all probability to be of no more use, since it will be entirely unsuitable by the time it can again be assumed; the females of the family must all be arrayed in appropriate suits of black, and all this unnecessary change, exacting no small managing, thought, and confusion, must be made, inappropriately enough, in the very freshness of their grief, before it has even been hidden from their sight. Yet heartless as this really *is*, it must be undergone for the sake of the heartlessness that might *seem* to be. So consistent is society in its demands! Sometimes, in fact, necessity arrogates that provision for these changes, if not the changes themselves, be made before the demise of the mourned. It is not to be wondered that this oftentimes ill-afforded custom, coupled with the after-retirement it necessitates, should occasionally cheat grief of its dues, so irksome may be its requirements to those not closely connected, and to the very young and sanguine. Among vulgar people of means, it is frequently so far-fetched as to exact the going into mourning of the servants; and thus a death that might otherwise be honestly deplored, is deplored more because of the inconvenience it entails.

Another feature of the subject is its æsthetic bearing. Every one has experienced the depression contingent on contact or association with one in deep mourning. And to hyper-sensitive people (and in these days of nerve degeneration there are many), the unlooked-for appearance of a person so attired would strike as ominous a chill as to suddenly stumble over a coffin or some other appertenance of undertaking. It is an Alexander that needs to be commanded out of our sunshine.

In room of all this, common sense offers the soft, subdued tones in fabrics, that are always pleasing to the eye, never conspicuous, and yet which need not necessarily offend the sense of the fitness of things. To this may be added a simple band of some suitable and recognized material, which shall answer the same purpose as does the band worn on the hat by men,—all that is thought necessary to be required of them. The sole rational reason for mourning is expressed in few words. It is to afford protection from curious and uninformed inquiry that might otherwise offend and renew sorrow. Custom very wisely does not pretend that affliction is made more sincere or poignant by outward expression in dress; therefore the suggestion offered would be ample for all occasions, though its form might be varied to nearness of relationship.

FOLLIES OF THE SEASON.

A LADY writer in the *Cultivator and Country Gentleman*, thus criticises the head and foot gear worn by the majority of her sisters at this season of the year:—

"A lady enters a millinery store and asks to look at the winter head-wear. The milliner brings forth a number of little velvet bonnets, about large enough for a doll.

"'These are the very latest style,' she says, 'and such beauties the bonnets are, too, this fall! Try this one on.'

"The customer undecks her head to redeck it with a wire frame, a quarter of a yard of velvet, a bunch of flowers, and two or three ostrich-tips. This is the quality and extent of material for a head-covering to withstand January cold.

"'Oh!' exclaims the milliner when the bonnet is adjusted on the back of the lady's head, 'how exquisite it looks! It is *so* becoming to you! Oh! it makes you look so young!'

"That is enough. The bonnet is bought, and when its owner is groaning from neuralgia, toothache, headache, and broken-down nerves, she never once traces it to the little bonnet upstairs that is so carefully covered from harm.

"A man enters a hat-store and calls for winter headwear. There is scarcely a thought of fashion in his mind. 'I want something to keep the cold out,' he says. 'I've got just the thing,' replies the merchant, and out comes a display of plush or fur caps that will turn down over the neck and ears, furnishing a thick protection to the entire head.

"One cold day last winter I saw a couple out riding, and the difference in their attire was striking. The man wore a fur coat, fur cap, and fur mittens. The lady wore a small bonnet, her ears and entire throat exposed to the cold.

"There is also a striking difference in the winter foot-wear of men and women. Take, for instance, a fine afternoon in winter, when the icy pavements are thronged with pedestrians, and watch the feet as they move along. Notice how many more men will have their feet incased in arctics than women. Notice also the number of thin, tight-fitting kid shoes worn by women, and see how far they will exceed the female feet that are warmly dressed. The women of fashion will suffer from cold feet, pinched feet, painful corns,—anything in fact so that her No. 5 foot is squeezed into a No. 3 shoe. Nor would she further enlarge this size by the addition of overshoes—no, not if she had to suffer a hundred ailments in consequence."

A "COMMONPLACE" GIRL.

BY S. ISADORE MINER.

THERE were two daughters in the Morris family, the commonplace one and the clever one. You would never have taken them to be sisters, had you met them away from home.

Estelle, the younger by two years, took the lead in company. She could play, and sing, and dance exquisitely. She could sketch and paint, and say a few French phrases with the prettiest accent imaginable. In fact, she was what society called accomplished.

People pitied Estelle when her father, dying suddenly, was found to have been insolvent. They had been the first people in the aristocratic little village of Morristown. In fact, the town had been platted from the old Morris homestead, when first the railroad had disturbed its rural quiet; and the roomy old-fashioned house now tenanted by the Widow Morris and her four children, was the remodeled farm-house, all that was left them of a large estate.

As I said, people pitied Estelle. Margie would n't feel the change. She was so ordinary; did n't seem to care at all for the things her sister did, — society, dress, and beaux. Why, she had even attended a cooking-school, and learned to make all sorts of queer messes!

Margie was never happier than when at home, amusing her two little brothers, looking after the comforts of the family, and doing the thousand and one small tasks that no one else cared to do, or thought worth their while to lighten by an appreciative word, but which, had they been left undone, would have caused no end of inconvenience.

Mrs. Morris was undisguisedly wrapped up in her younger daughter. She was a woman of great social ambition, and Margie's distaste for society had been a great disappointment to her in her futile attempt at a *debut*, — a disappointment which only Estelle's success later on could soften. But between Margie and her father had been that beautiful companionship so seldom seen, and that scarcely needs words to find expression. It was his loving glance that brought the quick blush to her cheek and soft light to her eye, and atoned much for the thoughtlessness of others. He knew the depth and devotion of her warm little heart, and repaid by her father's love, Margie was happy. The boys, too, sturdy little fellows, thought no one half so sweet as Sister Margie, and were as loyal to her commands as gallants of old.

Margie mourned her father with keenest sorrow, keener, because silent, — so silent many thought her incapable of the feeling Estelle displayed. But she mourned him for himself, and not for the comforts he could no longer provide. She alone knew the secret of the heart that despaired to struggle with inexorable fate, where love and duty were swallowed up in extravagance and ceaseless demands, to satisfy which he had risked his all, — and lost!

It was winter, and the tide was at its lowest ebb. During the summer, the city tenants of their large, airy chambers had furnished a much-needed income; but this had failed with the early autumn months. Every possible outlay had been cut down, but even bare existence demands means.

"There is nothing left to do, that I see," said Estelle, with an air of martyrdom, "but for me to give music lessons. I hate to come down to it, awfully; but I 've thought it all over, and it is the only thing that is genteel. I suppose I might take orders for art work, too, Christmas souvenirs and decorations."

"But that alone wont keep us, Estelle," sighed Mrs. Morris. "It will take some time for money to come in from that source, and you must n't work too hard. Too close confinement will ruin your complexion. I am worried almost distracted. The children must have shoes at once, and there are a number of bills to meet. I have thought of selling or renting the house, and moving into a smaller one. There would

be a great deal of furniture we could dispose of then. We do not need so much."

"It will never do, mamma; there is nothing that looks so shabby as to be obliged to sell. We must n't do anything rash, for as I've said all along, it all depends on Margie and me marrying well. But we must keep up appearances, or lose caste. We can't afford to sacrifice our only chance, and I *wont*, positively. But I'm willing to do anything that is genteel. Now if Margie would only show more spirit, and not be so awfully commonplace; or if she had evinced some taste for art, she might have been a help to us now, instead of a burden," and Estelle plumed herself with a dozen airs, while Margie's cheeks burned. Had not the work of two servants fallen heavily on her young shoulders? and was she who made the curtailed domestic machinery run so smoothly that her mother and Estelle should feel no jar,—with the cooking, laundrying, sewing, sweeping, and dusting to attend to,—was she, then, a burden?

Mrs. Morris sighed, and looked with pride at her "clever" daughter. Margie knew the sigh was for her, and gulped down a sob. "I had thought of housework, for me. You know"—

"Housework!" exclaimed her mother and Estelle in one breath.

"Well, it seems I am fit for nothing else, and I can do that well, and I like it," answered Margie, bravely. "You've all said that you never had lighter bread, or better-cooked food than since Mary left, and we paid her the price of a good cook. No; hear me out," said she, as Estelle was about to interrupt her; "if I went, there would be many advantages, not the least of which would be the lessening of our expenses. Then my wages would be a sure thing every week. I would 'nt mind it, indeed I would 'nt, mother, at least not very much, except for leaving home; and"—

"But *housework*, of all things!" Estelle insisted, and some way or other Margie lost her meekness, and answered boldly,—

"Yes, *housework*! I do 'nt see anything degrading in that. People *must* eat, and *will* live as comfortably as they can; and I don't see why it is not as commendable to attend to the wants of the body, and see that it is properly and wholesomely nourished, as to supply the demands of the intellect. Surely the latter would be of little use without the former's well-being, and I for one believe that woman has no higher calling than to foster a body worthy a noble mind. Now there was Mary. She never could see why hot bread was not as healthful as cold; it tasted better, and that was enough. So she was always putting off baking till the bread-box was empty, and then we all had headaches. Because servant girls are generally ignorant, it does not signify that their work is lowering. Even if it were not necessary, I should like to do housework just to show people that brains can affect the *cuisine* as well as the *cuisine* brains. I would like to show them how even mere drudgery may be elevated. Then I am a capital manager, and I know I could get the best of wages, for I understand real housekeeping and homekeeping; besides, intelligent help, capable of planning and contriving, is cheaper on a larger salary than poor help, and they pay high prices for that here, as we ought to know. I tell you, Estelle, let me try it, and I will furnish some clear heads for your music!"

"You've missed your calling, entirely," said Estelle, sarcastically; "you should have taken to the platform to ride your kitchen hobby on." And then she added slowly, "I've always said, though, that there was no accounting for your taste. But there is one thing certain, Margaret Morris, if you have n't any pride yourself, mamma shall not allow you to spoil my chances. If you join the laboring class, you will have to marry from it, and I might almost as well be out to service myself as to have a sister who is. I'd rather die of starvation than to be ignored by our set."

"Society has few charms for me, and I should feel more independent as a capable housekeeper than if I were teaching music, Estelle, going from house to house. I should be doing just what I am doing here every day, except that it would be far less in an establishment that kept help for the various kinds of work, and I should be well paid, instead of being a burden and an expense. I never shall make one of your brilliant marriages, I am sure, for I have as few attractions for your friends as they for me."

"I should think you might have at least some consideration for the family, then, and cultivate more pleasing ways. And if you think, Margie Morris, that I shall travel like a tinker from house to house, you are mistaken. *I* have some sense of the family dignity left yet. My scholars will come to me."

They called it settled, and Margie went to her ironing, and Estelle swept into the parlor to run scales and wait for scholars that never came. She secured a few orders for Christmas work, which she painted with much taste and skill; but she wore such a condescending air, trying so hard to make it appear that the orders were wanted more for the pastime and practice they afforded than because of remuneration, that few but intimate friends cared to patronize her.

(To be continued.)

THE KROOMANS.

THE finest negro race of Western Africa is the tribe known as Kroomen, sometimes called the "Scotchmen of Africa," on account of the readiness with which they leave their homes in search of fortune. They are the best of sailors, and ships bound for the tropics often stop in the vicinity of Cape Palmas, to take on a number of them.

KROOMAN HOMES.

The Krooman is said to possess "the head of a Socrates," and the "body of the Apollo Belvidere." Captain Burton thus describes these people as he first saw them: "A more magnificent development of muscle, such perfect symmetry in the balance of grace and strength, my eyes had never yet looked upon." It is evident that the simple habits of the people are conducive to a high degree of physical development, and their rude houses prove very satisfactory dwellings in their mildly temperate climate. Still they furnish but scanty shelter from the elements. A hole through the roof gives exit to the smoke arising from the open fire burning in the middle of the one room of the dwelling. In these queer-looking huts the Krooman rears his family, and teaches them the strange superstitions of his forefathers.

The Krooman, like many of his African neighbors, is a polygamist, and invests his spare capital in wives, just as another might invest in cattle or lands. With the exception of the use of tobacco and rum, the Krooman lives very simply as regards diet. But dearly does he love these twin intoxicants, and offers them in sacrifice to the demons which he worships, as a propitiation for his crimes, to insure speedy passage through the Kwiga Oran, a dismal sort of purgatory, to which Krooman theology consigns even the best of its disciples. — "*Sunbeams of Health and Temperance.*"

BUILD on resolve, and not upon regret,
The structure of thy future. Do not grope
Among the shadows of old sins, but let
Thine own soul's light shine on the path of hope,
And dissipate the darkness. Waste no tears
Upon the blotted record of lost years;
But turn the leaf, and smile, oh! smile, to see
The fair, white pages that remain for thee!

THE JEWESSES OF MOROCCO.

[SEE FRONTISPIECE.]

THE Jewesses of Morocco have long been celebrated for their beauty, although this is to them a misfortune, since being Turkish subjects, it renders them liable to be seized and carried off to recruit the harem of the Sultan. A few years ago their condition had been made so utterly wretched by the tyranny of the Mohammedan rulers under whom they lived, that the joint interference of a number of European powers was necessary to secure a mitigation of their sufferings. They are still compelled to live in quarters by themselves, however, walled off from the rest of the city in which they live, and are in most parts of the country forbidden to wear shoes or sandals, being required to go with their feet uncovered, as an evidence of their submission. They are obliged to live in hovels, and to maintain an appearance of the most abject poverty, in order to retain any portion of the wealth which their industry often acquires; and yet with the greatest precautions, they are constantly robbed with the utmost impunity by their Mohammedan neighbors, who do not scruple even to deprive a few Jews or Jewesses of their lives, in order to possess themselves of the property of their victims.

The Jewess lady of Morocco is quite unacquainted with the constricting bands and the burdensome skirts which drag the life out of so many civilized women. She is able to expand her lungs without restraint, and to use every muscle of her body with the utmost free-

dom. As the result, these Jewesses have regular and finely chiseled features, and their symmetrical bodies well entitle them to the reputation which places them among the most beautiful women of the world. Our frontispiece presents a characteristic scene,—a group of two Jewesses and their children sitting in front of a typical Algerian dwelling, with its thick, bare walls of dried mud, and its narrow door, looking much more like a prison than a cottage. In the doorway stands an Algerian Jew. The reader will notice that in general characteristics the dress of the men and women do not differ greatly, which is, indeed, true of nearly all half-civilized or savage nations, with whom the necessaries of life are natural wants, rather than the artificial desires growing out of perverted tastes and instincts. J. H. K.

AID FOR WORKING-WOMEN.

WHAT the wage-earning women of our land have most need of is not money aid, but sympathy and help in securing their rights. As a rule, working-women are far more capable of caring for themselves than their more fortunate sisters would be if similarly situated. And as in this age of speculation and peculation there is no guarantee against women of wealth and influence being at some time compelled by necessity to enter the ranks of workers, it behooves all, while it is well with them, to be alive to the betterment of the toilers.

We repeat, women would have no need of pecuniary assistance if all they earned went into their own pockets, instead of lining the pockets of their employers. But robbed by insatiable greed of part of their gains, their income is reduced to a mere pittance. The remedy lies partially in their own hands and partially in the hands of prosperous women,—the heavy customers of the employers. A wage-earner cannot successfully rise up against her own employer; she is too much in his power; she needs the little he pays her too desperately. But she can help her fellow-workers, and they in turn aid her. One very effective measure is the one adopted by a benevolently disposed lady of means, and that is a sort of boycott system. She refused to patronize any store or dealer where ladies were employed, who did not sufficiently remunerate the clerks, seamstresses, etc., in their employ. And moreover she induced her friends to do the same, and in a short time her influence was felt, and "starvation wages" became the most expensive sort of salaries. If in this way working-women would unite to help each other, and society women nobly pledge to reinforce them, the lives of a very important element in our industrial world would be elevated. Nothing so soon compels avarice to disgorge as to feel society's fingers lightening the contents of the pockets dishonesty has helped to fill.

With this increase of earnings would come some of the elevation which as social workers we are all hoping for. Those who have personally worked for and been among the working-classes, testify to the ambition and high aspiration that more than all else keep the working-girl hopeful and of courage. But as it is, with ten hours or more, almost the entire light portion of the day, spent in office, shop, or mill, and then, for the most part, their evenings spent at the family housework and sewing, because they do not earn sufficient to warrant hiring this done,—what time, unless snatched from much-needed slumber, is found to gratify the better impulses, the longings of the soul, that come only with improvement of the mind?

"Starvation wages" means more than the denying of the body proper care and nourishment. Worse than all, it means the dwarfing of the soul, the literal starving of that "inner life" that cries out with its latest breath against all sin, and helps to keep our girls pure. With it dies the power to resist evil, and thus in a great measure does the poverty induced by poorly paid labor become responsible for social sins. We will go far toward removing these when we remove this potent cause. S. I. M.

ONE DAY AT A TIME.

ONE day at a time! That 's all it can be;
No faster than that is the hardest fate;
And days have their limits, however we
Begin them too early and stretch them too late.

One day at a time! Every heart that aches,
Knows only too well how long it can seem;
But it 's never to-day which the spirit breaks,—
It 's the darkened future, without a gleam.

One day at a time! When joy is at hight,—
Such joy as the heart can never forget,—
And pulses are throbbing with wild delight,
How hard to remember that suns must set!

One day at a time! But a single day,
Whatever its load, whatever its length
And there 's a bit of precious Scripture to say
That, according to each, shall be our strength.

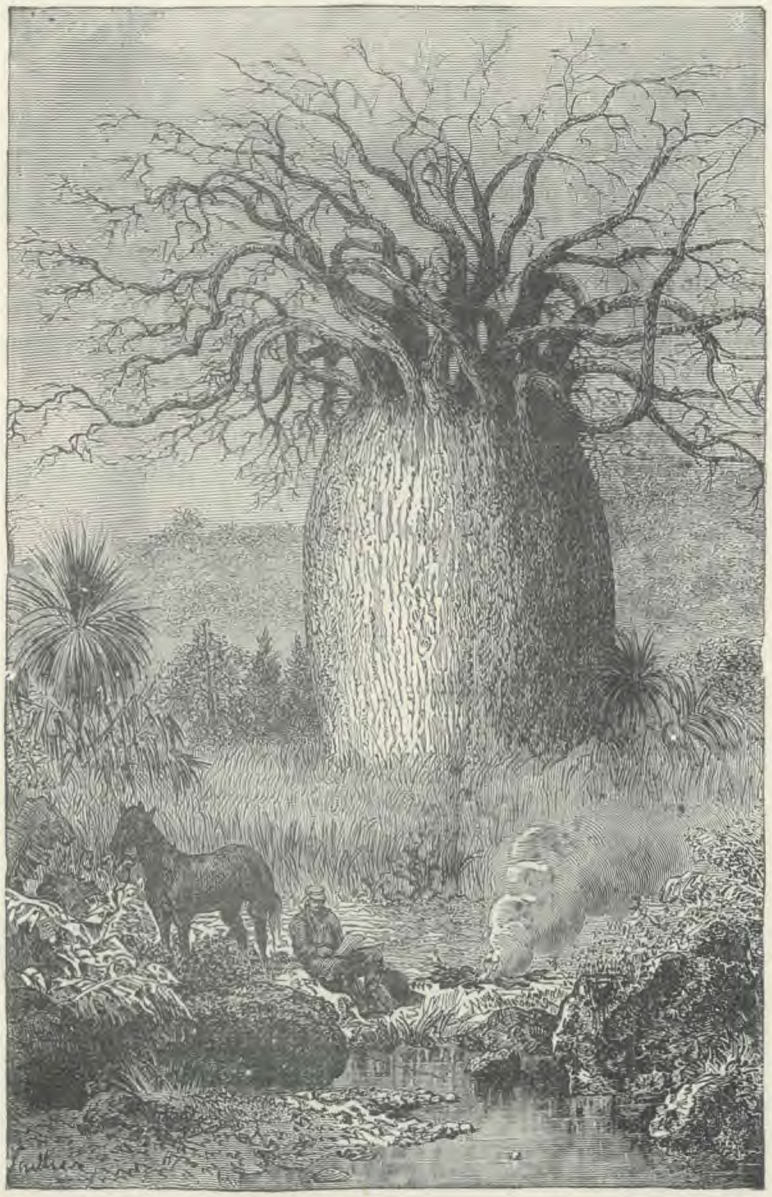
One day at a time! 'T is the whole of life;
All sorrow, all joy, are measured therein;
The bound of our purpose, our noblest strife,
The one only countersign sure to win. —*Helen Hunt Jackson.*

SOME WONDERFUL TREES.

BY E. L. SHAW.

3.—The Bottle-tree, Caoutchouc, Etc.

CHIEF among the trees which nature appears to have created when in fantastic or capricious mood, is the bottle-tree of Australia. Even in that land of the grotesque and gigantic, the peculiar shape and immense size of these trees command the attention of all travelers. They grow sometimes sixty feet high, and Dr. Geo. Bennett, of New South Wales, who first reported their existence to the scientific world, states that he measured one whose girth, at seven feet from the base, was thirty-five feet. Like the majority of trees growing in tropical and sub-tropical climates, these trees furnish a glutinous sap, which is reckoned a most refreshing beverage by the thirsty stockmen tending their flocks and herds upon Australian plains. Many of these strange trees are supposed to be thousands of years old, and possibly some of them have looked down upon this gray old world in the dawn of its pristine youth and beauty.



THE AUSTRALIAN BOTTLE-TREE.

Nearly all of that variety of trees which supply the best quality of caoutchouc, or India-rubber, are found in Brazil. Natives coagulate this milky juice by holding it in the smoke made by burning a peculiar variety of palm-nut, which seems to furnish just the chemical agent needed to transform it into thick yellow sheets of gelatine, favorable for export. Large, deep, light wooden shovels are used, which are held in this smoke until the fluid is congealed. By this rude, laborious method, the immense quantity of India-rubber annually exported—amounting to from twelve to fifteen millions of dollars—is manufactured in the forests of Brazil.

The deadly upas-tree, of which so many over-wrought tales have been told, is cousin-german to the kindly bread-fruit tree. Though standing in no "frightful solitude," no "valley of death," this tree is yet possessed of a juice so deadly that when introduced into the system of man or beast, by means of puncture, the effect is rapidly fatal. Indeed, were these hyperbolic fables true, it would seem much more in keeping; for, strangely enough, nature has not set apart this tree of the poison-filled veins in solitary gloom, as would seem most fitting, but instead placed it familiarly near to good and kindly neighbors. Growing in the midst of the most luxuriant tropical vegetation, it rises to a lofty hight in symmetrical beauty, and with its branches and foliage bright, gay, and all astir with bird and insect life, they presumptuously intertwine with those of the harmless and innocent neighboring flora!

TEMPERANCE NOTES.

SIXTY journals in Nebraska advocate the prohibitory constitutional amendment.

"LAST year," says a recent English lecturer, "the British nation consumed enough spirituous liquors to form a lake fifteen feet deep, one hundred and twenty feet wide, and ten miles long."

THE law of Minnesota is now such that a man who appears in the streets drunk will be fined, for the first offense, from ten to forty dollars; second offense, from twenty to fifty dollars; third offense, imprisonment from sixty to ninety days. For first and second offenses imprisonment may be substituted for fine.

LIQUOR-drinking among children seems, from medical returns, to be alarmingly on the increase in Austria. Children of four to eight years die from the effects of drink, and there are many recent cases of epilepsy due to the same cause. One boy of five years, it is said, drank two or three glasses of brandy a day. One of five years, now in the hospital at Berlin for delirium tremens, has been accustomed to drinking liquor for two years. His mother gave him a glass of Hungarian wine every day for dinner, "to strengthen him," and in the evening he drank Bavarian beer with his father. This was in addition to the spirits given him each day by his grandfather, who kept a *carbaret*, or saloon.

THE following, from an exchange, shows what help we have from saloon-keepers in forming the morals and the habits of our boys. Lately, in Chicago, "a school-teacher noticed a knot of boys counting the number of holes in some cards. He called one of them up and insisted on knowing what it meant, and the boy told him that a saloon-keeper who had his saloon near the school, had given them those cards, and every time they took a drink he punched them, one hole for beer, two for straight drinks, and three for mixed drinks, and each month he gave prizes. The boy who had the most holes punched in his card got a revolver, the second a life of Jesse James, and the third a meerschaum pipe."

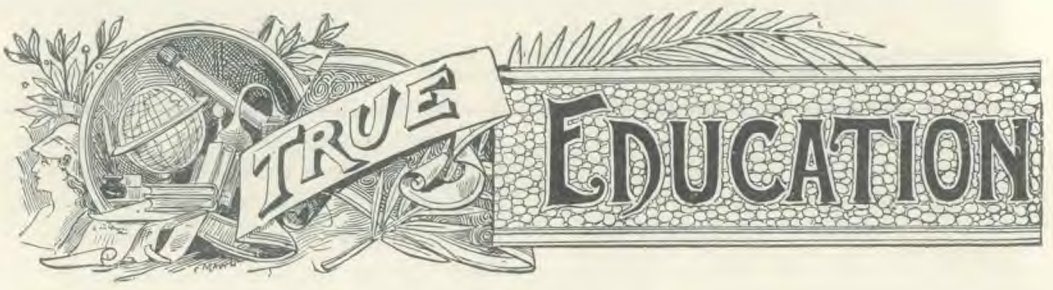
POPULAR SCIENCE.

A NEW system of telegraphy has been invented, by which 2,500 characters per minute can be telegraphed.

A CURIOUS incident, which resulted fatally, recently occurred in New York. Two clerks were engaged in carrying a metal-framed show-case from the sidewalk to the store. One of them stepped upon an iron grating, and as he did so the metal frame of the show-case came in contact with an arc lamp hanging overhead. The unfortunate man fell down insensible at once, and died in a short time.

THE *St. Louis Republican* is our authority for the statement that there is situated in North Carolina, a remarkable mountain which closely resembles the sphinx of Egypt. Its head is of solid rock, several hundred feet in hight, and "it lies like a gigantic lion on the plain, with head upraised as if in the act of rising." Its entire hight is about 1,500 feet, and it is well proportioned, looking, at the distance of a few miles, like a thing of life.

SCIENTIFIC DISCOUNTS.—Only a few years ago geologists assured us that the glacier period of North America, during which great icebergs were slowly crashing their way over the continent from north to south, as they now traverse Greenland and the polar regions, was so far back in the remote past as to make the interval almost inexpressible in figures, or at least several hundred thousand years antecedent to historic time. They now tell us that the glacial period was not more than twenty-five or thirty thousand years back, and several illustrious scientists place the limit of its antiquity at twelve thousand years. It would seem that at this rate, it would be but a short time before we should find the calculations of the geologists coinciding with those of Bishop Usher, based on the chronology of authentic history and the Bible; and yet we find these same scientists speaking as disdainfully of Biblical chronology as though they had not been compelled to make these enormous discounts in their readings of the "Story of the Rocks." At the rate at which carefully computed geological periods are shriveling up at present, we should expect that at the beginning of the next century the contending forces may be reversed, so that one may find Biblical scholars making a stiff fight to maintain for this old earth so great an antiquity as six thousand years!



A GOOD EDUCATION.

BY PROF. G. H. BELL.

A GOOD education makes one healthy and happy, as well as useful. It brings both the intellect and the affections into proper action, and thus secures their highest development. With such a training, one can distinguish the true from the false, and will choose a course of life in harmony with the laws of his being. He will love mankind; and will delight in doing good, because it is godlike.

But no mere gathering together of facts, no amount of word-bibbing, can ever secure such a result. There must be *thought*. Facts must be compared, conclusions must be drawn and judgments formed. There must be reflection. To know the names, size, distances, and revolutions of the planets, does one very little good, unless it leads him to reflect upon the majesty of Him who created them and holds them in their course. It is vain to learn the names and structure of plants unless that knowledge causes the heart to swell with admiration, and to overflow with thankfulness for the divine love which has given such an infinite variety of forms to delight the student of nature,—unless it begets a stronger confidence in the guardianship of Him who has bestowed unlimited care upon objects so inferior to man.

But above all, motives must be awakened; impulses must be given. Of what avail is it to know a truth unless we obey it? Light unheeded brings only condemnation.

There must be a longing to know the ways of the Infinite. The education begun here should be preparatory to that which will continue throughout eternity. The highest education here is but a mere beginning—the end will never come.

Knowledge alone is not wisdom. It is indeed the food of the mind, but must be digested by thought before it can impart any strength. The mind is not like a mineral, which, if it grows at all, must grow by accretion,—the mere adding on of particles like itself. Like all living things, the mind must grow by its own action. Like the body, it gains strength by exercise. To this end the mere exercise of the memory in learning facts, rules, formulas, and definitions is not sufficient. Knowledge gained in this way is of little worth. It is like gold to a man cast upon a desert island, or like treasure buried in the mine. It is his, but he cannot use it; it brings him none of the blessings of life. Even the truths of science can serve no good purpose till put to practical use. The man whose mind is a mere store-house of knowledge is not more truly educated than is the man who owns a valuable library but is unacquainted with its contents. Indeed, the one with the library is the richer; for knowledge will keep better in books than in the head of an unthinking man.

We hear a great deal about laying up stores of knowledge to be used in future years. But alas! it is hard to retain what we do not use. So true is this, that the college graduate is not usually required to stand examination on the studies he has pursued during his course; and after leaving college, he is likely to forget the greater share of his learning in fewer years than it took him to commit it to memory. That which was digested and assimilated by thought, becomes a part of himself; the rest slips away from him unawares, and he is scarcely poorer for the loss. And besides, knowledge for which he had no relish when he first found it, he is not likely to appropriate in after years: food of which we do not care to partake when it is fresh, is not more palatable after it has become stale.

What should be our aim then? Should we not prize knowledge, and seek it for its own sake?—Most certainly we should. But the method of obtaining it is all important. It should ever be borne in mind that, valuable as any knowledge may be, the discipline which the mind gains in discovering that knowledge, ought to be worth more than the knowledge itself. The word *discovering* is purposely used; for in the main, all knowledge should be *discovered* by the learner; the teacher—if there be any, other than Nature herself—merely giving what aid is indispensable in keeping up the courage of the learner, and in secur-

ing his final success. Not long since, I strayed into the deserted rooms of a kindergarten. On the blackboard was written, "We learn by doing." That short sentence sets forth the right principle. It is the plan which God indicates in nature. Upon this plan the child, with fair opportunities, learns more during the first five years of his life than he is likely to learn in any ten years afterward. What a pity that this principle of education is not carried out farther on in life; for when one gains knowledge in this way, he can use it.

What would be thought of an architect who should expect an apprentice to become a skillful workman by committing to memory books on carpentry and architecture, giving him little or no actual experience, and telling him that in future years, when the necessity should arise, he would find no difficulty in carrying his knowledge into practice? But such a course would be akin to that sometimes pursued by would-be-educators. When will we learn to combine theory and practice in our educational methods? and when will it be recognized that whatever stimulates a healthful exercise of the affections and the imagination, or prompts a longing for higher wisdom and a nobler life, is among the most potent elements of an education?

THE SENSE OF VALUE.

AN artist who is unable to distinguish the respective values of the colors on his palette, will neither be successful in the profession nor become master of his art. The study of values by the would-be wielder of the brush is recognized as one of the elementary sciences of the studio, and a natural sense of discrimination in this respect goes far toward constituting what the connoisseur calls genius.

But not in art alone may this discrimination be of service. The student will find in this a factor, worth cultivating, for the aid it will afford him in obtaining useful knowledge. To be able to select from the mass of information, in whatever form presented, the facts that have a prominent value because of their import in the affairs of life, is a power in itself. Knowledge, like food, is valuable only to the degree to which it can be assimilated. We do not impose upon the stomach what we know it can make no use of; neither should we burden the mind with unimportant *minutiæ*. We discard the stone of the peach, while we eat its luscious covering, and just as easily should we be able to distinguish between the meat and the stone of brain food; then, like the peach-pit, refuse will be discarded before being offered for digestion.

Some one has estimated that the capacity of the brain is limited,—that it can retain but a measure of what it receives. How wise, then, to give it to retain, not what may be found in any encyclopedia, but those things that will color the every-day life, that will affect the intercourse between man and man. To be plain, there are certain things that must be kept "on tap," and there are certain things that to know where a knowledge of them may be found, is better than to memorize the things themselves. There is more room on our library shelves than in our "upper stories," and the man who could not forget that you did not know why density of atmosphere betokened rain, would readily forgive your ignorance of the dates in Napoleon's career.

Brain-space should never be given to unnecessaries,—wearisome details of not only no special value, but which tend to crowd out or cover over underlying truths. Life is too short, and there are too many things worth attaining. We must learn to distinguish the wheat from the chaff, the thing to be retained from its environments. And this discernment of values should be cultivated till the senses are capable of weighing at sight all information, that at the very moment of inception judgment may be formed without wearisome "thinking over."

A person whose perceptive faculties have thus been wisely trained to detect differences, to "sort over" and compare material,—what might not such an one accomplish in the line of acquiring useful knowledge, and that without over-taxing or overcrowding the brain! S. I. M.

A VOLAPUK University is to be founded in Freiburg, in Switzerland. A Swiss emigrant in America has endowed it with one and a half million francs. Besides this, he has made an enthusiastic donation of 800,000 francs, to pay for the translation of works into this to-be-universal language.

THE largest library in France is the *Bibliotheque National*, in Paris, founded by Louis XIV. It contains 1,400,000 volumes, 300,000 pamphlets, 175,000 manuscripts, 300,000 maps and charts, and 150,000 coins and medals. The collection of engravings exceeds 1,300,000, contained in some 10,000 volumes.

WHAT SHALL BE DONE WITH THE LITTLE GIRL?

BY KATE LINDSAY, M. D.

THE disposition of the little girl, from infancy upward, has been a vexed question in all ages. Heathen and semi-civilized nations settle the question arbitrarily by summary disposal of all who are regarded as superfluous. In India, before the British Government put a stop to it, unwelcome female infants were drowned in the Ganges, and child-widows were burned with the bodies of their husbands. Boys are expected to grow up for useful service to the State or nation, in the army or as workmen, and even the heathen never think of drowning or burning them. As women more and more have exemplified their ability to do something, the law of liberty has increased; but much yet remains to be done before the little girl is entirely emancipated from bondage to old ideas and customs.

We are not burning the little girl, nor throwing her into the Ganges, nor compelling her to go into a brothel unless she marries, as was the law among some ancient nations. Neither are we buying and selling her, as was practiced in England about three hundred years ago. Nevertheless, the old ideas color thought and influence action in regard to woman's sphere and woman's work. The little girl is abused in various ways. She is badly clad; her moral nature is smothered out by vanity and love of dress, which is cultivated and fostered by her parents and friends. She is made self-conscious, and taught to prink before the looking-glass. Her moral nature is thus depraved, and to a great extent extinguished, by love of admiration. Her physical nature is dwarfed and warped; her body is hampered and pinched and tortured out of its true proportions. She is as entirely lost to the best of life as is the Brahmin suttee.

We do not compel the little girl to go into the brothel by law, but crippled thus physically and deformed spiritually, in thousands and thousands of sad instances that is just where she finally ends. The mother begins the downfall by gratifying the appetite, instead of teaching her self-control. Her digestion is ruined and her nervous system shattered by being allowed to drink strong tea and coffee, and to eat pickles and pepper and flesh-foods. With a wrecked nervous system, and unschooled in self-control, is it any wonder that she becomes a moral wreck?

The first fifteen years of the little girl's life should be devoted to building her up with a strong, healthy physical frame, laying the foundation necessary for perfect physical life. If a young girl is left unrepressed to romp and exercise at will, she will develop a muscular system finer and more compact and more lasting than her brother's, because of her finer grain, coupled with a greater degree of strength and endurance. Do not tell her she must do this or that, or refrain from doing the other, simply because she is a girl. Do not let her brother say to her, "You can't do that; you're a girl." Give the boy and the girl equal rights and privileges, or you will make a tyrant of the one and a slave of the other.

If it were not for this perverted training, and the ignorance, and worse than ignorance, that goes with it, we should not have so many little girls going astray from the path of virtue. Vice goes with weakness. One half of the 90,000 who constitute the wretched army of harlots in the vicinity of Whitechapel, London, were seduced before they were fifteen years old, and only a small proportion of them after twenty-five. This shows the value of knowing how to bring up a girl past the critical age. If she is rightly educated until she is fifteen or twenty, if the impressible periods of childhood and youth are properly improved, if she is cultured in self-control and self-help, there is small danger of her bringing dishonor and shame upon herself or her friends.

How many are there to whom children are intrusted, who know as much about their needs and training as does the gardener of the care of the rare and choice plants in his charge? The stock-raiser studies into the nature and needs of his animals; their training is not hap-hazard or none at all, but according to the most approved scientific methods. How much more important than gardening or stock-raising is the rearing of children who are heirs of immortality, to which task oftentimes no thought or

study is given! And can parents rid themselves of their real responsibility, acknowledged or unacknowledged?

If a girl is brought up with the idea that she is simply to shine in society, and to seek for admiration and flattery; if she is taught no useful trade or profession, but instead to look down upon those who are beneath her in point of wealth and position, though they may be infinitely superior in every other way, the girl is ruined. She will never settle down to useful living, nor take up any of the duties of life. If fortune slip from her, she has nothing to fall back on; she is utterly incapable of taking an oar to row herself up-stream, and so she simply drifts and floats, and more likely than otherwise, finally enters upon a career of degradation and shame. The question as to what shall be done with the little girl, is a solemn one. Pitiful, indeed, is the fate that awaits her, without proper education and instruction.

The little girl may stand for another class only a little less sad, — those who are educated to marry an establishment and rank, regardless of any other consideration. The unwritten history of such marriages which often comes to the knowledge of the physician, is simply appalling. We look with horror upon the benighted mother who throws her infant daughter into the Ganges, and send missionary teachers for her enlightenment; and a brave, good woman who was rescued from the horrible fate accorded to child-widows in India, has been going about the country to raise means to educate and provide for other unfortunates of that class; but where are the missionaries here at home who will teach mothers their responsibilities, and how they may properly rear, develop, and train their children to useful lives?

Remember that the education of the girl should be liberal. She should not be taught as a child to think about her clothes at all. Her body should be perfectly developed; her mind and her morals must not be neglected. Just as sure as a girl's training is begun soon enough, and the impressions made are deep enough, she will not depart from uprightness and honor. The first thing to guard is the inherited tendencies, and the next is to attend to the environments. A girl who is a physical wreck is a failure; one who is a mental wreck is also a failure, and one who is a moral wreck is lost. It lies with the mother to determine what shall become of the little girl.

A NEW CLOAK FOR VICE.

THE *Times and Register*, a medical journal published at Philadelphia, recently make editorial reference to the exposure by the *Philadelphia Press* of a new cloak for vice. The journal has been looking up establishments advertised as places where massage, baths, and electrical treatment are administered, and finds many of them to be houses of disrepute in disguise. We quote as follows from the *Times and Register*, and fully indorse the observations made: —

"The advertisements are bold, and some of them very suspicious looking. Establishments where baths may be obtained are usually kept for male or female applicants only, or else have certain days and hours assigned for each; but here were houses kept by women, to which both sexes were invited indiscriminately. Of course, the 'treatment' was only a sham behind which were masking some of the worst forms of prostitution. So impudent were these advertisements that not only the young and unwary of the laity were invited, but even physicians were recommended to come themselves and to send their patients for 'treatment.'

"Massage and baths are among some of the most effective therapeutic resources known to medicine, and it is an outrage that they should be debased to the uses of these vultures of society, to enable them to entrap more easily their victims. Medical science and art offer ample opportunity for one of an evil turn of mind to carry out his wicked schemes, hence the closest inspection should be exercised, and all houses pretending to afford medical treatment should be continuously watched.

"Massage and baths need never be practised save by persons of the same sex as the patient. As methods of treatment they should be kept entirely within the province of the physician, and under his immediate direction."

THE Kansas Equal Suffrage Association has appointed a committee to prepare a bill for the protection of boys, which shall at the same time not in any way detract from the efficiency of the present laws for the protection of girls.

ACCORDING to the annual report of the White Cross and White Shield Department of the N. W. C. T. U., for 1889, more public lectures, addresses, and sermons were given in the interests of social purity, than in any previous year since the Department was organized.

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

MEDICAL FRAUDS.—II.

THE manufacturers of patent nostrums, who delude the public by means of deceptive advertisements, are by no means the worst class of charlatans. The quack who beguiles his victim into the den which he calls his office, and there by means of artifice and strategy takes advantage of the ignorance of his subject, and persuades him that he is possessed of some hidden malady requiring medical or surgical treatment, the truth of which assertion the patient is not prepared to verify, is a villain of much deeper dye than the manufacturer of nostrums. The tormenters of the Spanish Inquisition were not more cruel in the treatment of their victims than are these human sharks who thrive upon the blood of innocence,— whose subjects are often innocent even of the first suggestion of the maladies for which they are treated. Compared with these men, the Spanish inquisitors might almost be regarded as philanthropists; for doubtless some of them, at least, honestly believed that in torturing the bodies of their victim they were making sure of the salvation of his soul; while the conscienceless quack sheds the blood of his victim merely as the most efficient and convenient method of bleeding his purse.

Among the most successful of this class of human vampires must be counted the itinerant "pile doctor." It is now nearly twenty years since an Illinois physician, who cared less for professional honor than for cash, devised a method of treating hemorrhoids by the injection of carbolic acid, by means of a hypodermic syringe. The first case in which the method was tried was very successful, and the operation comparatively painless. The doctor formed a partnership with the garrulous old farmer who happened to be his first case. The farmer traveled about the country far and wide, sounding the praises of the doctor and his secret method, and hunting up people afflicted with "piles," while the doctor staid at home and pictured the "piles" and the pocket-books of the multitudes who thronged his previously deserted office. Pretty soon the doctor conceived the idea of imparting his secret to others, for a consideration. He accordingly proceeded to divide the country into sections, which he farmed out to various parties, some of whom had more or less medical knowledge, while others were totally ignorant of even the rudiments of anatomy and surgery. The privilege of using the remedy in a small portion of a single State was sold for $3,000. Pretty soon the "pile doctor" became a regular visitant of almost every community. He promised to cure piles without an operation, and without pain; but now and then his victims were obliged to call in the services of a physician, to relieve their sufferings, or to save their lives; and occasionally death occurred through the result of the injection of caustic liquids into the circulation. Abscesses of the liver were produced in numerous instances, and terrible abscesses and sloughing at the seat of the operation, in many cases.

Professor Andrews, an eminent Chicago physician, collected reports of 3,300 cases submitted to this treatment, among whom there were thirteen deaths, with a large number of cases of grave illness and narrow escape from death. On the other hand, in a list of over 4,000 cases in which the operation was performed by the older methods, upon the whole not more painful, there was but one death, showing a preponderance of safety of sixteen to one in the old method as compared with the new. In consequence of this considerable fatality, and the great uncertainty of the injection method, the "pile doctor" has been gradually abandoning his secret methods,—the mystery of which was exploded more than a dozen years ago,—and has been educating himself in the methods of the regular profession, so that now the most proficient of this class of charlatans (and some of them

become quite skillful in their management of this sort of ailments), simply employ, so far as they are able, the methods of regular scientific physicians, from whom they differ chiefly in the unscrupulousness of their pretensions, and the voracious greediness with which they lay hold of every victim who comes within their reach, whether or not in need of such services as they are prepared to render. We have had plenty of evidence that it is no uncommon trick for these charlatans to manufacture "piles" to order, if the victim cannot by other means be made to tender a fee.

Finding that the magic phrase, "I cure piles," had ceased to draw patronage, the "pile doctor" has recently adopted a less unsavory title, and now calls himself an "orificialist," a term which would seem to imply special skill in the management of diseases of all orifices of the body,— mouth, nose, eyes, ears, etc. But, whatever his pretensions may be, the "orificialist" is only the original "pile doctor" with a new name, and concentrates his attention as an orificialist upon the posterior orifices of the body, and upon that one much quack-abused organ, the rectum.

The philosophy of the orificialist holds the rectum to be the fountain-head of all chronic ills to which humanity is subject, a theory which agrees very satisfactorily with his ambitions in the direction of his pocket-book. But lest our readers should fear we are making an overdrawn or unfair statement, we will make a few extracts from a standard "orificial" authority, E. H. Pratt, A. M., M. D., LL. D., homeopathist, orificialist, Chicago, Ill. Our first quotation will be from a lecture by Dr. Pratt, whom we believe is the reputed father of "orificial surgery." Speaking of the rectum, its characteristics and its relation to the body, he says, "It feels every wave of thought and feeling that sweeps over the body; it can smile; it can frown; it can sulk and get melancholy, and forget and forgive. It has its moods, and we must respect them. If it is sleepy and sluggish, and lacking in tone, it needs thorough and *oft-repeated handling*, to rouse it back to life" (italics ours).

Regarding the rectum as a thing possessed of such marvelous intelligence, it is not at all strange that the doctor attributes to it a remarkable controlling influence over the entire body. Here is the list of diseases which the author above-quoted puts down as being curable by means of "orificial surgery:" "Affections of the buccal cavity [mouth], pharyngitis, esophagitis, dyspepsia in its various forms, imperfect intestinal digestion and assimilation, chronic typhlitis, constipation, chronic diarrhea and dysentery; and, in short, all conditions of the digestive mucous membrane that come from imperfect capillary circulation [and what ones do not?], respond with great surety, and usually with rapidity, to orificial work."

To the above list, the author adds pulmonary hemorrhage and tuberculous disease of the lungs, or consumption. As regards the application of the treatment to consumptive cases, he adds, "Do not fear the employment of an anesthetic in these cases. For any other operation, an anesthetic would have a pernicious effect upon weak lungs; but the action of dilating the sphincters is such that it at once removes the congestion that would otherwise be occasioned by the anesthetic"!!! The same author recommends orificial surgery for organic disease of the heart and varicose veins, which he says are "greatly improved, and many times entirely corrected." "Skin troubles, acne, eczema, herpes, chronic syphilis, chronic ulcerations, etc., are invariably satisfactory cases, and you can always look for satisfactory results in them." It must be very comforting news to the victim of a life of dissipation, that a simple stretching of the sphincters of the rectum, or clipping off of some bits of mucous membrane from its lining, will eradicate from the system a horrible malady, hitherto considered incurable. But if consumption, bronchial catarrh, and all diseases of the digestive tract, including, we are at liberty to infer by the parenthetical remark of our author, even cancer of the stomach,— if these maladies are curable by operations upon the rectum or other orifices, why not syphilis, fever-sores upon the leg, and other trifling ailments as well? In the eyes of the orificialist, maladies ordinarily considered incurable, are the merest trifles, to be dissipated by a few sphincter stretchings. He speaks in a most cheerful manner of such simple ailments as "muscular troubles" and "rheumatic affections," remarking that upon the latter class of ailments the effect is "often instantaneous." He claims also that "chronic periostitis" [inflammation of the covering of the bone], and even caries [ulceration of the bone], get well." As regards neuralgias, "instantaneous cures frequently occur." Such trifles as diseases of the brain and spinal cord "yield slowly, though none the less surely." "Paralysis is not difficult." "Insane patients almost invariably yield to the treatment," and improvement begins "within a week after the first operation is performed."

The observation is made respecting insane cases, that "repeated dilatations are as essential in these cases as in consumptives," having previously stated that "in consumptives, stretching of the rectum must

be practiced every two or three days." Certainly, if there is an atom of truth in the statement made, the State ought to employ a corps of "orificialists," to begin work immediately at the public institutions, then extending their operations to each community, until every lunatic has been "dilated" into a state of sanity. From the account given us of some of the subjects of orificial quackery, we are quite convinced that a few people have been made wiser, if not more sane, by the experience of orificial surgery; and some, we are certain, have been radically cured of a very common form of mental disease, which might be denominated *quackomania!*

Kind reader, have you a friend suffering from dropsy? Does the doctor say that his case is hopeless, being due, as most dropsies are, to incurable disease of the heart, kidneys, or liver? Do not despair. Orificial surgery offers you a hope. Listen: "Dropsies are rapid in their repair; even desperate cases will show marked improvement in from two to three days' time." Orificial surgery is certainly ahead on dropsy. A powerful hydragogue cathartic could scarcely keep up with such a pace, and even tapping could hardly afford more speedy relief.

Solid swellings, like enlarged lymphatic glands, our orificialist very modestly remarks, "usually require a few months for a complete repair by this method."

We would like our readers to enumerate the number of chronic maladies with which they are acquainted, not included in the above list, which the orificialist assures us are all curable by sphincter stretching. Not a single exception does he make; and fearing least he might not have done full justice to his method, he says, "multiply the number of cases any one of you may have the care of, which are not improving satisfactorily under your best efforts to relieve them, by the number of doctors in this and in other countries, and you will begin to have a shadowy vision of the boundless scope of orificial work; for I am still hunting for a chronically disabled member of the human family that does not present some form of orificial irritation"!!!

Here we have it in so many words,—the bold assertion that "orificial surgery," which means, essentially, operations of various sorts upon the rectum, is considered the proper treatment for every patient suffering from chronic disease, no matter what its nature, and that it may be expected to cure the most incurable maladies!! "But how can such a simple procedure exert so profound an influence upon the body?" some incredulous reader may inquire. Here is the philosophy, in the words of Dr. Pratt:—

"Dilatation of the sphincters *ani* has a remarkable effect on the entire capillary circulation of the body. It flushes it immediately throughout the entire extent of the skin, of mucous and serous membranes, and of the textural structure of all viscera. This universal distribution of the blood not only insures universal increased activity in every part of the body, stimulating all its processes of digestion, assimilation, circulation, and excretion, but also relieves as rapidly all local congestions. It is, in fact, Nature's own way of renewing herself, and explains the necessity of the daily passage of solid, well-formed *feces*, as a '*sine qua non*' of perfect health."

It seems, from this philosophy, that Nature's great purpose in the daily movement of the bowels is not the elimination of effete matters, but simply the mechanical stretching of the "sphincters *ani*." Surely, these are new facts in physiology, and, if true, they must wholly revolutionize our ideas of the functions of the body, and Nature's means of preserving them in a healthy state. We have for some years been laboring under the impression that chronic diseases are usually the result of the violation of Nature's laws, particularly in erroneous practices as regards diet, dress, exercise, etc. But now we are told, without the slightest intimation that anything else is required, that the sufferer from dietetic abuses, or from the grossest violation of Nature's laws, and moral laws as well, may be cured of all his physical infirmities by "thorough dilatation and pruning" of the rectum. Subjecting one's rectum to "dilatation and pruning," and "thorough and oft-repeated handling," may be only proper punishment for the transgression of Nature's laws; but are any of us prepared to believe that the "orificialist" is a divinely appointed scourge sent out to stretch and prune the lower orifices of those who violate the laws of Nature and of God? Any one who will give the matter a moment's serious thought, will arrive at the conclusion that it is quite as impossible to atone for physical sins in this way, as by swallowing daily doses of nauseous drugs, sugar-coated pills, or barrels of mineral-water. It could hardly be expected that a believer in, and teacher of, hygienic reform and philosophy would take kindly to such teachings as these. Certainly, we must have a little more evidence before we shall be willing to throw overboard the principles which we have cherished for a quarter of a century, and to which we believe we are indebted for life and the opportunities for usefulness which we enjoy.

The orificialist assuredly has, as remarked above by the father of the system, a "boundless scope" for work. Every chronic invalid, according to his

philosophy, is in need of his services, and he does not hesitate to attack any case in the whole medical alphabet, from *anasarca* to *herpes zoster*. A bad dropsy, a "bad disorder," or a consumption, are all one to the orificialist. The same remedies, a rectal speculum to stretch the sphincters, a pair of forceps and pruning scissors for the rectum, are all the weapons he requires, whether the malady be a paralyzed arm or an ulcerated nose, water on the brain or wind on the stomach. The history of medicine records the career of a vast number of hobby-riders who have ridden their various hobbies to the death (of their patients); but we know of none among them so ridiculous nor so inconsistent as that of a fully-developed orificialist. It would seem that the absurdities of the "orificial" philosophy would serve as a warning to intelligent people; but this new species of medical humbuggery seems rather to serve, as the editor of the *Popular Science Monthly* said of the blue-glass mania, the purpose of "a foolometer, to test the length, breadth, and thickness of the foolishness of the nineteenth century!"

The number of patrons secured by the charlatans engaged in this orificial business, is a certain indication of the lamentable ignorance, not only of medical subjects, but of the simplest elements of anatomy and physiology, on the part of the great masses of the people. The bold assertions and specious reasoning of a smooth-tongued orificialist, is quite sufficient to convince the average man or woman that the posterior extremity of the alimentary canal is the home of every unclean and filthy malady; that it is to the rest of the body what a cellar full of rottenness is to a dwelling-house; and that unless the sewers of the body are opened by vigorous and "oft-repeated dilatation and pruning," they cannot hope for physical happiness in this world, and have a very poor chance for the next. A poor woman of our acquaintance was recently told by an orificialist, that she would probably become insane, if she did not submit to his "dilatation and pruning." She was frightened into submitting to the treatment of a disease which she stated "she never knew she had," and a fortnight later, was reported to be trembling on the verge of complete mental unbalance.

An equally plausible philosophy could be built up with reference to almost any particular organ of the body. Let us take the nose, for example. Every one knows that a good hearty sneeze will send the blood tingling to the ends of his fingers and toes. Not even the "dilatation of the sphincters" exerts a more profound influence upon the capillary circulation than a succession of hearty sneezes. Consider, then, kind reader, the physiological importance of sneezing. Is your liver torpid? Sneeze. The expulsion of air from the lungs, and the energetic action of the chest walls, give the liver a vigorous start and a good healthy squeeze, so that the bile flows more freely, the stagnant blood hastens on its way, the hepatic cells are encouraged to activity, the glycogenic function is facilitated, and the liver, the largest gland in the body, the most important of all the secreting organs, is transformed from a half-dead, inert, diseased, and almost useless organ, to a thing of life and activity, imparting vigor and vitality to every organ of the body! How important a thing is sneezing! An equally profound influence may be traced from this remarkable physiological phenomenon, a sneeze, upon the other digestive organs. Under the stimulating influence of a sneeze, the stomach secretes gastric juice more actively, and its sluggish muscles are stimulated to vigorous contraction. Its fermented, half-putrid contents are driven onward into the intestines, where, meeting the antiseptic bile now flowing down from the liver in copious quantities, it neutralizes the noxious products of indigestion, destroys or inhibits germs, and thus secures the successful completion of that marvelous transformation by which food is changed into blood, endowed with all the properties of life and vitality, and capable of supporting the incomparable activities of hand and mind manifested by the human form divine in its highest development!!

The heart, also, feels the magic influence of a sneeze. Perhaps it may have been lagging in its work. The life current flows sluggishly. Every tissue languishes. The weakened muscles scarcely hold the body upright. The arm swings feebly by the side. The tottering limbs threaten to fall beneath the burden of the body's weight. The eye is listless; the brain sluggish; the whole body crushed and sinking under the incubus of a torpid nose. What a revolution may be wrought by means of "thorough and oft-repeated handling" of the nose! The poor sufferer, in despair, is urged to consult an "orificialist" who focuses his attention upon the upper instead of the lower orifices of the body. The astute professor of rhinology says to the despondent sufferer, "My afflicted friend, do not despair. 'Orificial surgery,' as applied to the nasal orifices of of the body, has rescued many a graver case than yours, from the very jaws of death. You are evidently suffering from a lack of proper periodical dilatation of the nasal orifices. The nose, as possibly you may not be aware, is intimately connected, through the sympathetic nerve, with every other organ of the

body. When weakened, the whole body falls helpless into the gulf of disease and death. Upon its rhythmic action and full distension depends the preservation of that nice balance of all the vital activities essential to the maintenance of health. The nose, so to speak, is the keystone in the arch which spans the dark chasm of disease. Keep the nose intact, performing its functions freely and fully, and disease is impossible. The nose is the outlet for some of the most dangerous impurities of the body. When it becomes spasmodically contracted or abnormally obstructed, these impurities accumulate, and the human form becomes comparable to a house containing many stoves and furnaces, discharging their smoke into one chimney, and that chimney closed at the top. The poisonous vapors, finding no means of exit, soon permeate every tissue, and contaminate every organ of the body. You see, then, sir, this being your condition, all that is required is that the constrictors, or sphincters, of the nasal orifices be dilated,—by the aid of the non-such instruments which I hold in my hand, which were invented expressly for this purpose, and which require to be handled with the greatest skill,—as the result of which you will experience an immediate improvement in "the capillary circulation of the entire body." After this has been accomplished, I shall place in your hands this feather, a fragment of the gorgeous plumage of a recently discovered South American bird, which possesses the remarkable property that when grasped by the quill portion, between the thumb and the fore-finger, and the other extremity dexterously inserted into either one of the nasal orifices, and lightly applied to the *septum nasi*, there will immediately occur an involuntary contraction of the *levator labii superioris alæque nasi* muscle, which, reacting upon the central nervous system, will set up activity of the entire muscular system of the body, producing what was known to the ancients as *sternutatio*, but in modern unclassical language called a *sneeze*. By the daily repetition of this simple treatment of the nasal organ, you will be able in time to re-establish the normal vital rhythm of this part of the body, and so maintain in its entirety that marvelous vital circle in which each organ contributes to the health and activity of every other.

We might wander on indefinitely in this line, without very great deviation from the truth, and with equally as good foundation for our philosophy as have the advocates of rectology. But we fear we should not succeed in winning patrons by our theories, since the nose is too conspicuous and readily accessible an organ to serve as the basis for successful quackery. The charlatan always selects, as the base of his operations, some portion of the body inaccessible to the ordinary observer; and this appears to be the most patent reason why he shows such tenacious fondness for the rectum. If the work of these men was entirely harmless, we might be justified in allowing them to pursue their course unmolested; but unfortunately for their victims, their meddlesomeness is by no means free from unpleasant results. Some of these, together with a more thorough exposure of the knavery practiced under the name of "orificial surgery," we will reserve for consideration next month.

THE oldest medical treatise known is said to be that recently translated and reproduced in *fac simile* by Prof. Ebers, from an Egyptian manuscript written about 1500 years before Christ. The portion referred to treats of diseases of the eye.

DR. PINEL, of Paris, in experimenting with hypnotic patients, has discovered that they very readily obey commands issued by the phonograph, and is led therefore to discard the theory of animal magnetism, and believes that hypnotic phenomena originate in a disordered mental state.

A DISEASE recently made out by the neurologists, has been termed "aural blindness." This term has been given to a condition in which, though a person is able to hear one kind of sounds particularly well, he is totally deaf to other sounds which are usually heard by people with good ears.

THE LA GRIPPE GERM CAPTURED.—It is reported that Prof. Weichselbaum, of Berlin, has discovered the germ cause of the Russian influenza, *la grippe*. The Professor announces that the germ which produces this remarkable disease is very similar to the germ which causes pneumonia, although at the same time being distinctly different from the pneumonia germ.

OYSTERS AND TYPHOID FEVER.—Various experiments have recently shown that there is good reason for believing that oysters, on account of their scavenger-like nature, are very likely to be infected by typhoid-fever germs, and may thus be the means of conveying the poison to those who eat them. Does not nature furnish us with a sufficient variety of wholesome and nutritious foods without sending us to the oozy sea-bottom in search of these scavengers of the mighty deep?

It has been found that decayed teeth and the roots of teeth left in the mouth, are channels by which the germs of consumption find their way into the system. The lympathic glands of the neck often become infected in this way.

La Grippe. — The influenza which is now prevailing in this country, seems to resemble others which have preceded it at intervals. A similar epidemic started in 1830 and reached Russia in 1831, and in four months later had reached Western Europe, but did not reach this country until the following year. A similar epidemic prevailed quite extensively ten years ago. The present epidemic, which originated in Russia a few months ago, has spread rapidly into Finland, Prussia, all parts of Europe, and probably prevails more extensively in this country than any scourge of the present century. About one hundred years ago, President Washington was suffering from a similar epidemic. The disease does not seem to be essentially different from ordinary influenza, although the attack is usually more extended, and the temperature higher. Most patients recover within three or four days with good nursing, and without medication.

A New Dissipation. — According to the *New York Sun*, fashionable women in London and Paris, whose ingenuity in the development of new dissipations seems to have no limit, have discovered a new means of exciting their jaded nerves. Having exhausted the virtues of morphine, absinthe, and other intoxicants, they have taken to the practice of smoking cigarettes made of tea.

"Special grades of the finest tea are used, and the effect of the cigarettes is said to be delightful for fully an hour after one has been smoked. After that comes a reaction in the form of nervous trembling and excitability, which is best subdued, according to a woman of title who rather goes in for all these things, by a thimbleful of frozen absinthe."

Some of our readers who are addicted to the daily use of tea and coffee, will perhaps consider the use of tea cigarettes by the French and English as a very improper thing, in which we quite agree, but would nevertheless urge that no reason can be assigned for considering the use of tea in the form of cigarettes in any respect more pernicious, either physically or morally, than the use of tea in the form of a decoction, or tea-drinking. Intoxication may be produced by either method, and the difference in the condition of a person intoxicated by tea-smoking or tea-drinking is not greater than that of a person intoxicated by tobacco-chewing and tobacco-smoking.

The Quantity We Should Eat. — Dr. Nichols gives us some excellent thoughts on this subject. Mankind or animals, in a state of nature, do not over-eat. The Indian has not an ounce of superfluous flesh, and there are no prize cattle upon the prairies. It is the stalled ox, and the pig in his pen, deprived of exercise, and gorged with dainties like their master, that can be, like him, fattened into a diseased obesity. All working animals are carefully fed as to quality and quantity. If man would but feed himself as wisely, he would be as healthy as they. Simplicity of food is one of the first conditions of health, and the precise quantity which a man requires to enable him to do his work without loss of weight, is what he should eat — no more, no less.

Meat Consumption and Diseases of Nerves and Liver. — The *London Hospital,* one of the leading medical journals of England, recently mentions the great consumption of flesh food in Australia as a cause of the marked increase of diseases of the stomach, the liver, and the nerves, in that country. We are glad to see that medical men of eminence are waking up to the importance of this great consumption of meat as a factor in the production of diseases of certain types. So much has been said in recent years respecting the danger of using diseased meats, that the impression has come to prevail that any amount of meat may be eaten with impunity, provided only that it is free from disease. It was long ago shown by scientific research, however, that no idea respecting diet could be more erroneous. Excess of nitrogenous material, such as is furnished by meat, must be eliminated as waste matter, and imposes extra labor upon the liver, so that it is no wonder that this ordinarily overworked organ speedily becomes diseased. Retained excretions irritate and otherwise disturb the nerves and nerve centers, and thus the foundation is laid for numerous functional disturbances of the nervous system, which in many instances are but the forerunners of organic, and often incurable maladies. These are facts which large consumers of meat will do well to consider. Most persons of this class may easily find in their own experience the evidence of the correctness of this statement. The frequent attacks of neuralgia, rheumatism, or gout, and the occasional sick-headaches or bilious attacks, to say nothing of the chronic troubles of stomach, and bowels, and bladder, which these persons commonly experience, are so many evidences of the mischief wrought by an excess of nitrogenous elements in the food, particularly the use of nitrogenous food in the most objectionable form.

TREATMENT OF LA GRIPPE.

DOUBTLESS many readers of GOOD HEALTH will be scanning its pages for some suggestion respecting the treatment of this popular malady. From the descriptions of others and from our own observations, we are not able to discover that there is any essential difference between the so-called Russian disease, "*la grippe*," and the ordinary influenza which has frequently prevailed in various parts of this country in an epidemic form. The disease is usually ushered in by a sensation of chilliness, and is followed by a fever, accompanied by severe headache and pain and soreness in all parts of the body. The patient says that his back aches, his bones ache, his head aches, and he is generally wretched. The distress for twenty-four hours in generally very considerable. Sometimes the seat of pain is in the lungs, and occasionally pneumonia and pleurisy is a complication when it occurs in a severe form. In the great majority of cases, however, the affection of the lungs assumes no graver form than a slight sore throat or bronchitis.

Treatment. — At the outset of the disease, give the patient a hot blanket-pack, which is administered by wrapping closely in a woolen blanket wrung out of water as hot as can be borne. Allow the patient to sweat for an hour. This will lower the fever and afford relief from the severe soreness and pain in the bones. The pack may be repeated two or three times a day for the first day or two, if necessary. The patient should drink large quantities of hot water, at least one glass every hour. Fomentations or compresses should be applied to the chest, if there is a cough or bronchial irritation. The inhalation of steam by means of the Sanitarium steam-inhaler, is an excellent means of relieving the cough which sometimes accompanies this disease. The severe headache is generally relieved by a cold compress, sponging of the head with hot water, or an application of hot fomentations to the upper part of the spine. The bowels should be opened by hot enema once or twice a day. If necessary, a mild laxative of some sort should be used, as the fluid extract of cascara, ten or fifteen drops at night and before breakfast. If the headache is not relieved by other means, ten or fifteen grains of bromide of potash may be administered once in three or four hours, in a quarter of a glassful of water. If medicines are to be administered, it is better to employ a competent physician than to undertake self-medication.

PREVENTING CONSUMPTION.

OLD ideas respecting the heredity of consumption are now pretty generally discarded, although it is still conceded that a tendency to the disease may be transmitted by heredity. It is now generally believed by the most experienced physicians, that consumption is almost invariably contracted by contagion. In many instances it is easy to trace the source of the disease. The following is an example: —

A Nebraska farmer in some way contracted the disease, perhaps by eating diseased meat. In the course of the disease he was cared for by his wife, who also had the care of a large family of children. The poor woman, knowing nothing of the contagiousness of the disease, and being pressed beyond endurance with her numerous cares, sometimes neglected the washing of the numerous cloths soiled by the sputa of her sick husband, drying them instead, and rubbing them soft between her hands. The dried sputum, with its active germs, was thus scattered in the air, and was undoubtedly inhaled; for in a few months after the death of her husband, her own lungs showed signs of the disease, and in less than a year she was in her grave. The State Board of Health of Maine has thought this matter of sufficient importance to warrant the issuing of a circular, the greater part of which we reproduce in this connection. We wish

to add one rule, which we are surprised to see omitted, viz., that kissing by a consumptive should be most emphatically interdicted. We know of no means which the consumptive could more effectively employ to innoculate his friends, than kissing; and yet it is not an uncommon thing to see consumptive fathers and mothers fondling their children in a way which exposes them to as imminent peril of life as though they were encountering a storm of rifle bullets, or a bombardment from a thunder cloud. In view of these facts it is not remarkable, to say the least, that young children often suffer from tubercular troubles of the brain, tubercular enlargement of glands about the neck, and other tuberculous maladies. The following are the rules referred to, which we hope will be committed to memory by every reader of this journal: —

It should be impressed upon consumptive patients, and other persons living with them, that the sputum (that which is coughed up) is dangerous and must be properly disposed of.

The sputum should be received in a spit-cup or spittoon containing a little water or disinfecting fluid, and must never be spit upon floors or carpets, or received in handkerchiefs.

If occasionally it is necessary to have handkerchiefs or cloths soiled with the sputum, they should be boiled as soon as possible, and before drying.

The spittoon should be of such shape that the sputum may easily fall into the water without soiling the sides of the vessel. For patients not able to sit up, a small spit-cup with a handle should be used. When flies are present, it should be covered.

Spit-cups and spittoons should be emptied and cleansed often with boiling water and potash soap. When the house has a drainage system, the contents may be poured down the water-closet or slop-hopper; when it has not, they should be buried in ground which will not be turned up soon.

The sputum should not be thrown out upon the surface of the ground near inhabited places, nor on manure heaps, nor where animals may get it, nor where it may soil animal food.

Boxes filled with sand or sawdust should not be used. Cheap wooden and pasteboard spit-cups are now on the market, one of which may be burned daily or oftener with its contents, as a convenient way of disposing of the sputa. A pocket spit-flask of small size has been devised which may be used while away from home.

The floors, wood-work, and furniture of rooms in which consumptive patients stay should be wiped with a damp cloth, not dusted in the usual way.

The patient's clothing should be kept by itself, and thoroughly boiled at the washing.

The patient should be made to understand that in neglecting these measures he is imperiling his friends, and at the same time diminishing very much his own chances of recovery, by re-infecting himself with the inhalation of his own dried and pulverized sputum.

After a death from this disease has occurred, the patient's room, clothing, and bed should be disinfected. For this purpose, boil all bed and personal clothing, or disinfect them when practicable in a steam disinfector; wash furniture, wood-work, walls, and floors with carbolic acid, and thoroughly expose the rooms to light and air.

If raw milk is used as food, especially if it is to be given to children, an assurance should be had that the cows which produce it are perfectly healthy and subjected to healthful treatment.

When there is any doubt as to the health of the cows, the milk should be boiled before use.

Thorough cooking will remove all danger of tuberculosis through the medium of the meat-supply.

Tuberculous mothers, and those inclined to consumption, should never nurse their babes.

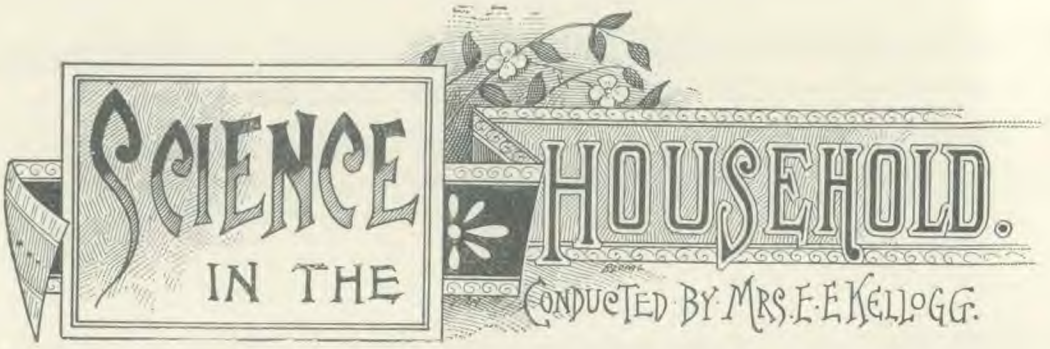
By observing the rules which are expressed and suggested in the foregoing, the principal if not all danger of infection may be avoided.

The open-air treatment of consumptives and those who are threatened with tuberculous disease, has given much better results than any other. Particularly in Germany, and to some extent in this country, such treatment has been systematized in "sanitaria" for consumptives. Here the patients have the advantage of a regular life, nutritious food, and such exercise as they can bear without fatigue; but the chief curative agent is an abundance of fresh air. Even in the coldest of winter weather, patients, after a period of gradual habituation, and always guided by the judgment of the physician, pass the whole day walking in the open air or sitting or lying on resting-places, wrapped comfortably in blankets. Usually no claim is made for advantages of climate. An abundance of pure air is the all-important thing.

"THERE, I've forgotten my medicine." "Well, you want to be careful; the first thing you know you'll be getting well."

"DEAR," said a physician's wife as they sat in church, "there is Mrs. Goldberg sitting in a draught."

"Never mind; I will cash that draft later on."



HELPS FOR THE INEXPERIENCED.—2.

MEASURING.—One of the most important principles to be observed in the preparation of food for cooking, is accuracy in measuring. Many an excellent recipe proves a failure, simply from lack of care in this respect. Measures are generally more convenient than weights, and are more commonly used. The common kitchen cup which holds half a pint is the one usually taken as the standard; if any other size is used, the ingredients for the entire recipe should be measured by the same. The following suggestions will be found helpful in measuring:—

1. The teaspoons and tablespoons to be used in measuring, are the silver spoons in general use.

2. Any material like flour, sugar, or salt, that has been packed, should either be sifted, or stirred up lightly before measuring.

3. A cupful of dry material is measured level with the top of the cup, but without being packed down.

4. A cupful of liquid is all that the cup will contain without running over. Set the cup in a saucer while measuring, to prevent spilling the liquid. The following table of weights and measurements will aid in estimating different materials:—

One heaping tablespoonful of sugar weighs one ounce.

Two round tablespoonfuls of flour weigh one ounce.

Two cupfuls of granulated sugar weigh one pound.

Three cupfuls of meal weigh one pound.

Four cupfuls of flour weigh one pound.

One pint of liquid weighs one pound.

Seven heaping tablespoonfuls of sugar = one cupful.

Five heaping tablespoonfuls of flour = one cupful.

Two cupfuls of liquid or dry material = one pint.

Four cupfuls of liquid or dry material = one quart.

SOME SEASONABLE RECIPES FOR SERVING VEGETABLES.

BAKED BEETS.—Wash the beets well, handling carefully, so as not to bruise or break the skin, and place them in an earthern pitkin or crock lined with well-moistened rye straw. Bake slowly for six hours.

TURNIPS WITH CREAM SAUCE.—Prepare the turnips and cut them into half-inch dice. Cook until tender. Meanwhile prepare a cream sauce, by cooking a tablespoonful of flour in a pint of thin cream, until thickened. Season with salt, if desired. When the turnip is tender, drain, turn the cream sauce over it; let it boil up once, and serve.

CABBAGE AND TOMATO.—Boil finely chopped cabbage in as little water as possible. When tender, add half the quantity of hot stewed tomatoes. Boil together for a few minutes, being careful to avoid burning; season with salt, if desired. If preferred, a little sweet cream may be added just before serving.

STEWED CARROTS.—Prepare young and tender carrots, drop into boiling water, and cook for fifteen or twenty minutes. Drain, slice, and put into a stew-pan, with sufficient rich milk or cream to nearly cover. Simmer gently until tender. Season with salt and a little chopped parsley.

POTATO SNOWBALLS.—Cut large potatoes into quarters; if small, leave them undivided. Boil in just enough water to cover. When tender, drain and dry in the usual way. Take up two or three pieces at a time in a strong clean cloth, and press them compactly together in the shape of balls. Serve in a folded napkin, on a hot dish.

A LOST HOUSEWIFELY ART.

BY E. L. SHAW.

VERY little seems to be known about darning, in the average household. We are not now speaking of stocking-darning, the knack of which, with trifling care, can be very soon learned, but of that other artistic mending of finer fabrics, which without previous careful training, it seems hopeless to attempt. Jobs of this kind are constantly coming up to be done in a family; but for all that, no member seems ever to have prepared herself to do them in a creditable manner. The task is generally relegated to the best seamstress in the family circle, but even she knows little of how properly to begin, and as her results are therefore wholly a matter of chance, is quite as likely to turn out an ugly, staring blotch, visible almost as far away as the garment itself, upon the upper part of the sleeve of somebody's best coat, or upon some conspicuous portion of somebody's best dress, as anything else.

In the large cities, we know that darning is sometimes taught as a distinct branch of needlework; but away from these, only occasionally do we come across a fortunate individual who really understands this well-nigh lost art. She will take to this work most easily and naturally, and make most proficiency in it, who has most artistic sense of harmony, accuracy, fitness, imitative power; and many a young girl, bringing her best to it, will find fabric-darning a medium for the expression of an artistic instinct which in her rather barren and prosaic life might otherwise be forever stifled or hidden. Indeed, it is a great pity that darning could not be made "a craze" among girls, so that they would be willing to be at a good deal of trouble to learn it, and would then establish special darning-classes, to teach their companions.

In manufacturing towns, especially, the right hand's cunning of the darner must often save the weaver of the more delicate and costly fabrics from heavy loss, made imminent by careless operators or imperfect machinery. In ordinary towns, the work given her by friends might put many a dollar into the hands of a young girl who would like a way to earn something without leaving her mother, or, in connection with other sewing, bring to a lone woman pleasant, self-supporting employment, while surrounding her with helpful friends and acquaintances.

How well this useful art may serve us upon occasion, is shown by the following true story:—

Two girls living together, supported themselves by doing fine "custom work" for the merchant tailors. One day, as one of them was doing the final, careful "pressing-off" on a pair of valuable pantaloons, a dreadful accident happened. In pressing the fronts, the heavy iron resting its usual time upon one of them, proved hotter than she had thought, and when she lifted it there was a great *scorched* spot right upon the most conspicious portion of those fine trousers. Her sudden exclamation brought the other girl to her side, who following her horror-stricken glance, took in the situation without a word; and for a minute they stood and looked at each other, each realizing what it probably meant to them,—not merely the cost of the garment, but very likely damages, disgrace, and loss of work. Then one, the elder, who had sometimes done jobs of "busheling" for the tailors, sat down with that dreadful blackish-yellow spot uppermost in her lap, and looking at it intently for a few minutes, set to work. What did she do?—Why, she first trimmed off every bit of the scorch down close (it was fortunately not plain goods, but that called "diagonal," so much worn a few years ago), and raveling a piece of the cloth like it, she took its various-colored threads, and wove them in and out until she had formed a stripe of the "overshot" work, precisely like that burned off, matching it carefully at the ends where it met the other stripe; and where the plain portion of the goods was yellowed, she ran new threads through it, covering the yellow completely. When it was finished, and lightly pressed with a warm iron, she held up the trousers in the strong light. "There! we'll donate the making of these to Mr. Snip, if he can find the mend!" But even Mr. Snip's trained eyes did not find it unassisted.

The best directions for darning which we have yet seen, we compile from the *Ladies' Home Journal*, and it is said to be the method employed by the nuns in the French convents. The rent is first trimmed to make an even edge, and is then matched with a piece of the goods, being particular to have it cut the same way of the cloth. This is basted on the wrong side. For thread, use ravelings of the fabric, threaded into a long, fine darning needle. The darning is to be done over the raw edge of the tear, covering it, but taking only two or three fine stitches on either side of it, which stitches must be in the same direction as the threads of the goods, being particularly careful never to stitch into or across a thread. The work must all be done upon the right side, and the stitches, both over and under the needle, must be as small as possible,—the finer the fabric, the smaller the stitches.

QUESTION BOX.

[All questions must be accompanied by the full name and address of the writer, as it is often necessary to address by letter the person asking the question.]

CONSTIPATION. — Mrs. F. A. C. suffers greatly from habitual constipation, and desires directions for establishing a regular habit of body, without the aid of enemas or suppositories.

Ans. — As our January installment of "Short Talks about the Body, and How to Care for It," covers the whole ground of your trouble, we would recommend you to a careful reading of that article for all needed information.

SEQUAH'S OIL — PRAIRIE FLOWER, ETC. — T. W., of Newcastle-on-Tyne, England, writes thus: "If GOOD HEALTH would publish the ingredients of which Sequah's Oil, Prairie Flower, and Carter's Liver Pills are composed, it would do a good work in enlightening the people as to the drugs they take."

Ans. — We are not aware that any competent chemist has made an analysis of the nostrums mentioned. We are devoting considerable attention at the present time to an investigation of patent medicines, and will perhaps, in due time, pay our respects to those named.

TYPHOID FEVER. — L. A., a subscriber, wishes information respecting typhoid fever.

Ans. — Typhoid fever is a disease too serious to be treated by any prescription which could be given in these columns. Whenever a patient is taken with typhoid fever, the best physician in the community should be summoned to take charge of the case. The water which has been previously used should be at once discarded for that known to be pure. The suspected water should only be used after being boiled and filtered. The use of the suspected water should also be discarded by others. It is much easier to prevent typhoid fever than to cure it.

LIME-WATER FOR THE TEETH — CLIMATIC CONDITIONS. — Mrs. C. L. P., Cal., asks the following questions: "1. Do you approve of children drinking lime-water for the benefit of their teeth? If not, why not? 2. Is a person who has been raised in Southern California apt to be as rugged as if he had lived where winters are cold, other conditions being equal?"

Ans. — 1. Inorganic substances are not assimilated. Children can find all the lime they can utilize in milk, boiled oatmeal gruel, and other proper food. 2 No. There is no doubt that a temperate climate, which has an alternation of warm and cold seasons, is more conducive to the highest degree of physical and mental vigor and hardihood than a tropical or subtropical climate.

DEVONSHIRE CLOTTED CREAM — METHOD OF PARCHING WHEAT OR CORN. — E. A. P., Penn., asks the following questions: "1. How is Devonshire clotted cream prepared? 2. What is the best method of parching wheat or corn "

Ans. — 1. The milk is set in deep narrow cans, and from fourteen to twenty-four hours later is scalded before removing the cream, which is solidified by the heat so that it can be cut into squares having a consistency nearly equal to that of cottage cheese. 2. The natives of the Canary Islands, with whom parched grain constitutes the staple article of diet, under the name of *gofio*, parch the grain by stirring it in a large earthern-ware vessel, heated over an open fire.

CHEERFULNESS AT MEAL-TIME. — A. T. P., Mass., asks the following questions: "1. What is the most healthful course to pursue at meal-time: for one to talk and be cheerful, or to eat in solemn silence? 2. What would you recommend for a person who is troubled with nervousness and a great deal of nervous headache? 3. Will you please give the price of "Ladies' Guide in Health and Disease," advertised in GOOD HEALTH?

Ans. — 1. Meal-time should always be made the most cheerful time of the day. A happy frame of mind is most conducive to a good digestion. We have no sympathy with those dietetic cranks who solemnly contemplate each morsel of food before it is eaten, minutely scrutinizing every mouthful swallowed, and in the imagination following each fragment of the meal into the innermost recesses of the body, watching for the appearance at any moment of some symptom of fermentation or other indication of indigestion. 2. Consult a physician competent to find out the cause of the nervousness, and recommend such a correction of the habits of life as will remove it. 3. The "Ladies' Guide in Health and Disease" is published in three styles at the following prices: —

Cloth, embossed in gold and jet	$3.90.
Leather (library style)	4.50.
Half morocco, gilt edges	5.00.

LITERARY NOTICES.

Babyland, for February, means fun without stint for the babies, and with Babykin's lullaby playing hide-and-seek in our brain, "Go to sleep! Go to sleep! Babykin, go!" we are ready to share their regret that *Babyland* is not larger. D. Lothrop Co., Boston.

The Writer, for February, is filled with original contributions of interest and value to all who are engaged in literary work. It begins its fourth volume with the January number, and must be regarded now as a permanent success. $1.00 per year. Address, *The Writer*, P. O. Box 1905, Boston, Mass.

The Kindergarten is a monthly illustrated magazine, filled with valuable lessons and stories adapted for home and school use. It presents, each month, suggestive lessons of practical value to all who are seeking for aid in child-culture. It should be in every school and home. $2.00 per year. Alice B. Stockham & Co., 161 La Salle St., Chicago.

THE January *St. Nicholas* is virtually a second Christmas number. The left-over Christmas matter from December,—too good to be returned to the writers, and too full of present interest to be kept lying in the editor's drawer until another cycle rolled around,—has made a most charming January number. What boy or girl ever had too much of Christmas? The *St. Nicholas* young folks heartily welcome its repeatal between the covers of this delightful magazine. The Century Publishing Co., New York.

AMONG the articles of special interest in the *Cosmopolitan* for February, may be reckoned "Recent Developments in Gun-Making," by Capt. John E. Greer, of the Ordnance Corps, U. S. A.; the concluding paper of "The Romantic Story of a Great Corporation" (The Hudson's Bay Company), by J. Macdonald Oxley; "The Development of Our Modern Costume," by Edward Hamilton Bell; "A Cruise Around Antigua, in the Canoe Caribee," by Poultney Bigelow; "The Exiled Emperor,"—meaning Dom Pedro,—by Frank Vincent; "An American Salon," by Grace Greenwood; and a fine discriminating paper upon Horace Greeley, by Murat Halstead. These papers are all lavishly illustrated, and no pains has been spared towards making the pictures a powerful aid, in each case, to the telling of the story. Address, The Cosmopolitan Publishing Co., New York City.

THE *Ladies Home Journal* promised well from the first, and the February number keeps up to its usual standard. It is a valuable aid to woman in its every department, and no one of her sex but can find something of genuine interest in each number. Fine artistic effects, combined with interesting letter-press, render this monthly a welcome visitor in any home. $1.00 per year. Published at 433–435 Arch Street, Philadelphia.

THE opening paper of the February *Scribner* is "Life Among the Congo Savages," by Herbert Ward, with abundant illustrations, drawn from the country and the people of that region, with a particularly life-like portrait of "Tippo Tib." The valuable illustrated article on "John Ericsson, the Engineer," is by William Conant Church; and "A Day in Literary Madrid," by William Henry Bishop, has some fine portraits of Spain's literary notables. "Through Three Civilizations" is an interior study of Hungary, highly illustrated, by W. H. Mallock. There is also another installment of Harold Frederic's "In the Valley." "An Archæological Discovery in Idaho," by G. Frederick Wright, is an account of the finding of the diminutive pumice-stone image which just now forms a puzzle for the scientists, with appropriate drawings. "The Minnesota Heir of a Serbian King" is a rare bit of the consular experience of Eugene Schuyler. Charles Scribner's Sons, N. Y.

IN the January *Century*, the next to the last installment of "The Life of Lincoln" appears, containing an account of Lincoln's assassination, with a chapter on the fate of the assassins, and a description of the mourning pageant. It it finely illustrated, containing many notable portraits and scenes. The frontispiece of the number is a portrait of Prof. James Bryce, the author of "The American Commonwealth." There is also an accompanying sketch of his life. Miss Amelia B. Edwards has a notable paper on the recent extraordinary discoveries at Bubastis, in Egypt, with twenty-three illustrations of excavated material, now thrown open to the public gaze for the first time. The second of the "Present-Day Papers" is by Rev. Dr. Dike, and deals with "Problems of the Family." A curious and valuable paper is that by Prof. Edward S. Holden, of the Lick Observatory, telling of his recent discovery, "The Real Shape of the Spiral Nebulae." There are also stories and poems in plenty. The Century Publishing Co., New York.

PUBLISHERS' PAGE.

DON'T FORGET TO RENEW YOUR SUBSCRIPTION.— This is the second number of the present volume, and yet some of our patrons whose subscriptions terminated with the December number, have failed to put in an appearance as subscribers for 1890. One lady who has been taking the journal for a year, said to the writer a few weeks ago, "We could n't keep house without it." Scores of others have borne similar testimony. The journal only needs to be read, to be appreciated by sober-minded and intelligent people. Agents are wanted in every part of the United States, to engage in introducing the journal. The publishers pay a liberal commission.

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THE Training-School for Health and Temperance Missionaries, at the Sanitarium, is even more successful than was anticipated by its projectors. Seventy-five or one hundred persons are in attendance upon the lectures daily, and there seems to be a growing interest in the subjects presented. It is believed that as the result of this effort, a number of persons will be qualified to engage successfully in several branches of health and temperance work, — a line of philanthropic effort in which workers are needed at the present time, perhaps, more than at any other. A broad field for usefulness will open up before any young man or woman who will prepare to engage in this benevolent work.

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SANITARIUM COOKING-SCHOOL.— Mrs. Kellogg has recently begun a three months' course of instruction in scientific cookery. The course not only includes theoretical and demonstrative lectures, but daily practice on the part of the student. Any person of average ability who will take this course, may become more expert in cookery than the ordinary good cook who may have had many years of experience, but is lacking in the scientific knowledge and precise methods which are required by the student in this system of cookery. There is a constant demand for good cooks, and an increased interest in cookery on the part of thinking people, which has been created by the diffusion of information respecting the nature of food and its relation to the body, that has created a great demand for persons who are skillful in the art of preparing food in a manner which will render it healthful and wholesome, as well as appetizing. A thoroughly good cook can always command good wages, and there is no department of useful labor more honorable or more important than this.

Every housekeeper should, of course, have a thorough knowledge of cookery, both theoretically and practically, although every woman may not expect to spend a great share of her time in the kitchen. It is certainly important that every woman should be an adept in healthful and scientific cookery. The Sanitarium Cooking-School affords a better opportunity for acquiring the requisite knowledge of this subject than any other school with which we are acquainted. Mrs. Kellogg has given the subject of scientific cookery a great deal of thought and attention, for a number of years, and as the result of work in her experimental kitchen, has developed so many new and tangible ideas, and invented such a vast number of wholesome dishes, which, while healthful, are at the same time so palatable as to render them acceptable to the mose fastidious, that she has fairly earned the credit of authorship of what may practically be presented as a new system of cookery.

A CORPS of health and temperance missionaries now at work in Bay City, Michigan, report a great interest in the school which is being carried on in connection with the canvassing work, and also send in a large number of subscriptions to GOOD HEALTH. One young man who has been at work several weeks, rarely fails to secure the subscriptions of one third of all canvassed. We expect that with the proper presentation of this journal, the subscription of at least two thirds of the intelligent men and women to whom it might be presented, would be readily secured.

* *
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WORDS of well-earned commendation always fall gratefully upon the ear, and in regard to GOOD HEALTH, while we have striven to provide a magazine for the public which in its particular field is not equalled, still less excelled in practical value to the household and to the individual, it is gratifying to see that our efforts are appreciated. As a specimen of public opinion concerning GOOD HEALTH, we subjoin the following letters, which are but a few out of the many we are constantly receiving: —

New York.

GOOD HEALTH PUB. CO: Please send me the GOOD HEALTH for 1890. I prize its visits highly, and would not like to be without it. Have had the volume for '89 bound, and it makes a nice and valuable book Inclosed find the price of subscription. MRS. ISABEL TOMLIN.

Texas.

GOOD HEALTH PUB. CO.: Inclosed please find one year's subscription for GOOD HEALTH. I have been thinking for some time of trying to get along without the journal this year, but after studying the matter over, have decided that we can't do without it. It has, I believe, become a fixture in our home, and holds a place among my reading-matter which nothing else can fill. With best wishes, and a happy New Year's greeting,

I am yours,
W. R. PATTERSON.

Indiana.

GOOD HEALTH PUB. CO., Gentlemen: Inclosed find $1.25, to pay for the GOOD HEALTH for the year 1890. I have been taking it since 1872 or 75, when it was the HEALTH REFORMER. I feel as though I could not do without it. If there were more who would take it and practice its teachings, there would be fewer diseases among the people.

Yours respectfully,
MRS. A. F. VAN NINAN.

Young Men's Christian Association Rooms, Rhode Island.

Your GOOD HEALTH is received. I have carefully examined the contents, and think it a capital magazine for a public reading-room. I shall be pleased to receive the journal, if you choose to send it.

Yours very truly,
JOHN GIBSON, *Gen. Sec.*

West Side Branch of the St. Paul Y. M. C. A., Minn.

I have just carefully examined the GOOD HEALTH. One cannot read it without feeling it is the very essence of purity. It is a simple, plain, honest, pure paper. In my judgment, it is an excellent journal for the home. Every Christian mother ought to have it, and as this is a home for young men, I will be only too glad to place it upon our reading-table, with the prayer that it may reach some young man. May God bless you in this noble health and temperance work, and may every copy be written to glorify him. Yours in the work,

WARREN J. HARRIS, *Sec.*

Y. M. C. A. Rooms, New York.

We have received the copy of GOOD HEALTH you sent us. The tone and merit of the magazine is excellent, and we shall be much pleased to place it on file in our reading-room.

Very sincerely yours,
HENRY E. ROSEVEAD, *Gen. Sec.*

Good Health for 1890.

For More than Twenty Years GOOD HEALTH has been before the public as the leading American periodical devoted to the health interests of the individual and of the home. It is, in a most thoroughly practical sense,

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In whose monthly columns are discussed all live subjects relating to the healthful development of the mind and body. It is the policy of the managers to avoid abstruse, technical, and impractical topics, and the discussion of unprofitable questions, and to present in a striking and impressive manner facts of real interest and practical value.

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Special Attractions for 1890.

There is probably no way in which the public are more grossly imposed upon than by the innumerable patent nostrums, worthless medical appliances, and fraudulent pretensions to discoveries, which are so widely advertised in the newspapers, and so generously patronized by the public. The managers of this journal propose during the year 1890 to devote considerable space to the

Exposure of Medical Frauds.— In order to carry on this work successfully, they have established a chemical laboratory, in charge of a competent chemist, for the purpose of carrying on a series of thorough-going investigations, the results of which promise to prove most startling, and which will be published in the columns of this journal.

DR. FELIX L. OSWALD,

Well-known to the reading public as a leading contributor to the *Popular Science Monthly* and other popular magazines, and for the past year to the readers of GOOD HEALTH, will continue his interesting articles on "International Health Studies." It is unnecessary to assure our readers that Dr. Oswald is one of the most talented of American writers, and that his extensive travels and acute observations have given him a fund of material with which he cannot fail to interest and instruct, and often amuse, by his keenly-pointed wit.

DR. NORMAN KERR,
OF LONDON, ENG.,

Will continue his practical health papers, which are of great value and interest to all students of hygiene. Dr. Kerr is well known throughout the civilized world as a physician of high standing, and a pioneer in the scientific study of the problems of inebriety.

Numerous Other Talented Writers will contribute, during the year, articles on live topics, which will be appreciated by all interested in the study of hygiene. Among these will be a series of *Illustrated Articles on Climatology*, which will delight the eyes of our readers with a profusion of beautifully executed engravings, showing some of the grandest scenery in the world.

GOOD HEALTH, WITH OTHER Popular Journals.

The publishers of GOOD HEALTH have been able to make such arrangements with the publishers of the best periodicals, that they can supply many of them with this journal at the price of one, and thus make a great saving to the subscriber. Those who wish to subscribe for one or two good journals besides GOOD HEALTH, will find this a very advantageous offer.

The price of GOOD HEALTH for 1890 is **$1.25**. The following list comprises some of the principal journals which we are able to furnish, thus :—

NAME OF JOURNAL.	Price of Journal Alone.	Price with GOOD HEALTH.
AMERICAN INVENTOR	$1 00	$2 00
" Agriculturist	1 50	2 25
" Architect and Building News	6 00	6 35
" Teacher	1 00	2 00
" Journal of Education	1 50	2 15
" Poultry Journal	1 00	1 85
" Bee Journal	1 00	2 15
" Journal of Philology	3 00	4 25
" Traveler	1 00	2 00
" Rural Home	1 00	2 00
" Poultry Yard	1 50	2 25
Advance, The	2 50	3 25
Magazine of American History	5 00	5 25
" Art	3 50	4 05
Arthur's Home Magazine	2 00	2 50
Art Amateur	4 00	4 50
Art Age	2 50	3 25
Atlantic Monthly	4 00	4 45
Andover Review	4 00	4 45
Arkansaw Traveler	2 00	2 75
Boston Traveler	2 00	2 75
Ballou's Magazine	1 50	2 25
Babyhood	1 50	2 25
Boston Globe	1 00	2 00
Boston Weekly Advertiser	1 00	1 75
Babyland	50	1 65
Beekeeper's Magazine	50	1 65
Brain	3 50	4 15
Book Buyer	1 00	2 05
Cassell's Family Magazine	1 50	2 45
Country Gentleman	2 50	3 00
Cosmopolitan (new sub's only)	2 00	2 90
Cottage Hearth	1 00	1 75
Christian at Work (new sub's only)	3 00	3 25
Century	4 00	4 75
Chicago Weekly Times	1 00	2 00
Chautauqua Young Folk's Journal	1 00	2 05
Chautauquan	2 00	3 05
Chicago Weekly Herald	1 00	2 00
Demorest's Magazine	2 00	2 75
Domestic Monthly	1 50	2 25
English Illustrated Magazine	1 75	2 60
Field and Farm	2 00	2 75
Farm and Home	50	1 65
Farm and Fireside	50	1 60
Farm Journal	25	1 40
Good Housekeeping	2 50	3 13
Golden Argosy	4 00	4 75
Globe, The (Boston)	1 00	1 95
Golden Days	3 00	3 50
Household	1 10	2 00
Housekeeper	1 00	1 85
Harper's Magazine	4 00	4 25
" Weekly	4 00	4 45
" Bazaar	4 00	4 45
" Young People	2 00	2 75
Household Magazine	1 00	2 00
Hawkeye, Weekly	1 00	2 00

NAME OF JOURNAL.	Price of Journal Alone.	Price with GOOD HEALTH.
Independent	$3 00	$3 75
Inter Ocean	1 00	2 00
" (daily and Sunday)	10 00	10 25
" (daily, except Sunday)	8 00	8 45
" (semi-weekly)	2 00	2 95
Journal of Education	2 50	3 25
" American Folk-Lore	3 00	3 65
Laws of Life	1 00	2 00
Lippincott's Monthly Magazine	3 00	3 25
Littell's Living Age	8 00	8 25
L'Art	12 00	10 85
Mother's Magazine (new sub's only)	1 50	2 25
Macmillan's Magazine	3 00	3 75
Musical Herald	1 00	2 05
Nature	6 00	6 40
North American Review	5 00	5 25
National Magazine	1 00	1 75
New York Medical Journal	5 00	6 25
New York Herald	1 00	2 05
Our Little Ones and the Nursery	1 50	2 45
Our Little Men and Women	1 00	2 05
Orchard and Garden	50	1 60
Poultry World	1 25	2 00
Popular Science News	1 00	2 00
" Gardening (new sub's only)	1 00	1 90
" Science Monthly	5 00	5 25
Practitioner, The	3 50	4 15
Pansy, The	1 00	2 05
Paper Trade Journal	4 00	4 25
Peterson's Magazine	2 00	2 70
Quiver	1 50	2 45
Rural New Yorker	2 00	2 75
Scribner's Magazine	3 00	3 65
Sanitary Engineer	4 00	5 25
Speculative Philosophy (Journal)	3 00	3 50
Scientific American	3 00	3 75
" " Supplement	5 00	5 25
St. Nicholas	3 00	3 75
Toledo Blade	1 00	2 10
The Daily Tribune (Chicago)	6 00	6 65
Vick's Floral Guide	1 25	2 05
" Seedman	1 25	2 05
Wide Awake	2 40	3 25
Work	2 50	3 25
Weekly Enquirer	1 15	2 15
World Weekly, The	1 00	2 05
" Daily, The	6 00	6 50
Woman's World	3 50	4 05
Youth's Companion (new sub's only)	1 75	2 50
Young Woman's Magazine	1 00	1 85

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STATIONS.							
Chicago	am 7.55	am 10.35	pm 3.10	pm 10.10	pm 9.25	pm 4.50	
Michigan City	10.05	12.28	4.52	am 12.23	11.33	6.58	
Niles	11.25	pm 1.30	5.45	1.50	am 12.55	8.17	pm 3.45
Kalamazoo	pm 12.55	2.45	6.58	3.25	2.27	pm 10.00 / am 7.10	5.29
Battle Creek	1.40	3.23	7.33	4.25	3.15	7.55	6.14
Jackson	3.30	4.47	8.52	6.15	4.45	9.35	7.55
Ann Arbor	4.52	5.45	9.41	7.50	6.00	10.45	
Detroit	6.35	6.50	10.45	9.20	7.30	11.50	
Buffalo	3.30	am 4.25	am 7.15	pm 5.55	9.05	pm 8.50	
Rochester		6.00	9.20	8.00		11.20	
Syracuse		8.10	11.35	10.20		am 1.30	
New York		pm 4.30	pm 8.50	am 7.20		9.42	
Boston		8.30	10.57	9.35		pm 2.50	

WEST.	†Mail.	†Day Express.	*Chicago Express	*Pacific Express.	†Evening Express.	†Kal. Accom'n	†Local Pass'gr.
STATIONS.							
Boston		am 8.30	pm 3.00	pm 7.00			
New York		11.50	6.00	10.00			
Syracuse		pm 8.30	am 2.10	am 8.00			
Rochester		10.40	4.20	10.45			
Buffalo	3.30	am 12.40	6.35	pm 1.20			
Detroit	am 9.10	8.0	pm 11.20	4 10.15	pm 3.00	pm 3.50	
Ann Arbor	10.25	8.59	2.20	11.35	9.15	5.17	
Jackson	pm 12.05	10.05	3.20	am 12.54	10.55	7.10	am 6.25
Battle Creek	1.45	11.36	4.30	2.15	am 12.27	8.52	7.55
Kalamazoo	2.30	pm 12.13	5.07	3.07	1.20	pm 9.45 / am 6.00	8.40
Niles	4.20	1.30	6.22	4.32	3.06	7.37	10.15
Michigan City	5.42	2.17	7.20	5.48	4.32	9.00	
Chicago	7.55	4.35	9.00	7.45	7.00	11.20	

* Daily. † Daily except Sunday. ‡ Daily except Saturday.

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Time Table, in Effect Jan 19, 1890.

GOING WEST.					STATIONS.	GOING EAST.				
	p m		p m		Boston		a m	p m	p m	p m
	3.00		7.00				8.30	7.30	7.30	7.30
	p m		p m				p m	a m	a m	a m
	5.00		8.00		New York		11.10	7.40	10.10	10.10
	a m	a m	p m				a m	p m	p m	p m
	6.20	6.32	1.00		Buffalo		9.50	5.40	7.30	9.00
	a m	a m	p m				a m	p m	p m	p m
	7.45	7.35	2.45		Niagara Falls		8.15	3.17	5.30	7.10
		a m		m				a m	p m	p m
		8.30		1.00	Boston			9.50	12.10	12.1)
	p m	p m		p m			p m	a m	a m	a m
	8.30	8.30		11.55	Montreal		8.00	7.45	7.45	7.45
				p m			a m	p m	p m	p m
				1.00	Toronto		8 40	7.25	7.25	7.25
						a m		a m		a m
					Detroit	9.46		7.45		11.50
Chi. Exp.	B. C. Pass.	Lmtd Exp	Pacific Exp.	Pacific Exp.	Mail Exp.		Mail.	Lmtd Exp.	Atlic Exp.	Night Exp.	Pt. H Pass.
am	pm	pm	pm	pm	am	Dep. Arr.	pm	am	am	am	am
5.55	4.10	12.45	8.55	7.45	7.15	Port Huron	10.2	1.05	7.35	10.00	10.50
7.28	5.40	1.55	10.20	9.08	8.31	Lapeer	8.4	11.48	6.17	8.31	9.17
8.05	6.20	2.25	10.50	9.45	9.0	Flint	7.55	11.17	5.40	7.45	8.35
8.48	7.15	2.53	11.28	10.30	9.35	Durand	7.15	10.48	5.03	7.15	8.00
10.00	8.25	3.45	12.37	11.35	10.30	Lansing	5.35	9.57	4.00	6.05	6.35
10.37	9 00	4.18	1.09	12.08	11.00	Charlotte	4.57	9.27	3.25	5.36	6.12
1.00	10.00	5.00	2.00	1.00	12.05	BATTLE CREEK	4.05	8.45	2.35	4.55	5.15
1.49	pm		2.50	1.48	12.48	Vicksburg	3.19	8.01	1.48		am
2.00				1.58	12.58	Schoolcraft	3.05		1.38		
2.52		6.19	3.43	2.45	1.42	Cassopolis	2.15	7.16	12.45	3.25	
3.40		6.50	4.25	3.35	2.25	South Bend	1.25	6.40	12.00	2.60	
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