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INTERNATIONAL HEALTH STUDIES.

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

26.—Mexico.

THE Asiatic emigrants who reached our continent at least a thousand years before the arrival of Columbus, seem to have planted their first successful colony in Southern Mexico. The oldest historical records of the Aztecs fail to account for the origin of the temple-palaces of Uxmal and Palenque; and the canine submissiveness of the Yucatan Indians appears to imply that they have been under the influence of an organized despotism for a long series of centuries. Prof. Y. L. Stephens, in the report of his archæological researches, describes a scene in a village near Uxmal, where the Mayas attended and applauded a sort of passion-play, dramatizing their subjection by the all-conquering Spaniards. One by one the victims of Spanish cruelty mount the stage, recounting the indignities suffered at the hands of their inhuman task-masters; a conspiracy is formed, leaders are chosen, and the day and hour appointed for a general uprising, when suddenly a bearded Spaniard enters the hall. He takes in the situation at a glance, bangs off a pistol, and the assembly scatters with shrieks of abject terror. And that memorial of national disgrace was written and performed by native artists. The Yucatan Mayas must surely be as different in their ethnological affinities, from the fierce Caribs and the defiant Seminoles, as the aboriginal Hindoos were from their Turcoman invaders.

Some of the Toltec chronicles date back to the sixth century of our chronological era, when refugees from some unknown region of the far Northwest settled the valley of Anahuac and the uplands near the isthmus of Tehuantepec. Natural selection has not been idle in those thirteen hundred years. Whatever may have been the customs of the original immigrants, the present sanitary habits of their descendants must be accepted as representing the experience of a long series of generations. That experience has taught them many valuable lessons in the art of counteracting the climatic dangers of the tropics. If the virus of malaria can really be communicated by the bite of mosquitoes, the repetition of that process must have a protective tendency, like vaccination; for the Mexican Indios use neither mosquito bars nor the night-hoods of the Bengal peasants, but their immunity from climatic fevers may have a good deal to do with their frugal diet. They are not vegetarians in the extreme sense of the word, for they flavor their brown beans with bacon fat, and the poorest *pelon* keeps hens for the sake of their eggs; but their staff of life is the prolific banana.

"*Como estan los platanales en su pays, compadre?*"—"How is the banana crop getting along in your neighborhood, friend?" is almost the first question if a Mexican Indian meets a countryman from a different part of the coast. The *Musa paradisiaca* is said to have borne its first fruits in Eden,—probably in the happy lubberland of the Phæaces, where freedom from toil was considered the supreme blessing of life, for no other plant repays a little toil with a larger amount of palatable manfood. Ripe bananas answer exactly the definition of the natural food of our species: "Vegetable substances that can be relished without artificial

THE ROLDAU BRIDGE MARKET, MEXICO.

preparation," and of that substance a banana orchard of half an acre will produce enough to support a family of six persons the year round. Two hundred and fifty bananas have been counted on a single bunch, and Humboldt estimates that a piece of land producing one thousand pounds of potatoes, will yield forty thousand pounds of bananas, and support twenty-five times as many persons as the same area planted in wheat. And the process of culture is so simple. No weeding and manuring, no ploughing in the glare of the sun, nothing but the removal of the shoots sprouting up from the stem of the parent plant, and their insertion into holes bored in the loose soil by means of a pointed stick. They are planted pretty close at first; six weeks after, the less vigorous seedlings are removed, and the rest shoot up in half a year to a height of twelve feet, and soon after unfold their massive clusters of fruit. Eight bananas, with an egg or two, and a few maize pancakes, will make a sufficient meal for a hard-working man; but a much larger number can now and then be eaten with impunity, and dyspeptics who cannot digest raw apples, have no such difficulty with bananas.

The Creoles of the British West Indies celebrate their holidays with banana fritters and banana puddings, but the Spaniards eschew such attempts to "add perfume to the violet." "It spoils the flavor of the ripe fruit," said a Cuban planter of my acquaintance; "I would as soon think of eating fried oranges or cooked grapes."

The Mexican Indios are of the same opinion, and pluck their bananas as they ripen in succession, on the bunches dangling by scores from the rafters of their little log cabins. If the maize crop fails in one of the two yearly harvest seasons, they get along for a while with bananas and eggs alone, but even then need an urgent invitation before they will affront their Hindoo stomachs with flesh food. About fish they are somewhat less scrupulous, and in stress of circumstances eke out a dinner with a slice of roasted *iguana* (a sort of large tree lizard), a viand said to partake of the taste both of fish and fowl. Pork, they use only in the fluid form (bacon-grease), and sell their old milch cows to the city butchers, so that the aggregate meat rations of a large Indian family may fall short of twenty pounds a year. Pulque (fermented aloe sap), they taste only on their occasional visits to the cities of the central plateau, and reap the reward of their abstemiousness in an almost absolute immunity from climatic fevers, and in their faculty of surviving desperate wounds. In the military hospital of Medellin, near Vera Cruz, our wounded aborigines were rarely more than a month on the sick list, even if their injuries involved the amputation of a limb, or hemorrhage that seemed to have left them almost *exsanguis*. Surgeon Weilander, of the Maximilian volunteers, told me that he had once been called to plaster up the hide of a halfbreed whom the Juaristos had captured as a deserter, and sentenced to a punishment that would have appalled a gang of Missouri whitecaps. From the shoulders down, the poor man's rear side had been cut into shreds, but a month

after he could sit a horse again, and before the end of the sixth week his doctor saw him dance at a Saturday night fandango. My Tampico landlord's hostler, who had accidentally shot himself in the foot while hunting rats, did not apply to a doctor at all, but cut the bullet out with a common pocket knife, and was all right again after limping about for a couple of weeks, which ninety-nine out of a hundred Caucasians would have passed in bed.

The Mexican Spaniards eat meat of all kinds, but only in small quantities, while a sort of hygienic instinct may prompt them to the habitual use of an antiseptic in the form of red pepper. *Chile colorado* is eaten with every meal of flesh food, but also raw, and without any admixtures whatever, very much as billy-goats relish salt,—for its own sake. Travelers on the Mexican railways are often amazed to see their neighbors take out a handful of *chile* and chew it up with the equanimity of a horse masticating a quart of corn, but I doubt if the consequent immunity from epidemic fevers is not bought too dearly by a variety of digestive disorders. "*Se empacho otra vez*"—"he got the dyspepsia again," and similar terms that have no business in a land of Paradise fruits, are heard in every Mexican boarding house; and after all, the circumstance that yellow fever proves a trifle less fatal to the native Spanish-Americans than to their foreign guests, might be explained chiefly by the fact that the

MEXICAN INDIAN WOMAN.

INDIAN OF THE MEXICAN COAST.

Creoles rival their Indian neighbors in disregarding the clothing-prejudices of Mrs. Grundy. On cool summer evenings they may parade the *alamedas* in their gala-dress of embroidered buckskin, but during the day, and especially at home, they dress in lightest linen, and permit their children to run about in the minimum of drygoods which the beach-police imposes on the bathers of Long Branch. They are so completely free from the insanity of the night-air superstition that they sleep on their open *tejadas*, or railing-protected flat roofs, under the cover of a light mosquito bar; they drink iced orange-water, instead of scalding hot coffee; in short, they avoid three fourths of the mistakes by which our countrymen aggravate the heat of the midsummer season, and thus they escape three fourths of the penalties; for there can be no doubt that ague and yellow fever involve a process of blood-fermentation, brought on by the combined influence of natural and artificial heat, raised to a degree which the self-regulating faculty of the organism is unable to resist.

The Lent regulations are faithfully observed, and would, indeed, be cheap at the price of a mass, if they could be enforced at a different time of the year, *i. e.*, at least three months later; but the deficit of dogmatic injunctions is compensated by all sorts of sanitary proverbs.

"*Junio, Julio y Agosto, dieta de olillas*
Y tres nodios en braguillas"—

preaches the wisdom of abstinence and continence in the dogdays, when the abstemious Spaniard becomes doubly cautious, especially on protracted journeys. "Do you know what makes your American teamsters so inferior to our old Mexicans on the march?" said a Sonora officer, who had escorted our wagon train a couple of days. "It is n't want of practice, for some of them have been at it all their lives, and their physique is all that could be desired. The matter is this,—they eat too much: I mean they eat too many meals. A Mexican teamster takes a good meal in the evening, after going into camp, but he hardly eats any breakfast at all. The habit could be formed during a single trip, and the advantages would be lifelong; for such meals as I saw your Yankees swallow at the *posada* this morning are sure to make the stoutest man torpid for the next five or six hours, no matter how many drams he puts down to stimulate digestion. A *carretero* hardly drinks a drop of water all day long. A Yankee teamster pumps himself full whenever he gets a chance. It is n't the heat of the sun that makes him thirsty, but the inward heat, the stack of beefsteaks under his belt."

MEXICAN HATTER.

The conquest of Mexico winnowed the wheat from the chaff of the Spanish colonists. Bigots, in whose families the last trace of manhood had been burned down to *caput mortuum* by the fires of the Inquisition, scuttled into the cities, or retired from the world into fat convents, like rats into a Dutch cheese. Those who had preserved a vestige of energy preferred to expand it on the airy savannahs or in the hunting-grounds of the Cordilleras, where the better type of the old Spanish race has reappeared, with all its moral and physical attributes. The adventure-loving enterprise of the old Visigoths got a rare chance to reassert itself in the border warfare against the nomadic redskins of the North, in sporting expeditions and bonanza hunts. The fate of Baron Trenck illustrates the danger of indulging a *penchant* of that sort in the straight-jacket of a European uniform, but a limitless abundance of elbow-room enabled the Spanish-American hidalgos to brave the despotic caprices of their viceroys, and all along the northern border outdoor sports have evolved as doughty cavaliers as ever followed the Cid on his steeple-chase expeditions.

The moral reflex-effects of physical exercise can be studied even in the frank speech and the easy self-reliance of boys in their teens, who have become at home in the saddle at an age when Anglo-American youngsters still waddle about in apron strings.

Men bred in that school of adventure could not long be made to wear the yoke of the Jesuits, and in the course of the last twenty-five years, wide awake country squires of the Porfirio Diaz type have made Mexico the most non-hierarchic country of the nineteenth century. Convents have been abolished, the political influence of the clergy has been limited by a series of shrewd by-laws, civil marriages have been legalized, secular schools have been established in every state of the Republic, and bequests, diverted from natural heirs to intriguing priests, can be recovered by due process of law.

Illiteracy is yearly becoming more rare among the well-to-do classes of our sister Republic, and the sovereign remedy of better pastime may by and by wean them from their besetting vice of the nicotine habit. Ten years ago cigarette smoking, that ugliest expedient of idleness, prevailed in the Mexican cities to an extent that would have astounded the health police of the San Francisco China-slums. Toddling youngsters could be seen on the streets picking up paper scraps to roll up a handful of narcotic refuse; priests would exchange cigarettes with mourning ladies, coming to consult them about a funeral, justices of the peace could be seen smoking in their office, and soldiers in their sentry box; the waiter who knocked at your door in the morning to fill your pitcher with fresh water, would also fill your bedroom with tobacco smoke; the senorita on her balcony hid a billet doux in a package of cigarettes, and the serenading inamorato below sent up his pathetic symphonies mingled with poison-fumes.

Mexican patriots might claim that nicotine has at least acted as a sedative, for their country seems to have got tired of revolutions, and it is to be hoped that our next neighbors will not experience a relapse of guerilla habit, since the influence of Northern visitors is said to have diminished the density of the tobacco clouds in the centers of civilization.

With the southward extension of the Mexican railways, those visitors have begun to turn their attention

from the *genre-arias* of the metropolitan stage to the marvels of the Sierra Madre. It would be an inadequate comparison to say that Southern Mexico is the American Italy. The paradise of the Mediterranean is a lost Eden, and the tropical Alps of Tehuantepec can give the traveler an idea of what Italy, Greece, and Western Asia must have been in the century of Xenephon, when the mountains were still covered with magnificent forests, when the thickets were full of game, and the rocks of the foothills musical with the echo of waterfalls and the murmur of never-failing springs.

When Hernando Cortez portioned out the garden-lands of the conquered empire among his favorite followers, he took for his own share an estate in the summit-regions of the Isthmus sierra, and it is probable that the same highland is destined to become a winter park of North American health seekers.

LIFE AT THE ORIGINAL WATER-CURE.

(Concluded.)

It was a raw, misty morning,— as are nearly all Graefenberg mornings,— and the chill humidity crept like a breath of ice through our thin remainder of raiment. Loose and shaky, from our coat-skirts to our teeth, we ambled up the hill back of the establishment, in hopes of sheltering ourselves in its woods from an ill-dispositioned wind, which blows year in and year out over those unfortunate landscapes. People passed us or met us every minute — some just starting out in a state of aguish misery; some returning, rosy and happy in their triumphant reaction. The wide path, moistened here and there by spacious puddles, entered the forest and wound gradually up the mountain. At every hundred yards or so, smaller paths diverged through the thickets, or a bubbling fountain reminded the passer that it was time to quench his thirst, if he had any. There must have been twenty miles of pathway around Graefenberg, all, or nearly all, of which had been paid for by a small weekly tax levied on the patients. Several scores of fountains, some of them merely wooden troughs, others basins or obelisks of stone, had been erected by means of this same revenue. Then there was a bronze lion, and two other monuments of considerable cost, dedicated to the honor of Priessnitz; one by the Prussian patients, one by the Hungarians, and a third, I believe, by some noble or other.

Now and then we found some favorite fountain surrounded by invalids, chatting cosily, or pausing to drain their cups, and reminding one of a parcel of hens clucking and drinking about a water-trough. Neuville and I made a very respectable pedestrian effort that morning, and returned to the house with anxious voids in our stomachs, notwithstanding that we occasionally stopped to refill them with water. I should have mentioned that Franz had surcingled us with broad linen badges, of which the two first turns were wet, and the two last dry, so as to constitute altogether a kind of towel-and-water poultice. This is the finest digestive aid or curative that I know of; as much superior to stomachic pills and cordials as it is nearer to nature.

Breakfast was on the table, as it had been for two hours, when we entered the eating-hall. Like the last night's, supper it consisted of sweet and sour milk, with the usual rye and barley bread. By the time we had swallowed a disgraceful quantity of this simple nutriment, our waist bandages were dry and required new wetting. Then we repaired to a booth and bought stout canes, with iron foot spikes and curved handles, the thickest and fiercest that could be had. Then we debated whether we should get drinking cups to carry in our pockets, or drinking horns to wear over our shoulders. At last we decided in favor of the cups, and resolved to visit Freiwaldau after dinner, and choose some handsome ones of Bohemian glass. Then eleven o'clock arrived, and Franz had us away to sit face to face for fifteen minutes in tubs of cold water, at the end of which he polished us off with wet sheets, in lieu of sand paper. Then we got ashamed of the effeminacy of hats, and walked out conspicuously under bare polls and green umbrellas. At one o'clock came dinner, which gave us hard work in the digestive and peripatetic line for some hours afterward. At five, Franz wanted to put us in the wet sheet again, and would not take "no" for an answer. Then we had to walk half an hour or more to get warm, and by the time we returned it was necessary to eat more sour milk and mahogany. Then we remoistened our bandages, preparatory to trotting for an hour or two up and down the great ill-lighted hall, in company with scores of other uncomfortable people. The room was naturally chilly, built so expressly and by malice aforethought, as I believe; in addition to which that rascally superintendent delighted in throwing open an elevated range of windows, thereby

giving copious ingress to a damp wind that wandered among our shivering forms like the ghost of a wet sheet. Nine o'clock sent Franz after us, who insisted on wetting our bandages and putting us immediately to bed, in as comfortless a state as half-drowned puppies. Repeatedly in the night we awoke, aching with cold; for our rations of bed-clothing were still restricted to a single blanket. At five in the morning, Franz was upon us like the Philistines upon Samson, or like Samson upon the Philistines, dragging us down again into those awful nether regions of wet pavements, brooks, and cisterns.

It was astonishing how rapidly we became fanaticized under the influence of the Cure, and the example of our fellow-invalids. Before a week was over I had discarded all my woolen garments of every cut, and wore linen from head to foot, in a temperature like that of a New England March or a Charleston December. It blew every minute and rained nearly as often, yet we caught no colds, and were savagely indifferent to our discomforts. All this, too, was in despite of sarcastic declarations, made on our arrival, that we would dress and behave like civilized people, and not like the slouching, bare-headed, bare-footed fanatics around us.

It was also remarkable how this general carelessness in exteriors depreciated the average beauty of the patients. Among the five hundred persons who were under cure in Graefenberg and Freiwaldau, there must have been a number with some natural claims to comeliness, but by dint of shabby clothes, cropped hair, and neglected beards, this favored few had melted away into the great aggregate of ugliness, or retained, like Lucifer, only a doubtful halo of former beauty. One of our party, a man of sensitive nerves, complained that the daily spectacle of such deteriorated humanity made him unwell, and that he never would convalesce until he could see some handsome people.

Certain Graefenbergers.

Neuville and I had a pearl of a bathman. He was a strong, slow, blue-eyed, light-colored Silesian peasant, who had once possessed a scalp full of sandy hair, but had lost at least half of it in his journey to middle life. His whole appearance, and especially his smooth, shining pate, reeked with an indescribably cool, dewy expression, which made one think of cucumbers, wet pebbles, drenched roses, or heads of lettuce after a shower. Neuville insisted that he gained this fresh appearance by living on such things as celery and water-cresses, and by sleeping in one of the cisterns, or, perhaps, down a well, like a bullfrog. It may be, indeed, that the instinct of association deceived us, and that we imputed this aqueous nature to the man solely because he had so much to do with our baths; but however that was, we certainly never looked at him without being impressed with the idea that he would slice up cold and juicy, like a melon or a tomato.

Franz exhibited a forty-hostler power in rubbing us down, and had perhaps curried the hides of our quadruped predecessors in the building. In fact, when I think of his frictions, and consider how wet I was at the time, I almost wonder that I was not rubbed out of existence, like a pencil mark. Occasionally it was impossible not to shout or stamp under the excitation, at which time the old Russian below would bombard our floor with his boots, in token of disapprobation.

Among so many homely people as we had about us, there were necessarily some whose ugliness ran into eccentricity, if not absurdity. Neuville, who had an extraordinary faculty at discovering resemblances between men and beasts or birds, soon fixed on one old gentleman as the Owl; and I was obliged to confess that, bating the lack of claws, the said human did bear a striking likeness to the solemn anchorite of ornithology. He was a man of about sixty, with light gray hair, light gray beard, and a light gray suit of clothes, — so that from a distance you might suppose him to be dressed in light gray feathers. He was tolerably bare of chin, and his mouth had retired into obscurity under a bower of light gray mustache. His long, curved nose looked wonderfully like a beak, and his eyes were always wide open with an expression of unqualified astonishment. However early we rose, however fast and far we went, we invariably met him already returning, as if he had started out for his morning walk some time the day previous. Neuville affirmed that he stayed in the woods all night, and amused himself with hooting and chasing field-mice until daybreak, when he would leave off at the approach of the earliest patients, and hurry down to the establishment to take a bath.

Another interesting personage was a middle-aged, muscular Hungarian, with startling black eyes and wavy black beard, who had the fame of being crazy, or at least unreasonably original. He carried an enormous yellow cane, one end of which was fashioned into a passable flute. He always walked alone, like a man who had dealings with fairies and wood-nymphs, and when he thought no human being was within hearing, he would put the cane to his lips, and treat his elfin friends to a melody. If a wandering fellow-patient came upon him in one of these dulcet mo-

ments, he dropped the end of his cane, whisked it about unconcernedly, and looked all around, or up into the clouds, as if he wondered who could have made those noises. I suspected him of being Orpheus, who, it will be remembered, was in the cold-water line, and had a fancy for playing airs to rocks, fishes, and other dumb creatures.

They told us at Graefenberg of a Mexican who came there a year or two before us, for the sake of trying the cure on his dyspepsia. He went through his first packing with great indignation, and was then taken down-stairs into that horrible abyss of plunge-baths. Priessnitz pointed to the cistern and bade him get into it. "Never!" he thundered; and, marching up-stairs, he dressed himself, and went straight back to Mexico. Another man in the same situation is said to have fallen on his knees before Priessnitz, exclaiming: "Oh, sir, remember that I have a wife and children!"

GRAEFENBERGESSES AND GRAEFENBERGIANISMS.

I ought to say one word of the native beauties of Graefenburg. When I speak of them as beauties, it makes me laugh to think how ugly they were; but I ought to be ashamed of myself, for it was no laughing matter to the poor creatures themselves. As there were a number of wealthy families in the borough of Freiwaldau, there were, of course, some young ladies there who dressed well and considered themselves aristocratic. But, however genteel, they were not handsome, and had in particular a dropsical, cadaverous look, as if over-bleached in their papas' linen factories. I never tried to talk to them; common sense forbade it; I spoke no German.

The only damsels of the locality with whom it was easy to come to an understanding were the peasant girls who collected, every morning, around the House-Fountain, to sell us cakes, strawberries, and cherries. Jovial, laughing bodies, all of them, several were rather pretty in a coarse way, by reason of merry blue eyes, mouths full of fine teeth, and cheeks full of dimples. One of them, who did me the favor to officiate as my washerwoman, was really handsome, so far as regular features, a clear rosy skin, a small coral mouth, and a nicely-rounded form are sufficient to constitute beauty. The advantages of shoes were acknowledged by these nymphs; but they scorned stockings, and wore frocks reaching a short distance below the knee.

As for the young ladies of our invalid set, and old ladies, too, I had a fair opportunity of seeing them at their best, in the balls which took place twice a week in the great dining-hall. On Sunday evenings and Thursday evenings, the chairs and tables were huddled into one end of the room, so as to give space to dancing and enjoyment. Directly over the principal door a small gallery trembled under a riotous mob of fiddles and trumpets, which some laborious Silesian peasants vainly tried to reduce to melodious order. The society was as mixed a one as could easily be collected in the Hartz mountains of a Walpurgis-night, all languages, classes, and manners being there represented, from Americans to Russians, and from dukes to dog-doctors.

As Priessnitz insisted that every one should dance who could, it naturally happened that some people tried to dance who could not. I remember one unlucky individual, apparently troubled with the string-halt, who twitched his legs after him in a style that was too much for the gravity of us youths; and who, as he made the circle of the saloon in a waltz or polka, was followed by an epidemic smile shooting from face to face, as if he were some planet of mirthfulness, dispensing a splendor of broad grins upon everything which bordered his orbit. Then there was an indiscreet little man in black, who invariably coupled himself with the tallest woman present, and maneuvered her about the hall with the helpless jerkings of a jolly-boat trying to tow a frigate. Many of the guests, however, showed themselves natural and experienced dancers, managing their heels with an eloquence of motion which put to shame the inarticulate bleating of the wretched music.

The balls usually commenced at half-past seven, and continued vehemently until half-past nine, when the patients began to drop off to their chambers. Priessnitz was almost always present, attended by his family, a pleasant smile playing on his red-oak face, while he talked with the old fellows who had the honor of his intimacy, or gazed approvingly at the higgledy-piggledy whirl of feet and faces. Here, as everywhere, he spoke little; and I presume that he had few ideas except such as were good to put in practice; for I understood that he had never learned to read until he was twenty-five, and that, even now, his lections were limited to an occasional newspaper. Near him usually sat Mrs. Priessnitz, a rather hard-featured, careful-eyed woman, not as kindly in manner as her husband, and, to all appearance, still more taciturn. The eldest daughter I never saw, thanks to an attractive dowry by which she had secured a Hungarian noble for a husband. The second daughter — a pale and rather haughty blonde of eighteen, neither handsome nor homely — was one of the most frenetic of the dancers. When nine o'clock came, the old couple quietly walked off, leaving their absence as a

hint to the revelers that it was time to wet their bandages and go to bed.

Yet, notwithstanding all the benefits I received, I left Graefenberg before my cure was half completed. The climate, as I have said, was detestable. It rained nearly half the time, even when it was fair weather. The winds were as cold as if they had slept in wet sheets, and blew all the while, without pause or punctuation. The food was an insult to the palate and an injury to the stomach. I knew not the difference in hydropathic physicians, and hoped to find, in some more supportable locality, another as skillful as Priessnitz. D'Hauteville told me of places in his country where I could continue my cure, and at the same time practice good French instead of bad German. Thus, after a residence of two months in Graefenberg, I wandered away, in the company of Burroughs, and, now seeking a ruined castle, now a water-cure, traversed middle Germany with all the haunted Rhineland.

MEDICAL SPECIALISM.

I AM glad that we have a number of practitioners among us who confine themselves to the care of single organs and their functions. I want to be able to consult an oculist who has done nothing but attend to eyes long enough to know all that is known about their diseases and their treatment—skillful enough to be trusted with the manipulation of that delicate and most precious organ. I want an aurist who knows all about the ear, and what can be done for its disorders. The maladies of the larynx are very ticklish things to handle, and nobody should be trusted to go behind the epiglottis who has not the *tactus eruditus*. And so of other particular classes of complaints. A great city must have a limited number of experts, each a final authority to be appealed to in cases where the family physician finds himself in doubt. There are operations which no surgeon should be willing to undertake unless he has paid a particular, if not an exclusive, attention to the cases demanding such operations. All this I willingly grant; but it must not be supposed that we can return to the methods of the old Egyptians, who, if my memory serves me correctly, had a special physician for every part of the body. The specialist is much like other people engaged in a lucrative business. He is apt to magnify his calling, and to make much of any symptom which will bring a patient within range of his battery of remedies. I found a case in one of our medical journals a couple of years ago, which illustrates what I mean. Dr. ———, of Philadelphia, had a female patient with a crooked nose — deviated septum, if our young scholars like that better. She was suffering from what the doctors call reflex headache. She had been to an oculist, who found that the trouble was with her eyes. She went from him to a gynecologist, who considered her headache was owing to causes for which his specialty had remedies. How many more specialists would have appropriated her if she had gone the rounds of them, all I dare not guess; but you remember the siege in which each artisan proposed means of defense, which he himself was ready to furnish. Then a shoemaker said, "Hang your walls with new boots!"

Human nature is the same with the medical specialist as it was with ancient cordwainers, and it is, too, possible that a hungry practitioner may be warped by his interest in fastening on a patient, who, as he persuades himself, comes under his medical jurisdiction. The specialist has but one fang with which to seize and hold his prey; but that fang is a fearfully long and sharp canine. Being confined to a narrow field of observation and practice, he is apt to give much of his time to curious study, which may be *magnifique*, but it is not exactly *la guerre* against the patient's malady. He divides and subdivides, and gets many varieties of diseases, in most respects similar. These he equips with new names, and thus we have those terrific nomenclatures which are enough to frighten the medical student, to say nothing of the sufferers staggering under this long catalogue of local infirmities. The "old fogy" doctor who knows the family tendencies of his patient, who understands his constitution, will often treat him better than the famous specialist who sees him for the first time, and has to guess at many things which the old doctor knows from his previous experience with the same patient and the family to which he belongs. It is a great luxury to practice as a specialist in almost any class of diseases. The special practitioner has his own hours, hardly needs a night-bell, can have his residence out of the town in which he exercises his calling, in short, lives like a gentleman, while the hardworking general practitioner submits to a servitude more exacting than that of the man who is employed in his stable or kitchen. That is the kind of life I have made my mind up to.—*Oliver Wendell Holmes.*

A TEETOTAL SAMSON.

WE copy the following article from the *Pall Mall Gazette*, which obtained its information from the *Montreal Daily Witness*. The significance of the article is the fact that this modern Samson is a total abstainer, and has improved in health and strength since abandoning the use of tobacco and alcoholic drinks.

"There is a young fellow in Canada who is claimed to be the strongest man in the world. He is a French-Canadian, Louis Cyr by name, and was born at the little town of St. Jean, twenty miles south of Montreal. Though only twenty-seven years old, and lacking an inch and a half of the six feet in stature, he already weighs 22 st. 10 lbs. He is described as looking more like 'the fat man' than 'the strong man' of a show; but his muscle is anything but soft and yielding to the touch. The great man's hair is yellow and curly, and he wears it long — not, he explains, because the original Samson kept his strength in that way, but because 'it is attractive while exhibiting.' At other times, by a liberal use of hairpins the golden locks are put up in a neat knot under his hat.

"The lifting of heavy weights is the forte of the strong Canadian, and his last and biggest lift was 3,993 pounds, or within seven pounds of what they call two 'short tons' over the water. When interviewed the other day, he said:—

"'My first lift was in this way: There was a load of bricks — over a ton, I guess — stuck in a hole in the road, and the horse could n't pull it out. I was only seventeen, but was a big fellow, weighing 240 pounds (17 st. 2 lbs.), and I got underneath the cart and lifted it off the ground, and got it out. Then I tried to see what I could do, and have never had any difficulty in lifting 2,500 pounds since then.'

"If Cyr is not imported by the English showmen, surely he will be by the teetotalers. 'For two years,' he says, 'I have abstained from liquor and tobacco; before that I used to take both regularly. I am three times better off since then. I gained in strength enough to lift 700 pounds more in these two years. Liquor is a bad habit, anyway. Tobacco, too, is very bad.'

"Louis says he never stops gaining in strength; and naively adds, 'I guess I was born that way.' And here heredity comes in. 'My mother,' he says, 'was very strong. She could always carry a barrel of flour upstairs to the second flat. She weighed 265 pounds. My father weighed 220, but could not lift more than other men. None of my brothers are stronger than other men.'

"'What is the record for lifting?'—'Well, I lift everything without a harness; that is, lift just with my hands, and not with a strap slung over my back. The record for lifting with harness is 3,239 pounds, made by W. B. Curtis, of New York, in 1862. I got ahead of that even without harness, and I guess I'll lift 4,500 before I'm through. I have lifted 535 pounds with my forefinger, and have put a barrel of cement — over 300 pounds — on my shoulder with one hand.'"

THE SONG OF THE VEGETARIAN.

AWAY with your beef and your mutton!
  Avaunt with your capers and sauce!
For beefsteaks I do n't care a button!
  Veal-cutlets! — I count them as dross;
Lamb-stew, chicken-salad, do n't mention;
  With my stomach roast pig do n't agree;
From such messes I practice abstention —
  Farinacea 's the forage for me!

O stay me with rice and with porridge!
  O comfort me sweetly with grits!
Baked beans give me plenty of courage,
  And cracked wheat enlivens my wits.
From such food new youth I shall borrow,
  Till, as hearty as hearty can be,
I expire of old age, like Cornaro —
  Farinacea 's the forage for me!

When night comes, ah! sweet the reflection
  (As my senses are muffled in sleep),
Nothing living to serve my refection
  Has been butchered — not even a sheep.
No lamb has been led to the slaughter;
  No calves hung up by their feet;
No lobsters been drowned in hot water;
  No cows killed that I might have meat.

Clean of heart I encounter the cattle —
  Let brutal carnivora blush!
When my soul is oppressed with life's battle,
  I forget all about it in mush.
Begone with your fleshpots of Egypt;
  To the dogs with your coffee and tea;
Let your *pates de foie gras* be reshipped —
  Farinacea 's the forage for me!

Avaunt with your beef and your mutton!
  Away with your capers and sauce!
For beefsteaks I do n't care a button!
  Veal-cutlets! — I count them as dross;
Lamb-stew, chicken-salad, do n't mention
  With me no such viands agree;
From such messes I practice abstention —
  Farinacea 's the forage for me!

—*Arcadian.*

THE ORIGIN OF SOAP.

SOAP was unknown to the ancients. It is a fact, however, that the word *soap* does occur in the translation of the Old Testament, but the original Hebrew words *nether* and *borith* were better translated as meaning mineral and vegetable alkali. Homer was unacquainted with soap; and from his Odyssey we gather that the Greek ladies cleansed themselves first with alkaline water, and then, in order to remedy the caustic alkaline effect, anointed themselves with oil or fat.

"They seek the cisterns where the Phœcian dames
Wash their fair garments in the limpid streams;
Where, gathering into depths, the falling rills,
The lucid wave a spacious basin fills:
The vestures cleansed, o'erspread the shelly sand,
Their snowy lustre whitens all the strand;
Then with a short repast relieve their toil,
And o'er their limbs diffuse the ambrosial oil.'

Soap is first mentioned by Pliny, who informs us that the Gauls manufactured a soap from goat's tallow and the alkaline ashes of beechwood. It was introduced by the conquerors to the Roman dames to afford a means of beautifying the skin, and with a view to reduce the dark color of their hair to that of the Teutons.

After this, another substance, the crude fat obtained from sheep's wool, known as *œsypus*, was most extensively employed as a cosmetic. Ovid informs us that the Greek ladies employed this fat, with very satisfactory results, as a safeguard against wrinkles, and to promote the growth of the hair. The Roman ladies, learning of the success attending the employment of *œsypus*, were not slow in following their example, and very soon adopted it as their favorite article for the toilet. When Rome was conquered by the barbarians, this favorite unguent appears to have fallen into disuse, and we hear nothing more of it until a few years ago, when an industrious chemist on the Continent (Professor Liebreich) carefully made the crude product "*œsypus*" a matter of research. — *Health.*

HINTS TO STAMMERERS.

STAMMERING is now very generally recognized by physicians as a nervous disorder. There are many varieties of stammering, and many methods have been proposed for the cure of the various forms of this disease. Many of these, which are held as secrets, and are widely advertised, are most absurd methods and unsatisfactory in practice. A physician, in writing to the *Provincial Medical Journal*, gives some items from his personal experience, which contain some good hints for persons suffering in this way: —

"The occasions on which I have stammered for thirty years past, and yet stammer, are about as follows: From habit acquired in travel, and in India, and to save the legs of the maid, I prefer to go out of my room, and call to the maid for what I may want. For two years I had a favorite maid called Mary. It was in vain for me to attempt to call out, 'Mary;' my lips would compress, and the upper teeth seizing the flesh inside the under lip, the word would not come without extreme and painful effort; but there was one way towards perfect relief, I always called, 'O Mary'—, *i.e.*, I placed a vowel breathing before the consonant, and thus unlocked the complex and inharmonious co-ordination of brain, nerve, and muscle, involved in the production of 'm.' In reading a lecture before a public audience, a terrible word is 'method;' within the last ten years my upper teeth have made wounds inside the under lip in getting out this word. I naturally avoided the ridicule of inserting a vowel sound before an audience. Another occasion on which I am still constantly bothered is in saying 'good morning' as I am shown out of a front door by master or maid; something unduly glues my tongue over the 'g' in 'good.' I get over this difficulty by bringing into operation another mental act, and the action of a different set of muscles, by the act of lifting my hat; I can say 'good morning' without stammering, whilst in the very act of lifting my hat. Here the same principle is involved as in putting a vowel before 'm,' spasm of certain muscles is relieved by diverting nerve-energy to other channels and other muscles. Again, if I feel that I am about to stammer in any word, I try to substitute another word. Often in public reading, if I avoid the difficult word by some substitution, the same difficult word may recur many times, and I can speak it with little or no difficulty.

"In the history of the sciences, philosophers have ever been obliged to portray their præ-ages — thus there have been the præ-Copernican, præ-Lavosierien, præ-Darwinian ages. We, in our generation, perceive that disease, too, has its præ-stages — sudden pleurisy, or pneumonia, or fever, not to speak of great recurrent epidemics, have all their as yet unrecognized præ-stages; and no less has stammering very

wide and deep-down correlations, ever existent in the individual. The wonder is that such complex phenomena as speech are attainable at all, and that so complex and harmonious a series of evolutions and co-ordinations attain to such a general perfection. The wonder is that so few people stammer.

"Stammering is an expression of the irregular or non-harmonious evolution of certain parts of the brain and nerves. The large proportion of those who stammer badly when young, cease to do so with the fuller evolution of the organism which arrives with manhood or womanhood. We see singular parallel irregularities of evolution in many other structures and functions.

"But to confine myself to practical points. If I am reading a lecture in public which is legibly written, and if I have previously read it aloud to myself, I shall stammer little or not at all — in other words, I do not stammer when the nervous system is calm. Similarly, if speaking in a public discussion, I confine my mind to one simple point at a time, I do not stammer; but if the mind, in its active tumultuousness, sees too much or too widely the possible relatives of the subject, and a fear of a want of clearness comes over it, then my speech is full of stammering.

"The points which have seemed to me important toward avoiding stammering are to seek nervous calmness; if this be not attainable by the will, the sufferer can do something to divert the præ or present spasms such as drawing in the breath, always keeping the lungs well filled with air in speaking, walking up and down the room, moving other parts of the body by an act of will, taking up a book or ornament, etc. I have made it a strict rule never to seek to force myself to say the difficult words, but to stop and use another word, or to substitute some other words immediately preceding the difficult one. The sufferer should read aloud when alone, both poetry and prose. Stammerers rarely stammer when reading poetry aloud, when alone; the mind and nerves are induced by poetry into harmonic rhythm, just as they are by dance music, and irregular action is prevented. The words which the stammerer finds most difficult when in society, he will find easy enough, especially in poetry, when reading aloud in his chamber. I do not think that he should practice on these words, except when alone, and in the most calm way; he needs rather to read naturally as it comes, to forget that he stammers, and by practice of natural reading and speaking aloud when alone, to educate the just co-ordination of nerves, etc. I found it best to walk to and fro in my chamber whilst reading aloud.

"In the great proportion of cases, stammering in speech ceases with more complete evolution of the organism. Toward this end a hygienic regimen in all that relates to food, drink, exercise, mind, and feeling, is important; change of air and scenes would be valuable in the same direction."

Pork Infection.—That it is not only dangerous to eat pork, but even to touch it, is shown in the case of the child of Anton Rudolph, at Oneida, Kan., who is said to be in a deplorable condition from the effects of binding raw pork on its neck. The little one was suffering from sore throat, and the parents bound it up with a piece of bacon, which was infested with trichinæ. From a slight abrasion in the neck grew a fearful sore, which has spread around the neck and over the breast, evidently an infection from the pork.

Hunger and Susceptibility to Infection. — It is a well-known fact that when hungry or tired, one is more apt to take scarlet fever and other infectious diseases, than after an easy day and a good dinner. Experimental observations have recently been made by some Italian observers, which are spoken of in the *Hospital Gazette*, and which tend to show that hunger may play a very important *role* in the spread of infectious diseases. Pigeons and fowls are not usually susceptible to the infection of malignant pustule or charbon. When, however, pigeons were kept without sufficient food for several days, both before and after inoculation with charbon virus, they became susceptible to the disease, and died from it like other animals; and when they were kept without sufficient food for some days before inoculation, and for two days only afterward, food being then supplied in proper quantity, the disease, though not prevented, was visibly affected, its course being much more chronic than when the birds were kept hungry for a week or more after inoculation. Another interesting point observed was, that if an ordinary well-nourished and therefore insusceptible pigeon was inoculated, and complete starvation commenced eight days later, the disease appeared, showing that the charbon virus, though stored in the subcutaneous tissues of an insusceptible animal, retains its virulence for several days. Some experiments were likewise made on pigeons, from which the pancreas had been partially or entirely removed. These appear to become susceptible to the charbon virus for some time after the operation.—*Times and Register.*

HEALTH, GRACE, AND BEAUTY.—SIXTH PAPER.

How to Breathe.

BABIES do not need to be taught how to breathe, but at least one half of the civilized human race require instruction respecting the art of breathing as much as, or more than, for the acquirement of such arts as piano playing, painting, and singing. Let the mother who doubts this, observe how her youngest child breathes,—provided the little one has not yet been harnessed down by fashion, and still exercises its lungs in the natural way,—then let her notice the breathing of her sixteen-year-old daughter who has been wearing a corset or tight waistbands for a year or two, or longer. She will observe the following difference: The baby breathes with its whole trunk, whereas the young woman breathes only with the upper part of the chest. This mode of breathing, which has been aptly termed "collar-bone breathing," was for many years supposed to be natural to women. Indeed, there are still many physicians, and even some lady physicians, who maintain that this style of respiration is a physiological necessity in women, due to their sex. Although no sound reason was ever advanced in support of this theory, it was nevertheless accepted as an established fact until experiments upon animals and observations made upon the natives of different savage tribes, collected so many and so cogent facts as to render this view of the respiratory function in women wholly untenable. The following is a brief statement of the results of observations made by the author, which have since been confirmed by a number of other observers, and which agree wholly with some similar though less extensive observations made by Dr. Mays, of Philadelphia.

1. Uncivilized women breathe just as do uncivilized men.

2. A civilized man wearing a corset breathes just as does the civilized woman under the same circumstances.

3. The civilized woman who has never worn tight clothing breathes just as does the civilized man who has had an equally fair chance to develop his lungs.

4. Female dogs, and the females of other animals, breathe just as do the males of the same species.

5. Civilized woman, after throwing away her corset and loosening her tight bands, and after a lapse of sufficient time to allow the conditions to become normal, breathes as does the civilized man or savage woman.

6. A civilized woman who had not worn tight clothing for several months, was found, a week before her confinement, to breathe just as does a civilized man. A man with a very large spleen, the weight of which must have been at least thirty or forty pounds, also breathed in the manner usual with civilized men.

All these facts show conclusively that men and women, when they breathe in a physiological manner, breathe alike, and that such a thing as male and female respiration does not exist.

What is physiological respiration? Instruction upon this subject would seem to be wholly superfluous, since the act of physiological breathing can be studied with so great facility in infants, and even in little boys and girls, as well as in lower animals. Nevertheless, human beings are so perverted and are so prone to overlook the close analogy which exists between the vital functions of human beings and those of the lower animals, that it seems to be necessary to study and teach this subject in the same careful man-

ner in which one must study and teach the subject of digestion, or any vital function performed within the interior of the body.

As previously remarked, in natural breathing, the whole trunk is active. If this be true, the instruction given by those who imagine themselves to be presenting the most advanced views upon this subject, namely, that breathing should be performed with the abdominal muscles, is wholly incorrect. Indeed, we do not hesitate to pronounce this view and this teaching to be not only incorrect, but to a very considerable degree productive of harmful results. The abdominal muscles should never be active in either ordinary respiration or more forcible expiratory activity in talking or singing. In the accompanying cuts are shown, first, in Fig. 1, the so-called female type of respiration, or collar-bone breathing; second, natural ordinary respiration, Fig. 2; third, natural forced respiration, Fig. 3.

In collar-bone breathing, or the feminine type of respiration, it will be noticed that the expansion is wholly at the upper part of the chest. There is no expansion at the waist, while there is a very considerable degree of retraction at the lower abdomen. It is evident that expansion of the lungs takes place at only one point. In Fig. 1, however, showing natural ordinary respiration, it is clearly seen that there is a uniform expansion all along the front line of the trunk. A front profile of the same figure would show similar lateral expansion of the trunk.

Let us study a little more closely the natural mode of breathing. The respiratory movement consists of two distinct acts, *inspiration* and *expiration*. Inspiration, or breathing in, is effected by enlargement of the chest cavity, which is in part accomplished by means of muscles which act upon the ribs, elevating and separating them in such a manner as to increase the lateral diameters of the chest. The chest cavity is still further enlarged by the depression of its muscular floor, or diaphragm, which, when the lungs are empty, rises into the chest cavity, assuming the form of a dome. In inspiration, the separation of the ribs at the lower portion of the chest and contraction of the muscle itself, serve to straighten and flatten the diaphragm, thus depressing the floor of the chest cavity, and so enlarging it. The downward movement of the diaphragm lessens the length of the abdominal cavity, and so necessarily increases its diameter, as there is no change in the volume of the contents of the abdominal cavity during the respiratory act.

In expiration, or breathing out, the muscles which separate and raise the ribs are relaxed, allowing the ribs to fall back into the position of rest; the diaphragm relaxes and rises into the chest, being crowded up by the pressure of the abdominal muscles, the natural tension of which is sufficient to sustain the weight of the contents of the abdominal organs, and press them up against the diaphragm. The action of the abdominal muscles is not ordinary muscular contraction, but simply the natural muscular tone which serves to maintain a certain degree of contraction in a healthy muscle, whatever may be its location.

It is thus apparent that both the cavities of the trunk,— the upper, or chest, the lower, or abdomen, — are affected by the act of respiration, the flexible muscular partition between the two serving to assist in the equalization of pressure in the two cavities. In fact, the interior of the trunk may be considered as a single cavity, the volume of which is increased by inspiration and decreased by expiration. The organs contained within the trunk, whether the chest or the abdomen, all possess a certain degree of mobility, and each moves to and fro in its place with each respiratory act. This movement is, within certain limits, necessary for the health of the individual organs. To place clearly in the mind of the reader the idea of correct respiration, let us suppose that we have before us, for illustration, an India rubber bag twice as long as broad, and having its interior divided into an upper and lower part by means of a partition of India rubber, or other flexible material. If, now, a quantity of air is introduced into the upper half of our bag, its contents will be increased in volume, and the bag itself will necessarily increase in size. No one would suppose for a moment that the increase in size would be confined to the upper part of the bag where the air is introduced. The increase in volume of the upper half of the bag will react upon the lower half in such a manner as to cause its sides to swell out, and the increase in size will thus be pretty evenly distributed over the entire bag. The effect of natural respiration upon the cavities of the trunk must be practically the same.

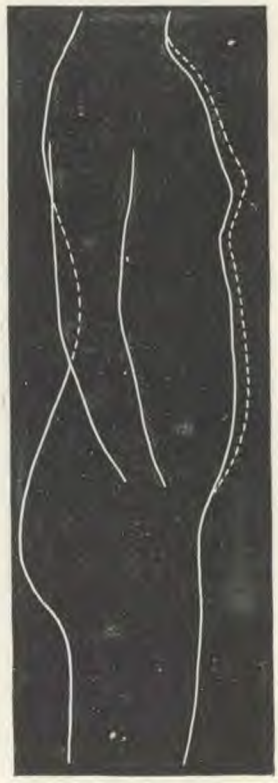


FIG. 1.

Let us now observe the exact movements which occur in natural ordinary respiration. Taking an in-

fant, or a well-developed young man, or a savage woman for our model, we will notice that the movements in ordinary respiration are as follows : —

There is, first, an enlargement of the trunk at the waist line, through the separation of the ribs at the lower part of the chest. Almost at the same instant that this increase in size begins, there will be noticed a bulging of the front wall of the abdomen, extending from the end of the breast bone to the pubes. A slight movement of the upper chest wall may be observed. This mode of respiration, as previously pointed out, is represented in Fig. 1.

FIG. 2.

In forced natural respiration, or full breathing, illustrated in Fig. 2, the movements are essentially the same, only exaggerated. There is, 1, Forcible separation of the lower ribs ; 2. Bulging of the anterior abdominal wall, the result of a downward pressure of the diaphragm. In this mode of respiration, a third movement occurs, namely, elevation of the upper chest, which is made at the last moment after the lungs have been filled to the extreme limit, by depression of the diaphragm and expansion of the waist. At the same moment that the chest is elevated, the abdominal wall will be drawn in slightly at its lowest part, as seen in Fig. 3.

Expiration is more a passive than an active movement. The muscular strain by which the chest cavity is increased in size being removed, it returns to the condition of rest, and the air which has been inhaled is thus allowed to escape.

There are many men as well as women who do not breathe properly. In men of sedentary habits, the breathing act is likely to be performed almost wholly by the diaphragm, and the only movement noticeable in the trunk wall will be bulging of the lower abdomen in inspiration. Men who have been accustomed to wear belts may exhibit the abnormal movement of the upper chest wall so universal in civilized women. These are the two extremes of incorrect breathing. Persons whose usual mode of respiration is either collar-bone or abdominal breathing will find it necessary to subject themselves to a systematic course of gymnastic exercises in order to acquire the natural mode of breathing, in which the center of activity is at the waist, and not at either extremity of the trunk.

The following are a few excellent breathing exercises, which should be practiced regularly and systematically.

BREATHING EXERCISES.

Exercise 34.—Full Inspiration, Slow Expiration.— Take a deep breath by expansion of the waist, allowing no movement of the chest until as much air as possible has been introduced into the lungs by expansion of the lower portion of the chest. During inspiration, place both hands lightly on the pit of the stomach : a distinct forward movement should be felt here as well as at the sides of the waist. When the expansion is as complete as possible, draw a little more air into the lungs by a forcible elevation of the chest. At the same moment, but without conscious effort, the lowest portion of the abdominal wall will be slightly drawn in. Keep the chest well raised, or, as the vocal teachers say, "Maintain an active chest." Just at the end of inspiration, allow the air to slowly escape through a small opening in the lips. If the exercise is properly performed, there will be a falling in of the sides of the chest at the waist, and also a drawing in of the abdominal wall from the end of the breast bone down to the pubes, while the breath is being expelled.

FIG. 3.

Exercise 35. — Full Inspiration ; Slow Expiration in Puffs. — Practice full inspiration as before, but instead of slow, continuous expiration, breathe out by means of short puffs through a small opening in the lips, making the quantities of air expelled at each puff as small as possible, so as to prolong the expiration.

Exercise 36.— Full Inspiration, Expiration with Utterance of Syllable "Ah."— Take a full breath as before. Breathe out, sounding at the same time the

syllable "Ah," on the pitch of middle "A," uttering the sound softly, and continuing it as long as possible. The sound should not be forced out, but should be made by the simple escape of the air through collapse of the abdominal and chest walls. Use care to keep the chest up during the whole act of expiration.

Exercise 37.— Full Inspiration; Percussion of Chest; Slow Expiration. — After taking a full breath, have another person percuss the sides of the chest at the waist line. This is for the purpose of opening the cells of this portion of the chest which are likely to be collapsed, especially in women who have worn tight clothing. After percussion of the chest fifteen to thirty seconds, the breath should be slowly expelled through a small opening in the lips. At the same time, the sides of the chest should be pressed by the person giving assistance.

Exercise 38.— Arm Raising Heel Raising; Breathing.— Slowly raise the arms from a vertical to a horizontal position, rising upon the toes at the same time, and taking a full inspiration. Breathe out slowly, letting the arms and heels sink at the same time.

Exercise 39.— Stretch the arms horizontally sideways, palms upward. Raise the arms to a vertical position, also raising the heels and taking a full breath at the same time. Breathe out slowly, letting the arms and heels sink to first position.

Exercise 40.— Stand with the arms stretched horizontally sideways, palms down. Without moving the elbows, flex the forearm upon the arm until the thumbs touch the chest, two or three inches below the chin. Fling the arms sideways with vigor, taking a full breath through the nose at the same instant. Slowly bring the hands back to position, breathing out. Repeat this movement several times.

Exercise 41.— Execute the same movements while standing upon the toes.

PROGRAM FOR EXERCISES DURING JUNE.

Continue the exercises for May, adding each day one or two of the above breathing exercises, beginning with the first of the series.

EXERCISE AND EDUCATION.

We quote the following forcible words from the pen of President Elliot, of Harvard College: —

"If sound health were one of the requisites for the enjoyment of scholarship, parents who expected to need health in educating their boys, would have their attention directed in an effective way to the wise regimen of health; while young men who had their own education to get, would see that it was only prudent for them to secure a wholesome diet, plenty of fresh air, and regular exercise. A singular notion prevails, especially in the country, that it is the feeble, sickly children who should be sent to school and college, since they are apparently unfit for hard work. The fact that, in the history of literature, a few cases can be pointed out in which genius was lodged in a weak, diseased body, is sometimes adduced in support of the strange proposition that physical vigor is not necessary for professional men. But all experience contradicts these notions. To attain success and length of service in any of the learned professions, a vigorous body is essential. A busy lawyer, editor, minister, physician, or teacher has need of greater physical endurance than a farmer, trader, manufacturer, or mechanic.

Dr. Seaver on Smoking. — Dr. Seaver, the eminent professor of physical culture at Yale College, is, we are glad to see, waging an earnest war against the habit of tobacco using. For a number of years Dr. Seaver has been making observations respecting the physical and mental effects of tobacco-using upon students. In these statistics, which he has recently published, Dr. Seaver shows that among the students at Yale, smokers are found to be inferior both in mental ability and physical vigor to non-smokers. He found that smokers have less lung capacity and lung power than non-smokers. Their average bodily weight is less, as is also their stature. They have less endurance, both muscular and nervous, and are in every way physically inferior to non-smokers. It is also observed that in scholarship the smokers are far behind. Very few receive honors of any sort, and among those of high standing in scholarship, only five were smokers. Dr. Seaver's observations are certainly not without influence at Yale, since he reports that only thirty per cent of the senior class at Yale indulges in the use of tobacco, which is certainly a smaller per centage than is found at the average college. The influence of such a man as Dr. Seaver at such an important educational institution as Yale cannot be over-estimated. It is only to be regretted that a man of equal capacity and equally advanced reformatory ideas is not to be found connected with every important educational institution in the land.

WOMAN'S DRESS.

LEADING thinkers among women of broad culture have long been pleading for the freedom of woman, urging her right to education, wages, and suffrage on an equality with man. The world is slow to yield her demand. Did it ever occur to you that this is partly owing to the appearance of woman, which seems to vitiate her claim to equality?

She asks for education, but she usually arrays herself in a style that suggests either the infantile or the idiotic. She seeks for work and good wages, but stands before the world fettered by her clothing, and weighted with unnecessary drapery and trimmings. She would engage in political affairs, but seems unable to apply common-sense principles to the clothing of her own body.

Handicapped and weakened as woman has been by her costume, she has again and again, in individual cases, proved the justice of her claims to equality on intellectual, industrial, and social planes of activity. But these facts make small impression on the judgment of mankind, compared with the proofs of her inferiority daily visible to the naked eye. From the crown of her head, decked with the stuffed bodies or wings of slaughtered song-birds, or cruelly weighted with jet and glass ornaments, to the soles of her feet perched upon disease-producing heels, or standing in shoes too thin-soled to protect from dampness,—the average dress of the average woman pronounces against her the verdict: Fickle, frivolous, incompetent.

There are no better missionaries to the heathen in foreign lands than American women, but the Japanese in their loose draperies and Sandwich Islanders in their Mother Hubbards, look with amusement or contempt upon the corsets of Christians.

Jet and glass trimmings have had a long reign, adding greatly to the weight of hats, wraps, and gowns. A lady reporter had the curiosity to ask the weight of a bead-trimmed suit. The scales reported a weight *exceeding the maximum of that allowed our soldiers in the late war*, their accoutrements, ammunition, and all. One handsome, bead-trimmed cloak was sent back to the dealer, because the woman for whom it was purchased could not stand under its weight.

We have only just escaped from the imposition of the bustle. For a few years, it held sway so universally that intelligent women at last put it on, feeling that their own comparative flatness of back was positive deformity. We all remember the not long-past days when women in every station of life went trailing dress fabrics behind them, upstairs and downstairs, in kitchen, school-room, shop, street, and field, unless they carried their skirts in their hands. Women who did not wear trains were looked upon by others as lacking appreciation of the line of beauty, the long sweeping curve. Suddenly the Greek line of beauty disappeared from common view, and the trimmed skirt appeared; no more long lines, but no end of plaiting—rows on rows of heavy plaiting, till it became the main task of dress-making, and the chief weight of the garment. Women actually died of plaiting. Machines for its home manufacture were peddled from door to door, and ready-made plaiting was sold with dress materials. It had become one of the great staple productions, when suddenly—no more plaiting; a plain skirt was true elegance.

What a relief we have lately had; superficial observers began to speak of progress, and to see in this change of fashion, the hand of evolution. But women had not fairly adjusted themselves to the new *régime* of simplicity, when their skirts were drawn back, with all the gathers behind,—a very literal drawback to a woman's walking. "Her two shy knees clad in a single trouser," as Coventry Patmore said of the "girl of the period," in the former days of the "tie-back,"—a more immodest exposure than if she went clothed in unmistakable roomy, two-legged trousers.

This is the situation at present. No pockets, no free use of the lower limbs, for her who is "in style;" and "they say" that skirts are lengthening, must now touch the floor; that trains are coming back, and that a demand for hoops is arising.

Who or what is this fashion, that makes such fools of womankind,— driving them from one extreme to another, and offering for each change some absurd and contradictory pretense? Though many of her freaks are the result of accident, the eccentricities or misfortunes of great beauties or leaders of society serving as models for the imitative,— there appears to be some method in her madness. She seems bent upon making our wardrobe as expensive as possible. Some change in her tactics has been observed since the advent of copyrighted patterns. The co-operation between manufacturers, dealers, and pattern-makers is a mystery to the uninitiated, but it is evident that women have become, as Jennie June says, "the victims of trade."

The whole superstructure of woman's dress seems to be founded on a mistake — that beauty should be its chief object. Is not beauty, like happiness, something that comes unsought, as a result of following duty? It seems to me a kind of atheism to call anything beautiful which is an injury to humanity. That fashion knows nothing whatever about genuine beauty, is evident from her contradictions.

But men are the world's recognized workers. They consider themselves free and independent; themselves, "the people;" women, their adjuncts. This is the unspoken opinion of the majority. It is still the theory of the unthinking that women are "protected" and "supported" by men. Woman's dress typifies her subject condition. As she emerges from mingled dollhood and drudgery to reasonable womanhood, to "her grand new standing place of perfect equality by the side of man," she should have the outward appearance of a reasonable being. This does not mean that women should adopt male attire. Equality does not necessarily mean identity. The united wisdom of our women physicians, artists, teachers, preachers, dressmakers, housekeepers, actors, editors, authors, can surely invent a better costume for women who wish to be useful, than any fashion has yet vouchsafed to either sex.

The failure of the dress-reform movement of about forty years ago, known as the Bloomer episode, and begun by some of the very best women of the time, was due largely to its making so great a departure from the common outward appearance. The time was hardly ripe, then, for full dress-reform, because so many women, even among those conspicuous in the effort, were so ignorant of physiological principles.

A later dress-reform movement, begun by the New England Woman's Club, made improvements that came to stay. A committee from their number thoroughly investigated woman's dress, and recommended important reforms in the underclothing. These were immediately adopted by many of the best educated women, but it remained for Mrs. Annie Jenness-Miller to make them so widely and favorably known that, at last, they are "the fashion." Can any one give a good reason why woman must lift an unnecessary weight of clothing with every step she takes, pushing forward folds of restricting drapery, and using almost constantly not only her hands, but her mental power and nervous energy, to keep her skirts neat and out of the way of harm to herself and others? Much discussion has been wasted over the question whether a woman should carry the burden of her voluminous drapery from the shoulders or the hips. Why must she carry this weight at all?

If fashion was indeed a fiend, bent upon the hopeless subjugation of one half the human race, and, through their degradation, upon the extinction of the sentiment of freedom in all humanity, she might go about the work just as she has lately begun, and train girl babies to their lot, from the cradle. What are mothers thinking about who put long skirts upon their little daughters, and so deprive them of the few years of physical freedom heretofore allowed them?

In some respects the time now seems very ripe for an onward movement in dress reform. The main stay of the corset was the basque — the great discomfort caused by having gowns in two pieces, with heavy skirts, being less noticeable when the corset made the pressure more even. Making a slight exception for the high sleeves, one may say that the female figure is now less dehumanized in its outline, by fashion, than at any time in many years.

All the dress reformers who have helped us hitherto are willing to help us farther. Now let us join hands, all lovers of liberty, in earnest co-operation, to free American women from the dominion of foreign fashion. Let us, as intelligent women, with the aid and encouragement of all good men, take this important matter into our own hands, and provide ourselves with convenient garments; a costume that shall say to all beholders that we are equipped for reasonable service to humanity. Let us reserve the long flowing lines and "art dress" for hours of ease and dress occasions, but in our working hours let us be found no longer simply draped, but clothed and in our right mind, — with a dress that allows freedom of lungs and of limbs, one that has plenty of accessible pocket room, a dress that can be easily put on and comfortably worn, subservient to the human body and not its master; not a dress for any distinct "working class" of women, but a costume that every woman may wear freely when she pleases, and by thus wearing may show to all beholders that she wishes to be useful in the world, and not a dependent and burden to other workers. — *Francis E. Russell, in the Arena.*

THE PRODIGAL DAUGHTER.

[Abstract of a lecture by Kate C. Bushnell, M. D., at the Sanitarium, Jan. 4, 1891.]

WHY is it that we have come to consider this class as beyond redemption? Why are we so content, so willing, that the principles of the gospel shall reach only to the prodigal son, and not to the prodigal daughter? Has it not been preached that the religion of Christ is broad enough to save all? Obedience to God's moral law is just as binding upon men as upon women. Yet fathers and mothers train their boys and girls as if this were not so. When a girl does anything immodest, it is counted a dreadful thing; but if a boy does just the same thing, it is put aside with the remark, "That is just like a boy." Perhaps the mother wants to keep the boys closer to her, but the father says, "Oh, let them go. I used to see life when I was a boy. Let them go to the circus, and take in the coarse jokes of the crowd, and the women with half nude apparel. Such things are suitable enough for boys, but of course it is no place for a girl." Our boys have been trained in this way for centuries, and we see the effects of this training in the fact that most of the drunkards are men, and most of the criminals are men; yet we say it is because God has infused a little more immorality into the men than into the women, speaking after the imagination of the human heart, and not going according to the plain word of God. We think we are far from heathenism, but there is certainly a great deal of heathen teaching at the present time. We imagine that it is of very great consequence that women should be kept pure. But this is also the teaching of most of the heathen philosophies, which reiterate that the crown of womanliness is chastity and modesty. Heathen sentiment is tremendously strong for the purity of women, even though the men may be reeking with crime. Here at home, judges upon the bench impose fines on women for being in houses of ill repute which their own money helps to support.

Go into China, and count up 75,000,000 of women hobbling around on their little feet, which are a constant source of agony to them from the cradle to the grave. Turn to a Chinese man, and ask him why he will not marry a woman unless she has little feet (and women are obliged to marry in that country or else they are considered terribly disgraced), and he will reply, "I want a woman who can't gad about; then she will be a good, virtuous woman." Think of the tremendous pressure which is thus literally brought to bear upon women. Can you get any higher moral opinion for chastity for women than that? Go into India, and count the millions and millions of women who are kept in harems, not by bars of iron, but by public opinion. They never dream that they have a right to see fields of green grass and budding flowers, or to breathe the fresh air of heaven. Prisoners, with a life sentence pronounced upon them! What does this mean? Ask a Hindoo, and he replies, "I believe that a woman ought to be chaste, and she is not apt to be chaste if she goes on the street. We take this way to keep her pure." That is public opinion again. Is it not strong enough? Go to Turkey, and there is the same overwhelming public opinion in favor of chastity for women. So it is the world over.

The lawmakers contain a large proportion of those who are adulterous and treacherous, and the degraded woman is robbed of her right of salvation, and she cries in despair, "Is there no balm in Gilead?" How long must this continue?—Just so long as one standard is raised for men and another for women. The atmosphere of crime is all that is allowed a fallen woman to breathe, and while we do not plan, as Greece did, to set aside a certain portion of the female population, yet we do provide for keeping up the supply much as the Romans did. *They*, in order to keep the dens of infamy filled with women, had a law that whenever a woman was charged with crime, and proven guilty, she should be sentenced, not to the penitentiary, but to a period of existence in a den of infamy. That period was limited, but in this country it is for life. We do not say in terms of law that any woman accused of crime shall be sentenced to a life of shame, but we virtually say this in the manner in which a woman is treated who has taken even a single step aside. If we find a woman who has once degraded herself, we give her no work, we give her

no home, and further, we have no laws that will protect the virtue of a woman, let her be ever so penitent, unless she can prove previous chaste character; and the woman who has once broken the seventh commandment, can hardly ever find any asylum outside of the den of infamy. Oh the shame and the degradation which is upon the nation for this violation of God's command!

There are some sins in which we can imagine a woman and a man going into an even partnership; stealing for instance, in which the spoils taken would be evenly divided; but in crimes against chastity, it is the woman who is always defrauded. Consider the fact that a man may throw aside his character and descend into crime, and yet he does not throw aside his reputation. He may be black with sin in the sight of God, but if he is a talented man, a moneyed man, he may be elevated to the highest position in the United States. A man through crimes against purity does not lose his reputation, and does not lose his chance to make an honest living. The woman is robbed of her home, robbed of her reputation; she is made a reproach, and her chance of salvation, so far as the worldly church is concerned, is taken from her forever.

Let woman take up the cause of woman, and real help will come. It is amazing that women who have been sinned against and suffered so long, are yet so unwilling to do anything for a fallen sister, that they are so ready to let the degraded woman suffer all the wrongs and penalties of licentiousness. We have taken the gospel and given almost all of it to the men. There has been the gospel for good women, but little enough of the gospel allowed to the degraded woman.

I knew of a woman in London who was discussing with a friend in her own parlor, the disclosures of Wm. T. Stead, and when the daughter passed through the room, she still kept on with her discourse. Her friend interrupted her, and said, "You surely do not want your girl to hear this?" "What other girls have suffered, my girl can endure to hear about," was the reply. There is a constant teaching that there is no need of women's knowing anything about these crimes, that a virtuous woman is too pure to know that there is so much corruption in the world, and women have been too willing to excuse themselves from knowledge of it, and from allowing their daughters to know, so that it has come to be proverbial that women will be harsher upon a degraded woman than a man will. This is a direct result of her wrong teaching and her ignorance.

God has not put into women any purity which he cannot put into man. There is no difference in the cradle between the boy and the girl in moral propensities. There is no law of heredity which exempts a woman from evil tendencies from a bad man who may be her father, any more than it exempts the son, but if in an hour of weakness *she* falls, for her there is made no excuse. It was her duty to keep herself pure, and she should have resisted in the hour of temptation. Teach your daughter, O mother, anything but to smile upon a man in whatever station he is, who is profligate in life, and who has already behind him victims of his sin and treachery. Teach her to do anything but marry such a man. Teach her rather to stand beside the profligate woman, and wail with her. Special instruction will save many a daughter from the miseries of a wretched life or a living death.

A WOMAN'S RESCUE OF LOST WOMEN.

THE following most wonderful instance of Christ-like pity for the fallen, and its marvelous effect, is related by Mrs. Josephine Butler, the earliest public champion of the cause of social purity: —

"Mme. de Pollalion was left a widow early in life; she became governess to the children of the Duchess of Orleans, but finding the atmosphere of the court prejudicial to moral health, she left it, and devoted herself to the service of the most helpless of the human family. At one time she adopted the coarse dress of a servant of the humblest class, and engaged herself to wait upon eight young women who lived together in the profession of infamy. She spent the first week in almost constant prayer, silently offering up supplications to God, even while dressing her mistresses for their orgies of iniquity. Gradually she began to add to her prayers gentle entreaties and warnings, and soon succeeded in shaking her employers out of their lethargy of sin. In less than three weeks every one of them had forsaken their evil life, and each was weeping and praying by herself in her own room. The event justified the deed, and God set his seal of approval on a step which to most people seemed to pass the bounds of prudence, by granting her to witness the constancy in virtue of those eight women."

A PRINCE OF CHARLATANS.

THAT prince of quacks, A. Wilford Hall, who, for the last two or three years, has been making dupes and tools of hundreds of country clergymen in all parts of the United States, whom he has induced to become agents for his pretended discovery, which consists of nothing more nor less than an ordinary enema of warm water,—has at last made an attempt to defend himself from the charge of fraud and plagiarism which we proved against him nearly one year ago. In a recent number of the *Microcosm*, Robert Rogers, S. L. A., "associate editor of the *Microcosm*," appears with an article which is a pretended explanation of the facts upon which we based our exposure of the fraud which Dr. Hall has perpetrated upon the public in selling as a secret what has been public property for more than forty years. Our claim was that the so-called discovery of Dr. Hall was well known to the water-cure doctors half a century and longer ago, and was described by them in various books. We made quotations from the writings of Shew and others which substantiated our claim beyond any possible question. Recognizing his only hope for escape from the grave charge of theft and rank dishonesty, Dr. Hall undertakes to prove that Dr. Shew stole the idea from him instead of he from Dr. Shew, claiming that Dr. Shew lived in his neighborhood, and must have been aware of his remarkable discovery.

In this attempt Dr. Hall has cut off his only means of escape, and has thoroughly exposed himself to the just contempt of the American public and everybody who becomes acquainted with the facts wherever his name is known. He practically acknowledges that he was acquainted with Dr. Shew, and that their relations were such that Dr. Shew must have known of his practice, although he did not make a public matter of it at the time. This being true, it proves the same in the opposite direction; that is, if *Dr. Shew* held the notions which *Dr. Hall* claims to have originated with himself, Dr. Hall must have been aware of the fact. If the proof is good for Dr. Hall, it is equally good for Dr. Shew. All that need be done to prove Hall to be the knave we have claimed, is to show that Dr. Shew published his views to the world two years before Dr. Hall claims to have made his wonderful discovery. Here are the facts: Dr. Hall asserts that in 1849 he made the wonderful discovery that a man's colon would hold more than a pint of water. We have in our possession a book entitled, "Hydropathy, or the Water Cure, its principles, processes, and modes of treatment, compiled in part from the most eminent authorities, ancient and modern, on the subject, together with an account of the latest methods adopted by Priessnitz. By Joel Shew, M. D." This work contains proof that it was first published prior to 1847, or two years before the great Dr. Hall made his wonderful discovery. In this work, Dr. Shew says, in his directions for taking the injection or clysters (other terms for the enema), "The quantity of water to be used will vary; as much as can be retained, be it more or less, can be taken."

In another work published by Dr. Shew in 1847, entitled, "The Cholera, Its Causes, Prevention, and Cure," Dr. Shew quotes as follows from Drs. Bell and Condie, two eminent English physicians: "In the stage of collapse, large injections of warm water have been much used in the north of England, and with a very encouraging result. Mr. Lizars directs the water to be as hot as the hand can bear — *in quantity of three or four pints.*"

There is nothing now for Dr. Hall to do, if there is left in his composition a particle of honesty or anything other than the brazen elements of which the common charlatan is composed, but to advertise at once in all the newspapers of the country, offering to return to those whom he has wronged the money of which they have been defrauded, and then to en-

gage henceforth in some more honorable and honest occupation than that which for the last few years has occupied his attention.

We had thought the last word had been said concerning this man Hall, and trust that, with these facts before our readers, we shall not find it necessary to refer to him again. We have done our duty in making public his bare-faced dishonesty and knavery. If, after this, there are people who, knowing the facts, wish to invest in his two-penny pamphlet at the rate of $4.00 each, we have no objections.

Since the above was written, we have received a letter from a Washington correspondent who has looked up the early editions of Dr. Shew's work, and finds a copy of the work above referred to, which was published in 1844.

THE BRINKERHOFF SYSTEM.

So much has been said about this so-called system for the treatment of diseases of the rectum, that it will probably be of interest to our readers to know something about it.

Some years ago a patient who had been under the care of one of the pupils of Dr. (?) Brinkerhoff, came under the care of the writer, and brought along some of the wonderful remedies which she had been using. On investigation, it was found that they consisted simply of distilled extract of witch-hazel, carbolic acid ointment, and simple starch. A very extravagant sum was paid for these remedies, which were furnished by no one but the Doctor (?). This investigation enables us to confirm entirely, so far as the nature of the treatment is concerned, the following statement by Dr. Layton, of Modoc, Ill., which was sent by him to the *Medical World* : —

"One of our readers asked what was the so-called Brinkerhoff treatment for piles, etc. I being one of his many victims, having paid for the privilege of using his *very painless* treatment, and using it for a year or more, am prepared to say that although I obtained considerable information of how such diseases should be treated, yet practically the Brinkerhoff treatment is a fraud, having no special advantages over any other carbolic-acid treatment, such as has long since been known to the general profession. As to its being painless, I can say from positive experience that this is far from being the case, as I have had several of my patients hint at a suit for malpractice on account of such excruciating pain and soreness ; so that I even forgot to ask them for my bill. The Hemorrhoidal Compound, as he sees fit to call it, is nothing more than carbolic acid incorporated with pure sperm oil or glycerine. As letters patent of U. S. 241, 288, of May 10, 1881, show, his other fluid for injecting into the rectum consists of dist. ext. hamamelis, etc. He has salve of which carbolic acid is the great desideratum ; and added to all this are little paper bags of starch, holding perhaps an ounce, each of which he liberally sells for ten cents as an adjuvant to his other treatment." Altogether the treatment is not a bad one, save the idea of its being painless ; and the pretense that he was the originator of the ground plan so long known, of treating piles by carbolic acid.

"As to his *rectal ulcer*, which he scares so many of his patients about, and of which so many are illustrated in the pamphlet sent out by him, it is nothing more than the internal *sphincter ani ;* not but that there is ulceration of the rectum, resulting many times in fistulous openings, but they are not of the form represented in his pamphlet, nor are they to be found in everybody's rectum, as he would have one believe."

JAYNE'S AGUE MIXTURE.— Each bottle contains seven and one half fluid ounces of a mixture having the odor and taste of rhubarb, dandelion, and common molasses. It contains sulphate of quinine and traces of other cinchona alkaloids, but not enough to render the mixture very bitter.

AYER'S AGUE CURE.— Each bottle contains six ounces of a dark red sirupy liquid, with a slight white sediment, a very bitter taste, and an odor of wintergreen oil. It consists of an alcoholic tincture of cinchona bark, with the addition of about three grains of quinoidine and three grains of sulphate of cinchonine for each fluid ounce, dissolved by the aid of sulphuric acid ; it is sweetened with sugar, and flavored with oil of wintergreen.

KREYDER'S AGUE PILLS.— Sulph. quinine 20 gr., Dover's powder 10 gr., sub. carb. iron 10 gr.

RHODE'S FEVER AND AGUE CURE, OR ANTIDOTE TO MALARIA. — Each bottle contains 12 fluid ounces of a black, turbid liquid, having a sweet and astringent taste. The sediment, filling about one third of the bottle after standing, is powdered animal charcoal, while the solution is nothing but sweetened water with a little tincture of chloride of iron, with the addition of a little sulphate of iron (copperas).

GOOD HEALTH
J. H. KELLOGG, M. D., EDITOR.
BATTLE CREEK, MICHIGAN.

COFFEE AN EXCITANT.

THE dangers connected with the use of alcoholic stimulants in cold climates has long been recognized. The commander of an Arctic expedition rigidly excludes alcohol in every form, from the rations of his men. Singularly short-sighted reasoning has led to the substitution of tea and coffee in place of the alcoholic beverages formerly employed, the fact being overlooked that the real objection to alcohol is not that it is alcohol, but that it is an artificial stimulant, and, as such, that it wastes the vital forces without replenishing them. Hence, if coffee is safe at all, it cannot be prudently employed on occasions when the bodily powers are taxed to the limit of human endurance. But the same objection holds good with tea and coffee as well as alcohol. Caffeine, the active principle of tea and coffee, has for more than half a century been recognized as a poison,—a stimulant which goads the flagging energies of the body only to leave them more exhausted than before.

The truth concerning coffee, however, seems not to have escaped the acute observation of that intrepid traveler, M. Fridgjof Nansen, who, three years ago, made the first successful attempt to cross the little-known country of Greenland. Mr. Nansen asserts that coffee is the bane of the inhabitants of Greenland. In an interesting account of his journey across Greenland, published in *Le Tour du Monde*, we find the following passage :—

"The caravan had arrived a half hour before, and Balto had immediately commenced to prepare coffee. Now that they were near the occidental coast (the end of the journey), *the prohibition which he had pronounced against this excitant was no longer regularly observed.*"

It is hoped that the experience of Nansen and other scientists, will call attention to the truth concerning this common beverage so emphatically that the public will be aroused to an appreciation of the enormous mischief which is being wrought by its common use.

LONGEVITY IN PRUSSIA.

THE German government has recently collected some interesting statistics relating to longevity in that country. From the facts collected it appears that in 1888 there were ninety-one persons in Prussia, who were over a hundred years old. Between 1864 and 1888, upwards of 7,000 persons over one hundred years of age died, and of these one hundred and fifty-five were more than 109 years old. A study of these statistics will develop a very interesting and significant fact. If between 1864 and 1888, 7,000 persons died at the age of over 100 years, the number of deaths of this age in each year may be ascertained by dividing 7,000 by 24. The result is nearly 300, which represents the minimum average number of persons of this age alive in each year between 1864 and 1888. This does not represent the total average number of persons alive in each year between those periods, since 155 persons died who were more than 109 years of age, and there must have been at least nine times that number who were over 100 years of age, as it is not at all unlikely that there were more deaths of persons at each age less than 109 and upwards of 100 than persons over 109. Multiplying 155 by 9, and dividing by 24, gives us 58, which added to 292 gives exactly 350 as the minimum average number of persons over 100 years of age alive each year between 1864 and 1888. In 1888, however, there were but 91 persons alive in Prussia who were over 100 years of age, indicating a very great decrease in longevity within twenty-four years,

the total number of persons alive upwards of 100 years being only one fourth of the average number alive at that age during the whole period of twenty-four years. The actual decline from 1864 to 1888 must, however, be much greater than this, since 350 represents not the number of persons alive in 1864, but the average for the entire period of 1864 to 1888. Taking this fact into consideration, the number of persons upwards of 100 years of age alive in Prussia in 1864, must have been upwards of 600. Such a dropping off in longevity within less than a quarter of a century is certainly a most appalling and significant circumstance. This fact is one which sanitarians, who write respecting the possible improvements in the human race under the influence of improved sanitation, would do well to consider. Public sanitation, quarantine laws, and general hygienic regulations serve a most useful purpose in the prevention of epidemic and endemic diseases, but these influences at the same time serve to keep alive a great number of physically weak people and worthless human beings who would otherwise be carried off by acute disease, which is nature's method of securing the survival of the fittest. Laws of public sanitation without attention to individual hygiene are likely to prove in the end detrimental to the human race rather than beneficial; nevertheless, we are heartily in favor of public as well as private sanitation. We do not suggest less attention to public hygiene, but more earnest attention to the hygiene of the individual, physically, mentally, and morally.

DANGERS IN DRINK.

[Abstract of a lecture by the Editor, delivered in the Sanitarium Parlor.]

THIS is not a temperance lecture, but a talk about water. You know I am an earnest advocate of temperance principles, and have no apology to offer for the use of alcoholic liquors as a beverage under any circumstances, nevertheless it is a sad fact that bad water is productive of probably ten times as much sickness and loss of life as bad whisky. It is not, however, the water that is at fault, but the foreign substances in it. The most dangerous of these are germs, which at this season of the year are particularly active and mischievous.

Germs are small vegetable organisms which develop rapidly in water, and which, when received into the system, develop various poisonous substances which produce the symptoms characteristic of various germ diseases, such as typhoid fever, cholera, dysentery, diarrhea, cholera morbus, cholera infantum, and a great variety of disorders known as summer complaints. Many of these diseases are charged to excessive heat, bad weather, bad air, and a variety of other causes, but it is very probable that the cause in the great majority of cases at least is bad water.

The principal sources of contamination of water are vaults, cesspools, barn-yards, pig-styes, chicken coops, and heaps of decomposing refuse materal such as are found in connection with many human dwellings. It is a noticeable fact that the diseases due to bad water are much more fatal in small towns and rural districts than in large cities. This is because the water supply of large cities is usually from a common source which is carefully protected, so that a reasonable degree of purity is secured. The water supply of most families in small towns and rural districts is on the premises, and is exposed to danger from all the sources mentioned. If there is no filth of home manufacture with which the water is likely to become contaminated, a neighbor's premises are certain to afford ample sources for the same sort of disease-producing agents.

The ostrich thrusts his head into the sand until his eyes are covered, and then imagines that he is safe from his pursuers. Human beings do likewise when ignorant of sanitary laws; they imagine that filth thrust into a cesspool or a vault, or buried in the earth, is out of the way of doing harm, when really filth thus disposed of is more dangerous than if left upon the surface of the earth. The contents of a cesspool or vault deposited in the corner of the garden would be more unsightly and more offensive to the sight and smell than if buried in the ground, but less dangerous to health, since the decomposing matters would be reduced to a formless state through the action of microbes and the ozone of the atmosphere. Deposited beneath the surface, these destructive agencies work more slowly, and the consequence is, the filth percolates down through the porous soil, carrying along with it a multitude of germs, which easily find their way into the soil, contaminating the water and communicating disease which is often of the most fatal character.

The constant drawing of water from a well drains the surrounding soil, and thus encourages the filtration into it of the filth from a considerable distance.

It is probable that a large share of the sickness which prevails during the summer season is due to

bad water. The water used by domestic animals, particularly by cows, must also be an object of solicitude if one would protect himself from dangers through these sources. If a cow drinks bad water, those who use the milk are likely to be injured thereby, even if the germs may not find their way directly through the tissues of the cow into the blood and milk. The alimentary canal of the cow affords an excellent place for the development of germs, which, being expelled in the excreta, find their way into the milk-pail through want of care on the part of milkmen, or in the shape of dust or small particles which fall into the milk from the body of the animal during the milking. It is very likely that this is one common means by which typhoid fever is communicated.

Ice is a form of vehicle for germs. The opinion that water freezes pure is a mistaken one. Germs in water are often connected with masses of vegetable or animal matter undergoing decomposition, which floats on or near the surface of the water. As the water freezes, these masses of decomposing matter and germs are entangled. While the water remains in the form of ice, the germs are harmless, but when the ice thaws, the germs become active.

It is not prudent to drink water, or take it in any form, unless its source is known to be pure. The water which one encounters upon hotel tables and railway trains, and generally when traveling, cannot be taken with safety. One often sees at the railway station, men filling the water tanks on railway trains with ice covered with dirt, and filled with suspicious-looking dark colored masses which doubtless inclose multitudes of germs. The only real protection from the dangers of drink which one encounters in the use of water is to be found in boiling, or efficient filtration. There is only one form of filter which is practically safe, that is, the unglazed porcelain filter. One of the best of these with which we are acquainted is that known as the Pasteur filter. Water passed through one of these filters is absolutely free from germs; but if the water used contains germs in considerable numbers, the filter itself will after a time become infected and must be cleansed. This is easily accomplished by boiling the filter for two or three hours, by roasting it in the oven, or better still, by heating it to a red heat in a stove or furnace. When a porcelain filter is depended upon for the purification of the water, it should be cleansed in the manner directed at least every two weeks. The filters used at the Sanitarium are cleansed once a week, although the water used is, before filtration, pronounced by an eminent chemist to be of extraordinary purity, being obtained from the sand rock one hundred and sixty feet below the surface.

Boiling is, on the whole, the most convenient and satisfactory method of rendering water safe. Boiling for a few minutes will destroy most germs. Boiling fifteen or twenty minutes will render water practically safe, as boiling this length of time will destroy all known germs which are very dangerous to life and health. A safe rule for a person to adopt at this season of the year is to drink no water and eat no food which has not been exposed to a temperature at least equal to the boiling point of water for a sufficient length of time to kill all germs. The only exception to this rule should be ripe fruit, which may be eaten safely, providing the skins are carefully removed. The bloom of the peach or grape is full of germs, hence in the use of these articles, the skins should always be removed if the fruit is to be eaten raw.

MARVELOUS ACTIVITY.— The wonders revealed by a study of living organisms seem to be without limit. Thousands of physiologists are continually delving into the obscurities of physiological science and bringing out new and wonderful facts, making this study one of perennial interest. Sir John Lubbock, as everybody knows, has made very extensive and most successful studies of insects as well as other animals. He thus records the results of some of his latest observations: —

"The slow flapping of a butterfly's wing produces no sound, but when the movements are rapid, a noise is produced, which increases in shrillness with the number of vibrations. Thus the housefly, which produces the sound F, vibrates its wings 20,100 times a minutes, or 336 times a second; and the bee, which makes a sound of A, as many as 26,400, or 440 times in a second. On the contrary, a tired bee hums on E, and, therefore, according to theory, vibrates its wings only 330 times in a second.

"Marcy has succeeded in confirming these numbers graphically. He fixed a fly so that the tip of the wing just touched a cylinder covered with smoked paper, which was moved by clockwork. Each stroke of the wing caused a mark, of course very slight, but quite perceptible, and he thus showed that there were actually 330 strokes in a second, agreeing almost exactly with the number inferred from the note produced."

THE revenue from patent medicines in Great Britain was $210,000, thirty years ago. Within a generation the government revenue from this source has increased five hundred fold, now footing up $100,500,000 annually.

A GERM has been discovered which produces oxalic acid. It is possible that this germ may be a cause of disease in some cases in which the presence of oxalic acid is a prominent feature.

FLESH-EATING AND GENERAL PARALYSIS.—According to the *American Medical Press and Circular*, Dr. George H. Savage has collected and made careful studies of nearly one hundred cases of general paralysis, a disease in which the brain structures undergo degeneration. He finds the disease to be most common among flesh eaters and drinkers of alcohol.

CONDIMENTS AND BRIGHT'S DISEASE.—For many years we have rigidly prohibited the use of condiments in cases of Bright's disease of the kidneys, on the ground that the irritating effect of this substance upon the kidneys must certainly be detrimental, it having long been known that the essential oils which give to condiments their flavor are chiefly eliminated through the kidneys. According to the *Lancet-Clinic*, a Russian physician has recently been investigating this matter, and finds that pepper and mustard given to patients suffering from Bright's disease increases the secretion of albumen in all forms of this malady.

ABSTEMIOUSNESS.—An old man who enjoyed a remarkable degree of vigor at an advanced age was once asked by an eminent physician by what means he maintained such an excellent state of health. He replied, "I make but one meal a day." The physician importuned him to keep his secret, saying, "If you publish it to the world, you will utterly ruin the practice of medicine."

There is a man in Central America who claims to be 180 years old, and who attributes his great longevity to his habit of eating but once a day. Twice a month he fasts for twenty-four hours, and on those days drinks, as he says, "as much water as I can bear."

ANTHRAX IN AMERICA.—This terrible disease, which has made such ravages among sheep and cattle in different parts of Europe, and particularly in France, has made its appearance in this country, cases being reported in the Western States which have been pronounced genuine cases of anthrax, by competent medical authority. When it is known that this disease is absolutely fatal, no remedy having as yet been discovered, and when its extreme contagiousness is taken into consideration, the importance of the immediate adoption of the most radical precautionary measures will be appreciated. The use of the flesh of animals affected by this disease is exceedingly dangerous.

SHALL WE USE ROCKING CHAIRS?—Rocking chairs are not conducive to health, because in sitting in them the muscles of the body are relaxed, the chest thrown forward and flattened, and the action of the lungs and the muscles of the chest are interfered with. A person who spends a great deal of time in a rocking chair cannot assume a military position very easily. He stoops, and carries himself without ease or grace. One never sees rocking chairs in Europe. Perhaps that is why the Europeans have so much better developed figures than the Americans. It is very important that the muscles of the trunk should always be kept in tone, and a continued relaxation induced by this unnatural position has a very demoralizing effect upon these muscles.

SICK EGGS.—It should be remembered that an egg is a very young fowl. When an egg is perfectly fresh, it is alive, and it needs to be kept alive in order to be healthful as an article of food. Unless an egg is preserved by cold or salt or some other antiseptic measure, just as meat must be preserved, it sometimes becomes sick, and then dies, and is unfit for food. The yolk and the white are each enveloped in separate membranes, and if on breaking an egg it all runs apart without retaining its form, it is sick. When an egg sticks to the shell, it shows that fever or inflammation has been going on which has caused the membrane to adhere. An egg is a very delicate, perishable creature, and it sometimes gets so sick that there is as much danger in eating it as in eating the flesh of any other sick animal.

THE NATURE OF MANNA.—This is a question which has been much discussed by scholars, and has given rise to much speculation. Many have been skeptical concerning the Biblical account of the feeding of the children of Israel by manna which fell every day, in quantities amply sufficient to satisfy their needs. An observation recently made in Bagdad seems to throw some light on this interesting question. The Director of the central dispensary at Bagdad recently sent to *La Nature* a specimen of an edible substance which fell during a heavy shower in the neighborhood of Merdin and Diarbekir (Turkey in Asia), in the month of August, 1890. The inhabitants collected the substance, and made it into bread, which is reported to have been very good, and easy of digestion. The specimen sent to Paris for examination was found to be composed of small cells. The substance, while yellow on the outside, was white within. Eminent botanists who have examined it, say that it belongs to a family of edible lichens.

THE INFLUENCE OF ALCOHOL UPON DIGESTION.—A student of Prof. Kochlakoff, of St. Petersburg, has been studying the effect of alcohol upon healthy persons. Five persons, aged between twenty-two and twenty-four years, were selected for the experiment. From ten to twenty minutes before meals, they were each given three ounces of an alcoholic liquor varying in strength from strong wine to brandy. The following were the results observed in each, the facts being ascertained by removing portions of food from the stomach with a stomach tube at stated intervals: —

1. The acidity and the digestive power of the gastric juice were diminished.

2. This enfeeblement of digestion was especially noticeable in persons who were not accustomed to the use of alcohol.

3. The larger the percentage of alcohol in the beverage employed, the greater its influence in interfering with digestion.

4. The movements of the stomach were diminished as much as the activity of the gastric juice, and in proportion to the concentration of the alcohol.

5. The food was retained in the stomach longer than usual, and at the last end of digestion the acidity of the gastric juice, and the quantity of hydrochloric acid were double that ordinarily found at this period of digestion.

This last fact probably accounts for the frequent occurrence of gastric ulcer in persons addicted to intemperance.

PROPER DIET FOR WEAK KIDNEYS. — By weakness of the kidneys we do not mean inability to retain the urine, or frequent urination, to which the term is frequently applied, but a condition of the kidneys in which they are partly disabled, and secrete an insufficient amount of urine. Prof. Dujardin Beaumetz recently published, in a leading French medical journal, the following note upon the diet in cases of this sort: —

"Two principles should form the basis on which is built the dietary for patients suffering, not only from urinary insufficiency, as in albuminuric cases, but in all cases where the kidneys are diseased, or where they do not act properly; (1) To prevent, as far as possible, the formation of poisonous products or toxines in the system; (2) To reduce to a minimum the toxines which may exist in the food. Hence all forms of meat should be forbidden, especially game, which is apt to be tainted, for it is an error to suppose that the various sorts of meat do not contain ptomaines. For the same reason, mollusca, crustacea, the codfish, etc., should be interdicted. As to aliments which may be allowed, the first place should be given to eggs well cooked, as they have no influence upon the production of albuminuria. Then follow omelettes and starchy matters, as of potatoes and peas, also green vegetables, well cooked."

FOR BURNS. — Apply as quickly as possible, an ointment composed of one part of subnitrate, or subcarbonate, of bismuth, to three parts of yellow vaseline. If large blisters have been raised, they should be punctured before the ointment is applied.

THE PNEUMONIA MICROBE. — It seems now to be pretty well settled that pneumonia is chiefly due to germs; that is, that the active cause of the disease is a microscopic organism, or microbe. An eminent Italian bacteriologist claims to have discovered that there are four varieties of this germ, one of which produces the disease in a mild form, while the others are found present only in severe cases. In persons suffering from pneumonia, the germ is found not only in the lungs, but also in the blood of the patient.

FOR CHAPPED HANDS. — Pain accompanying a chapped condition of the hands is often a very troublesome symptom. Many ointments which are useful as a means of curing this affection, increase, rather than diminish, the discomfort, when first applied. The following preparation is said to give relief from pain on the first application: Menthol, 15 gr.; salol, 30 gr.; olive oil, ½ dr.; lanolin 1½ oz.

White vaseline will probably replace the olive oil and lanolin, if the latter cannot be obtained.

UNACQUAINTED WITH THE BATH. — Somebody has said that the amount of soap used by a nation is an index to the stage of civilization which it has reached. The principle applies, perhaps, to the different strata of society in a civilized country. There is, in every large city, a class, who, from their personal appearance, evidently have little acquaintance with detergent agents of any sort. One of the speakers in the following dialogue evidently belonged to this class: —

Mrs. O'Rourke — "I wish yez would give me an order for some medicine, Your Riverence, for little Jimmy here. He 's been ailin' for two wakes."

Father Reilly — "I think a little soap and water would do him as much good as anything."

Mrs. O'Rourke — "Would yez give it to him before or afther his males, Your Riverence?"

AN EPIDEMIC AMONG FLIES. — A curious illustration of the behavior of germs, and also of the infectiousness of germ diseases, is to be found in an epidemic which attacks the common house fly in the autumn. At this season of the year, it is common to find dead flies adherent to a window pane or other surface, each the center of a whitish spot. These flies have been killed by the growth of a germ, a sort of microscopic mold, known to the scientist as *empusa muscæ*. This organism is closely related to the mold which is often found upon bread, as well as to the fungus so much dreaded by the silk culturists, through its attacks upon silkworms. In the fall of the year, the spores of this fungus come in contact with the bodies of flies, and finding entrance through the breathing pores of the insects, they rapidly develop, sending out a branching network which gradually extends until it occupies the whole body of the fly, and often distends the poor creature until the segments of its body are torn apart. The growth still continues to prey upon the fly after it has been killed, scattering its spores, and reaching out its pinions to a considerable distance around the dead body. Other flies visiting the vicinity, come in contact with the spores, and thus becoming infected, are in turn killed in the same manner.

DISINFECTION OF THE HANDS. — For disinfection of the hands, which often becomes necessary through contact with persons suffering from loathsome or infectious diseases, or dead bodies, or other sources of probable contamination, the following is a simple and effective method: First, scrub the hands thoroughly with hot water, laundry soap, and a nail brush, being careful to give special attention to the spaces under the ends of the nails, which are a common hiding place for many dangerous germs, and the cause of the occasionally serious consequences which arise from a scratch by the finger nail. After thorough scrubbing of the hands, bathe them for one or two minutes with strong alcohol; without drying them, bathe for another minute with a solution of corrosive sublimate (a dram to the gallon of water), afterward rinsing thoroughly with pure water. Any portion of the surface of the body, although not a large portion at the same time, may be treated in this manner. Of course, great care should be taken to avoid getting corrosive sublimate into the mouth or eyes. This is a very deadly poison.

A PHYSIOLOGICAL EXPERIMENT. — The mysteries of organic life are many. One of the most remarkable phenomena is the manner in which organic structures behave in the absorption of liquids. A tree draws up by its roots, and evaporates through its leaves and bark, a large quantity of moisture daily. The fluid is carried up in the trunk of the tree in opposition to gravity, and with a force sufficient to support a water column several feet in height. A quantity of water swallowed into the stomach reappears upon the skin, often within a few moments, and not infrequently liquids thus swallowed are eliminated through the kidneys so quickly as to give rise to the idea that there must be a direct passage leading from the stomach to the kidneys or bladder,— an error to which some adhesion was given before the subject of physiology was so well understood as at present. The phenomena of absorption may be beautifully illustrated by the following simple experiment: Select two eggs of equal size. Place one in a solution of hydrochloric acid, one part of acid to thirty of water. Leave the egg in this solution until the shell is entirely dissolved, then carefully transfer it to a solution of pure water. At the end of twenty-four hours it will be found that its size has greatly increased, as will be readily seen by comparison with the other egg. The increase in size is due to the absorption of water through the living membrane which lines the shell.

Boracic Acid for Chronic Constipation. — An eminent German physician recommends introducing one half or three fourths of a dram of powdered boracic acid into the rectum, as the remedy for chronic constipation.

Sulphur as a Germicide. — Dr. Semmola, of Naples, Italy, regards sulphur as one of the best germicides for internal administration. A little of the drug is absorbed into the system, yet it is rendered sufficiently active by the fluids of the alimentary canal to destroy the microbes present. The remedy is a harmless one, and if experience proves it to be as efficient as Prof. Semmola believes, it will be of great service in many forms of bowel disorders.

Administration of Oxygen by the Stomach. — An eminent Italian professor has been experimenting with the administration of oxygen by the stomach. The gas was introduced into the stomach by means of a tube, through which water was first introduced, the oxygen being afterward passed in through the tube, and made to bubble up through the water. It is claimed that the remedy has proved of service in improving stomach digestion, and is of special value in cases of atonic dyspepsia. We have for a number of years made use, to some extent, of oxygen administered through the bowels, and from observations made have believed it to be a useful remedy for internal administration.

Ingrowing Toenail. — "Doctor, what can I do for an ingrowing toenail?" is a question often asked. There are many methods by which this painful affection may be successfully treated. The following is one of the most recent suggestions, which we have not yet had an opportunity to try, but it sounds well, and we shall test it at the first opportunity. If any of our readers should use this method, we shall be glad to hear the result of the experiment: —

"A 40 per cent solution of potassa is applied warm to the portion of the nail to be removed. After a few seconds, the uppermost layer of the nail will be so soft that it can be scraped off with a piece of sharp-edged glass; the next layer is then moistened with the same solution, and scraped off; this must be repeated until the remaining portion is as a thin piece of paper, when it is seized with a pincette, lifted from the underlying soft parts, and severed from the other half. The operation does not require more than half an hour's time, is painless and bloodless, while the patient is delivered from his suffering without being disabled even for an hour."

A New Nasal Treatment. — According to *The Lancet*, a Swedish doctor has devised, and successfully employed, a new method of treating diseases of the nose and throat, by means of friction with a coil of silver wire covered with cloth. A sort of probe of cloth is used for treatment of the throat.

For Shingles. — Shingles, or what is more technically known as *herpes zoster*, may be readily relieved by applying a thick layer of starch over the affected part, then covering with a cotton bandage drawn snugly, so as to fit skin tight. This will usually give almost complete relief. The bandage should be left on several days. When removed, the painful eruption will be found to have nearly disappeared.

New Cure for Obesity. — A French journal has recently announced a very simple cure for obesity. It consists in eating but one article of food at a meal. The diet must be absolutely restricted to the single article at each meal. The sense of satiety is induced much more quickly when one has but a single article of food, and so the amount of food is diminished without requiring a very great amount of self-denial.

Disinfection of Spittoons and Cuspidors. — The disinfection of spittoons is a matter of importance to which sanitarians have recently called attention. When the contents of a spittoon are allowed to dry and become powdered to dust, there is great danger of contamination of the air and of communication of maladies through this means. This is especially the case with consumption, now generally recognized as a contagious disease. It is probably more contagious than leprosy, although the fact is as yet little understood by the public. All persons suffering from any disease requiring expectoration, should be compelled by law to avoid expectorating elsewhere than in a spittoon, or upon some object which may be disinfected or destroyed. Spitting upon the floors, in the streets, and upon public walks, is a crime against society, and should be prohibited by law. The plan which we recommend in cases of consumption, and other contagious diseases, is that the patient should expectorate upon cloths or in little paper spittoons which can be burned; but if a spittoon or cuspidor be employed, it may be disinfected by pouring into it a quantity of boiling water equal to twice the volume of the contents. Spittoons should always be thoroughly disinfected with boiling water when cleansed, and should be cleansed every day, or, if necessary, several times daily, whether their contents are supposed to be specially infectious or not.

ANSWERS TO CORRESPONDENTS.

PIERCE'S GOLDEN MEDICAL DISCOVERY.— Mrs. M. J. K., Cal., asks: "Can you recommend Dr. Pierce's Golden Medical Discovery?"

Ans.— No.

REDNESS OF THE NOSE.— A subscriber inquires thus concerning redness of the face and particularly the nose: "What causes it? What will reduce it?"

Ans.— The application of a spray of hot water to the nose is one of the best means of securing relief. If there is irritation of the skin as well as redness, zinc ointment may be advantageously employed.

HEART DISEASE.— A subscriber over seventy years of age, thinks she has disease of the heart, and wishes to know what to do for relief, when taken suddenly.

Ans.— It is impossible to give advice without more knowledge of the case. In many cases of supposed heart disease the difficulty is with the stomach, and relief is readily obtained by the application of heat to that region, by drinking hot water, and by taking an emetic or a warm enema to empty the bowels.

FALLING OF THE HAIR.— B. L. would like to know how to prevent the hair from falling out. Is thirty-three years of age, comparatively healthy, and says he is "*almost* a vegetarian." Complains that for the past five or six years his hair has been growing thin, until now he is nearly bald.

Ans.— The cause must be ascertained. It is sometimes due to skin disease affecting the scalp; sometimes to failure of nutrition in other respects. The principal cause must be ascertained, whatever it is, and the remedy applied. An excellent means of stimulating the growth of the hair is to shampoo the scalp every morning with cold water, rubbing with the ends of the fingers until the skin is red. The various advertised remedies for baldness are unreliable, and many of them useless.

REDUCTION OF WEIGHT.— A correspondent asks, "Is there any way by which to reduce one's weight without injuring the health?" He weighs one hundred and ninety pounds, but feels quite uncomfortable. At one time he weighed two hundred and ten pounds, and reduced it to one hundred and sixty pounds by starving himself. Is there any better way?

Ans.— Excessive weight can be most successfully combated by restricting the diet to the actual needs of the body, or perhaps a little less, and systematic, vigorous, muscular exercises. It must not be supposed, however, that when the weight is once reduced, the problem of keeping thin has been solved. The same measures by which the weight has been reduced, although somewhat less vigorous, must be maintained indefinitely.

SUDDEN STOPPAGE OF BREATH.— Mrs. D. C. E. writes concerning a brother aged thirty-nine, who has for several years been troubled with sudden stoppage of breath. Is a hard-working mechanic, and with the exception of these breath stoppages, his general health is very good. These stoppages frequently occur during the night, and he does not recover his breath until he has risen from bed, walked across several rooms and opened an outside door. Has lately lost his only child, since which the breath stoppages have been more frequent. He does not live hygienically. Do these paroxysms proceed from heart disease? If not, what is the cause, and how can they be prevented?

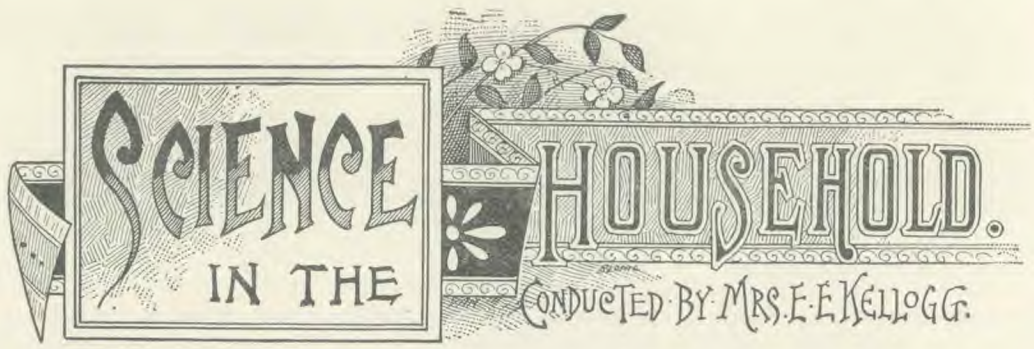
Ans.— The stoppage of breath is probably due to some morbid nervous condition. Very likely the digestive organs are disordered, and this may be a predisposing cause.

PAIN UNDER SHOULDER BLADE, IN SHOULDER, CORD OF NECK, ETC.— A lady writes thus, asking advice: "Am thirty-nine, temperate, and a White Ribbon woman; abstain from tea and coffee, and the use of flesh meats to a considerable extent, and have heretofore enjoyed fair health. Am now troubled with dull pain under left shoulder blade, in shoulder and cord of neck,— any movement of head or body sometimes causing increased pain,— tongue feels all the time as though it were burned; mouth dry and throat sore in the morning; frequent pain in right side, head confused, memory poor; also pain in lower part of back, mostly at night when clothing is removed."

Ans.— Take a simple diet of grains and fruit, with a moderate allowance of milk and cream, and live in the open air. Take a general bath once or twice a week, a cool sponge bath at least every other day, to be followed by a vigorous rubbing with a flesh brush. Apply to the upper half of the spine once or twice daily, a fomentation of a rubber bag filled with hot water, for from thirty to sixty minutes. A hot bag over the stomach for an hour after each meal will also be useful.

ECZEMA.— D. M. Mc A., Utah, asks for a remedy for chronic eczema.

Ans.— For its proper treatment, the questioner is referred to page 1263 of the "Home Hand-Book."



THE LEGUMINOUS SEEDS.

Abstract of a lesson in cookery given by Mrs. E. E. Kellogg, to the Health and Temperance Training Class.]

THE leguminous seeds, or legumes, are those foods better known as peas, beans, and lentils. They are usually served as vegetables, but are very different in their composition, as they contain in their mature state a large excess of the nitrogenous element, while the ordinary vegetables are quite lacking in this important element. In their immature state the legumes are more similar to vegetables. Dried peas are found in the market in two different forms, the green, or Scotch peas, and those which have been divided and the skins removed, called split peas. There are also several varieties of lentils to be found in market. Lentils are somewhat superior to peas or beans in nutritive value, but people usually dislike their taste until they have become used to them.

The different varieties of beans vary but little as to nutritive value. The Lima bean is more delicate in flavor, and is generally looked upon with most favor. The Chinese and Japanese make large use of the leguminous foods. They have a kind of bean known as *soja*, which is almost entirely composed of nitrogenous material. Peas and beans contain caseine, which is similar in its characteristics to the caseine of milk. The Chinese take advantage of this fact, and manufacture a kind of cheese from them.

The legumes are all extensively used in India, China, Japan, and other Eastern countries. Combined with rice, which is used as a staple article of diet in these countries, and which contains an excess of the carbonaceous element, they form an excellent food. In England, peas are largely used by persons who are in training as athletes, because they are considered to be superior strength producers.

Although these seeds are in themselves such nutritious food, they are in this country commonly prepared in some manner which renders them indigestible. Beans, especially, are used in connection with a large amount of fat, and are not, in general, properly cooked. Peas and beans are covered with a tough skin, and require a prolonged cooking, in order to soften them. If, in cooking, this skin is left intact, and not broken afterward by careful mastication, the legume may pass through the digestive tract without being acted upon by the digestive fluids. Even prolonged cooking will not render the skin digestible. It is best that we prepare these seeds in such a manner that the skins may be rejected. When used with the skins a large percentage of the nutritive material is wasted, since it is impossible for the digestive processes to free it from the skins.

In preparing them for cooking, it is generally best to soak them over night. The soaking aids the process of cooking, and to some extent does away with the strong flavor which to some people is very disagreeable. Soft water is best for cooking all dried seeds. If dry peas or beans are put into hard, boiling water, they will not soften, because the mineral element of the water acts upon the caseine to harden it. As to the quantity needed, much depends upon the degree of heat used, but in general two quarts of soft water will be quite sufficient for one pint of seeds.

MASHED PEAS.— Cook one quart of dried Scotch peas until tender, simmering slowly at the last so that the water will be nearly or quite evaporated. Then rub them through a colander, or vegetable press. Add to the sifted peas one half cup of good sweet cream, and salt if desired. Pour into a granite or earthen dish, and put into the oven to brown. Some prefer it browned until mealy, some prefer it rather moist. This same dish can be made with split peas by simply mashing them.

Beans may likewise be put through the same process. This is one of the most digestible forms in which they can be prepared.

BAKED BEANS.— Soak one quart of beans over night. Parboil until rather soft and the skins are broken. Then put into an earthen jar or a Boston bean pot; add a tablespoonful of molasses, if you like, and water enough to make them quite juicy. Bake for six hours. They should be, when done, of a reddish color, and quite juicy. If at any time during the process they become too dry, add a little hot water.

Another excellent way is to prepare the beans in the same way as above, and when tender, turn off all the water and add one half cup of sweet cream. Now place them in an earthen dish, and cover with boiling water an inch or an inch and a half deep, and bake until the water is level with the beans.

THE KEEPING OF MILK.

HOUSEKEEPERS who have neither cellar nor refrigerator often find it a difficult problem to keep milk sweet in warm weather. It is of the utmost importance that the dishes used to contain the milk be perfectly sweet and clean. After having been washed and thoroughly scalded, it is an excellent plan to place them for a few moments in a hot oven to make the sterilization of the dish more complete. The milk itself should be sterilized as soon as received. This may be done with but little trouble by heating it to a boiling temperature in a double boiler, or if one has not this, by placing the dish containing the milk in another containing boiling water. Keep the water in the outer dish boiling, and when the milk is heated throughout, as will be indicated by the formation of wrinkles on its surface, allow it to remain at this temperature for half an hour or longer. Then remove from the stove, and cool very rapidly. This may be done by pouring into shallow dishes, and placing these in cold water. It is especially important to remember that milk to be sterilized should be raised to the boiling point as rapidly as possible, held at that point for at least a half hour — an hour is better — and then cooled as rapidly as possible, and put into scrupulously clean dishes, which it is also well to set in cold water. Either slow heating or slow cooling may prove disastrous, even when every other precaution is taken.

ASHES will remove stains from cups and saucers.

COLORED cotton dresses, the appearance of which is injured by the use of starch, can be stiffened by wringing out of sweet milk.

SHIRTS to be laundered should be first starched in thick boiled starch. Allow them to dry, then starch again in thin cold starch, to which has been added a teaspoonful of solution of borax.

IRON sinks which have become rusted may be cleaned by rubbing well with kerosene oil, allowing the oil to remain on over night, then washing thoroughly with hot soap-suds. If one such application is not sufficient, repeat the process.

SOAP bark is said to be excellent for cleaning woolen dress goods. Ten cents' worth is sufficient at one time. After soaking the bark over night in a pail of warm water, add two thirds of the solution to the water in which the goods are to be washed. If they are very much soiled, add also a little ammonia. Put the remainder of the solution in the rinsing water, which should be warm. Dry quickly out doors, but in the shade, and iron, when nearly dry, on the wrong side.

TO CLEAN CHAMOIS SKIN. — Rub into it plenty of soft soap, and then lay it for two hours in a weak solution of soda and warm water. At the end of this time rub it until it is quite clean, rinsing it in clean warm water in which soda and yellow soap have been dissolved. Next place it in a rough towel, and wring it dry, after which pull and brush it. — *Sel.*

TO CLEAN AN EGGBEATER. — The Dover eggbeater is one of the most useful of kitchen utensils, but it is one most frequently ruined by careless treatment. If washed in hot soap and water, which removes the oil from the wheels, it soon ceases to work well. To keep in good order, clean at once after using by beating in a dish of cold water, or hold it under a cold water faucet. Cold water removes egg much more readily than hot.

LEMON SYRUP.— Extract the juice from a dozen lemons, cut the yellow portion from the rinds, cover it with water, and boil for a few minutes. Add this liquor to the lemon juice, and strain all through a fine strainer. For each pint of juice allow a pound of white sugar, boil ten minutes, and then bottle. One or two teaspoonfuls of this syrup in a glass of cold water makes a delicious and cooling beverage. If sealed in the same manner that fruit is canned, the syrup may be kept for months.

LITERARY NOTICES.

REPORT OF THE SECRETARY OF STATE OF MICHIGAN OF MICHIGAN FARM PRODUCTS FOR 1889–90. This is an exceedingly painstaking compilation of facts bearing on the farming interests of the State, and as such is a valuable contribution to one's library of Michigan statistics. To be obtained on application.

Our Little Men and Women for June, is as bright and entertaining as ever, having lost nothing by its change of editors, but rather gained in a certain winsomeness fully appreciated by its young readers. The present is a fine number, lacking nothing to complete its interest, unless it be a story from the editor's own ready pen. $1.00 per year. D. Lothrop Company, Publishers, Boston.

"TWO CANNIBAL ARCHIPELAGOES," by Emma H. Adams, 156 pp., cloth. Pacific Press Publishing Co., Oakland, Cal. This is a little volume of much interest — one of Series Two, of "Young People's Library." Other matter from this publishing house, intended for notice in this number of the journal, lay upon our table awaiting its turn for examination, but was swept away in the fire of the 2d inst., which left the late commodious and convenient house of GOOD HEALTH, with all its contents, a heap of smoking ruins.

WE have received, from the house of Ignaz Fischer, Toledo, O., some new music. "Come Unto Me," is a beautiful sacred solo, with words by the late D. R. Locke (Petroleum V. Nasby), and music by that prince of music-makers, W. A. Ogden. "Songs of Sorrow" is a charming little reverie adapted to the piano or organ. This publishing house keeps constantly in stock a valuable collection of sacred anthems, solos, and quartets, with words in both Latin and English, all of which can be found at any first-class music store.

Good Housekeeping for June well sustains its reputation for being first in its particular field, even its index scarcely giving a true idea of the quantity and variety of the matter included within its covers. Each department — and there are so many that they afford a choice to each member of the family group — possesses its own special excellence, and each is clean and wholesome. The discriminating judgment of the editors of *Good Housekeeping* may fairly be trusted to give to its ever-increasing list of subscribers a most important aid in the household. Clark W. Bryan & Co., Publishers, Springfield, Mass.

THE current number of the *Domestic Monthly* contains many illustrations of new millinery and new costumes, and abounds in most practical and helpful suggestions. In its fancy-work department — always a feature of the magazine — this practical quality is particularly emphasized. Indeed, it is highly probable that not a little of the favor which this monthly has found in the eyes of the people, is owing to this distinguishing characteristic which makes it so welcome a guest in the families of those who, by a large amount of taste and skill, but a small expenditure of means, love to beautify their homes. $1.00 per year, and $1.00 worth of *Domestic* patterns given with each year's subscription. Address, *Domestic Monthly*, New York City.

THE frontispiece of the June *Century* is a portrait of George Miflin Dallas, and its accompanying letter-press is a conclusion of the extracts from his journal (begun in the May number), kept while United States Minister to the Court of the Czar. There is an interesting account of the life and fortunes of a fine old Virginia gentleman of the olden time, "Colonel William Byrd, of Westover, Virginia," who, in 1733, mapped out, near the site of his ancestral home, "a town to be called Richmond." A notable paper is, "General Sherman's Last Speech," delivered at the dinner given to H. M. Stanley at Delmonico's, January 31, and with this is a splendid lifelike portrait of the old soldier, from a bust made in 1889. A fine illustrated paper of especial interest is, "Women at an English University," — Newnham College, Cambridge, — by Eleanor Field, a graduate. The "Memoirs of Talleyrand" are continued, and for the rest there are poems, illustrated articles, serials, besides briefer fiction, while "Californiana" is particularly spicy, and the departments are fully up to their usual standard. The Century Publishing Co., New York.

THE *National Temperance Advocate*, as the organ of the National Temperance Society, is without doubt the most truly representative temperance periodical in our country. Broad in its views, Christian in spirit, earnest and radical in policy, with vice-presidents in every State in the Union and agents in every section, the amount of work done yearly by this Society is almost past belief. Let all in sympathy with its aims remember that by increasing the circulation of this monthly they are building up the cause they love. Price $1.00 per year. Address, J. N. Stearns, Publishing Agent, 58 Reade St., New York.

PUBLISHERS' DEPARTMENT.

WANTED.— A live agent to introduce GOOD HEALTH at each of the leading summer resorts in the United States.

***

IN reply to many inquiries which are being received, we are glad to announce that Mrs. Kellogg's Cook Book, which was announced long ago, is soon to be forthcoming. The book is in the publishers' hands, and the work is being pushed to completion as rapidly as possible.

***

OWING to the destruction of the electrotype plates, as well as of all the back numbers of the journal, all new subscriptions must begin with the current number, June. Agents as well as subscribers will please note this announcement in sending in orders, so we shall not have to write an explanation in each particular case.

***

As many of the new subscribers will doubtless be disappointed in not being able to obtain the back numbers from the beginning of the year, especially those who are interested in the articles relating to physical culture, which are appearing in the "Home Gymnasium" department, the editor has decided to put into book form, at as early a date as possible, the articles which have appeared in the Home Gymnasium Department, together with those which will be published in early numbers of the journal. As soon as the work is in press, prices, etc., will be announced.

***

THE recent fire which consumed the GOOD HEALTH printing office, also disabled temporarily the heating and lighting apparatus of the Sanitarium. Fortunately, however, a duplicate set of boilers located elsewhere enabled the managers to furnish steam and heat for the building, so that the work of this great establishment was not interfered with by the fire. Work in the treatment rooms was not delayed an hour, and everything went on as usual. The public halls and rooms of the large main building were lighted by a current taken from the city lighting system, so that none of the hundreds of individuals under treatment at the Sanitarium at the time of the fire, were to any degree inconvenienced by it.

***

THE Sanitarium was recently visited by Mr. L. R. Ehrich, of Colorado Springs, Colo., who is very anxious that the managers of the institution should establish a branch in that city. This matter has been in contemplation for some time, but the rapid increase in the business of the institution has so completely engrossed the attention of the managers that they have found it impossible to give the matter of a branch institution any considerable degree of consideration. There is little doubt, however, that at some time in the near future a branch will be established at some point in the Rocky Mountain region.

***

COOKING SCHOOL AT BAY VIEW, MICH.— Some of those who expect to spend the summer at Bay View, Petoskey, or neighboring resorts on Lake Michigan, will be glad to know that the management of the Bay View Assembly has arranged with Mrs. Kellogg to hold a cooking school at that place in connection with the Assembly. A large tent will be erected to accommodate the school, and the most complete facilities will be provided for a successful school. It is not necessary to say that those who have the good fortune to become members of this school will be more than pleased with the many novel and practical ideas which they will receive.

AS WELL AS USUAL.— Dr. Kellogg received a telegram a day or two ago from a friend in a distant State, stating that it was reported in that section that the Sanitarium had burned, and wishing to know the facts. He was very glad to be able to reply that the conflagration involved only a small outside building, remote from the Sanitarium, and that the institution is as well as usual. The small conflagration referred to did not disturb the work at the Sanitarium in the slightest degree. Not a patient missed a single treatment, and no one suffered any inconvenience. The property consumed in the fire was as far as possible covered by insurance.

***

AT a late meeting of the American Medical Association, held at Washington, D. C., the editor of this journal read a paper upon the deformities induced by fashionable dress, in which attention was called to the fact that the civilized woman is seriously deformed in consequence of a violation of the laws of health in obedience to the dictates of fashion. The paper caused considerable discussion, which was almost unanimously in favor of the points taken by the paper, only one physician venturing to take the defense of the small feminine waist as an element of beauty. It was readily shown, however, that there is no physiological or artistic foundation for the notion that a small waist is a thing of beauty. The next day the editor was waited upon by a committee of ladies, who, in behalf of Dr. Lane, the principal of the Washington City High School, extended to the Doctor an invitation to address the young ladies of the high school upon the subject of dress and physical culture for women, which he accordingly did on the following morning, and was afforded the pleasure of meeting nearly one thousand intelligent young women, and of laying before them the evils resulting from fashionable dress, and the necessity for physical culture as an essential element in the education of the coming woman. The attention and applause with which he was received convinced the speaker that at least a great portion of his audience was convinced of the facts presented to them.

***

GOOD HEALTH CANVASSING CAMPAIGN.— At a canvassing school held last spring in connection with the Medical Missionary class, a number of young men and women were instructed in the art of canvassing, with special reference to the introduction of GOOD HEALTH. A few weeks ago the majority of the members of the class entered the field under the management of Mr. Harry W. Smith. The first canvassing was done at home in the city of Battle Creek. The work resulted in adding to our list about 250 subscriptions, although the city had been previously canvassed only a few months before. The company have now been at work in Grand Rapids for the last month, and have obtained nearly 1,000 subscriptions to GOOD HEALTH. The following are a few of the individual reports, representing in each case one week's work: Minnie Prince, 36; Maggie Gillespie, 24; Fannie Bogue, 22; Geo. W. Spies, 17.

The new prospectus presents the merits of the journal much more satisfactorily than a single number. The idea of introducing a monthly periodical by means of a prospectus book is a novel one, but has been from the start a success.

Another member of the canvassing class, Geo. L. Miller, is at work in Iowa. On his first attempt, never having had previous experience in the canvassing business, he obtained in two and one half days, twenty hours of actual labor, fifty subscriptions to GOOD HEALTH, including the premium book. As the result of

his first week's work he sent in ninety-five subscriptions to the journal. The publishers would be delighted to have fifty or one hundred young men and women doing likewise in different parts of the United States.

Mr. F. L. Mead, an old friend of the journal, has set a few agents at work in the vicinity of Lincoln, Neb., and as the result, several hundred subscriptions have been received from that section within the last month.

Mr. Nelson B. Smith, of Council Bluffs, Iowa, has been instructing a company of canvassers in the art of introducing GOOD HEALTH at Minneapolis, Minn., under the auspices of the District Superintendent, Mr. F. L. Mead, who evidently intends that his district shall make a good record in the introduction of health and temperance literature in the next twelve months.

* * *

WHEN the present number of GOOD HEALTH was in press and almost completed, the GOOD HEALTH printing office, in which the work was being done, was burned. The fire, which originated in a manner unknown, seemed to burst out in all portions of the building at about the same moment, so that the employees were barely able to escape, without rescuing anything except the garments which they wore. The whole building, a structure 50 x 100 feet, was completely enveloped in flames in less than two minutes from the time the fire was first discovered. In consequence of the astonishing rapidity with which the flames took possession of the building, nothing whatever was saved. The plates, and all back numbers of the journal, with the exception of a few copies of recent numbers stored elsewhere, were destroyed, together with all the machinery and other appliances connected with the establishment. The financial loss to the Good Health Publishing Co., was fortunately not great, as the building and contents were well insured; but the loss due to the destruction of the back numbers of the journal, and much of the property, the value of which cannot be estimated, is, of course, considerable.

While the building was yet burning, arrangements were made with the Review and Herald Publishing House to do the printing for the Good Health Publishing Co., and through the efficiency and dispatch of this well-organized establishment, the journal will reach our subscribers only a few days behind the usual time for its appearance, and no serious interruption of our business will be occasioned by the fire.

* * *

THE trustees of the James White Memorial Home for orphans and friendless aged persons have purchased and laid out a beautiful site for a building, the erection of which it is hoped may be begun the present season. The plans for the building are being perfected, and as soon as a sufficient amount of funds can be raised to make it proper to do so, the building will be begun. This worthy and much needed institution appeals strongly to the sympathy of all who are interested in the care and education of the homeless and friendless little ones which are to be found almost everywhere, even in this enlightened land. The idea of those who have been chiefly interested in founding this institution is not simply to furnish a temporary home for children, but to receive into its care orphan children to be retained until their education has been completed and their character formed, and they prepared to go out to fight the battles of life with a physical, mental, and moral equipment as perfect as their natural capabilities and the advantages at the disposal of the managers can secure to them. The institution will be in many respects unique. Physical, mental, and moral training will each receive its due share of attention, and it is hoped that larger and better results may be accomplished by the application in the most efficient manner possible, of the appropriate methods for physical, mental, and moral education and training, than has usually been observed in the work of institutions of this sort. Pledges to the building fund are received in any amount from $100 upward. Any one who would like to contribute to this enterprise, or who wishes further information, may address the Good Health Publishing Co., or the editor of this journal.

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OPINION OF THE PROFESSION.

Dr. Geo. B. Hope, Surgeon Metropolitan Throat Hospital, Professor Diseases of Throat, University of Vermont, writes in an article headed "Some Clinical Features of Diphtheria, and the treatment by Peroxide of Hydrogen" (*N. Y. Medical Record,* October 13, 1888). Extract:

". . . On account of their poisonous or irritant nature the active germicides have a utility limited particularly to surface or open wound applications, and their free use in reaching diphtheritic formations in the mouth or throat, particularly in children, is, unfortunately, not within the range of systematic treatment. In Peroxide of Hydrogen, however, it is confidently believed will be found, if not a specific, at least the most efficient topical agent in destroying the contagious element and limiting the spread of its formation, and at the same time a remedy which may be employed in the most thorough manner without dread of producing any vicious constitutional effect. . . .

"In all the cases treated (at the Metropolitan Throat Hospital), a fresh, standard Marchand preparation of fifteen volumes was that on which the experience of the writer has been based. . . .

"A steady, coarse spray, with an air pressure of twenty pounds or more, will in a few moments' time produce a more positive action than prolonged efforts to reach the fauces by means of cotton applicators. The force of the spray should be sufficient to cleanse at once the surface accumulations, as it destroys the necrosial elements with which it comes in contact. In this manner the removal of the *débris* and the action on the deeper structures go hand in hand. . . .

"How frequently the treatment is to be followed up depends to a considerable extent on the density as well as the area of the surface involved. It may be said, however, that two applications a day, in the great majority of cases, should be sufficient, if thoroughly performed, to arrest all danger of extension and accomplish the gradual resolution of the local formation. . . ."

Dr. E. R. Squibb, of Brooklyn, writes as follows in an article headed "On the Medical Uses of Hydrogen Peroxide" (*Gaillard's Medical Journal,* March, 1889, p. 267), read before the Kings County Medical Association, February 5, 1889:—

"Throughout the discussion upon diphtheria very little has been said of the use of the Peroxide of Hydrogen, or hydrogen dioxide; yet it is perhaps the most powerful of all disinfectants and antiseptics, acting both chemically and mechanically upon all excretions and secretions, so as to thoroughly change their character and reactions instantly. The few physicians who have used it in such diseases as diphtheria, scarlatina, small-pox, and upon all diseased surfaces, whether of skin or mucous membrane, have uniformly spoken well of it so far as this writer knows, and perhaps the reason why it is not more used is that it is so little known and its nature and action so little understood. . . .

"For example, some albuminoids are instantly changed by contact with hydrogen dioxide, as is shown by rinsing the mouth with a dilute solution, when the albuminoid matters of the secretions are at once coagulated. Then, as all virus is albuminoid, whether propagative or not, it is destroyed or by coagulation rendered inert by simple contact with this agent, just as it is by contact with corrosive sublimate. This simple experiment of rinsing the mouth with a dilute solution of hydrogen dioxide and examining the discharged liquid can hardly fail to convince any one of the destructive potency of this active oxygen on some albuminoids, and of its thoroughly cleansing effects upon the mucous surfaces.

"Now, if diphtheria be at first a local disease, and be autoinfectious; that is, if it be propagated to the general organism by a contagious virus located about the tonsils, and if this virus be, as it really is, an albuminoid substance, it may and will be destroyed by this agent upon a sufficient and a sufficiently repeated contact. . . .

"A child's nostrils, pharynx and mouth may be flooded every two or three hours, or oftener, from a proper spray apparatus with a two volume solution without force, and with very little discomfort; and any solution which finds its way into the larynx or stomach is beneficial rather than harmful, and thus the effect of corrosive sublimate is obtained without its risks or dangers. . . ."

Further on Dr. Squibb mentions that Charles Marchand is one of the oldest and best makers of Peroxide of Hydrogen, and one who supplies it to all parts of the country.

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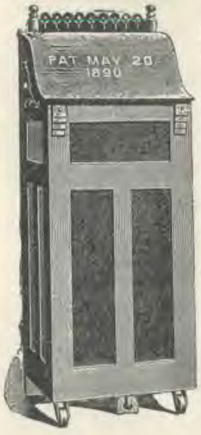

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Time Schedule of Passenger Trains, in effect Dec. 7, 1890.

Going North and West.				STATIONS.	*Going South and East.*			
	P.M.						A.M.	
.....	4.25	.....	.....	Ar....Allegan.....Lv	.....	.....	10.55	.....
A.M.	P.M.		P.M.			A.M.	P.M.	A.M.
1.45	2.46	.....	6.50	Ar..Battle Creek..Lv	.....	8.00	12.27	5.45
P.M.	A.M.						P.M.	P.M.
6.30	10.20	.....	.....	Lv.....Toledo.....Ar	.....	.....	4.45	12.10
		A.M.	P.M.		A.M.	A.M.		
.....	.....	12 35	3.11	Ar.....Bryan.....Lv	6.20	11.53	.....	.....
		P.M.	A.M.		P.M.	P.M.		
.....	.....	5.00	7.20	Lv...Cincinnati ...Ar	1.45	7.40	.....	.....

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Time Table, in Effect May 10, 1891.

GOING WEST.						STATIONS.	GOING EAST.					
	p m	a m	p m				a m	p m			p m
.....	3.00	9.00	7.00	.....	.....	.....Boston.....	.....	8.30	9.50	.....	7.30
	p m	p m	p m				p m	a m	p m		a m
.....	5.00	6.00	8.00	.....	.....	.....New York	.....	9.55	7.40	5.07	10.10
	a m	a m	p m				a m	p m	a m		p m
.....	6.00	6.00	1.00	.....	.....	.....Buffalo.....	.....	8.55	5.03	4.20	8.30
	a m	a m	p m				a m	p m	a m		p m
.....	7.45	7.35	2.45	.....	.....	....Niagara Falls....	.....	7.30	3.17	3.10	7.10
				p m					a m	p m	p m
.....	.....	.....	.....	1.00	.....	.....Boston	.....	8.30	9.50	.....	7.30
	p m			p m				p m	a m		a m
.....	8.40	.....	.....	11.55	.....	.....Montreal	.....	8.10	7.45	.....	7.45
				p m				a m	p m		p m
.....	.....	.....	.....	1.00	.....	..... Toronto	.....	8 42	5.50	.....	7.40
							p m		a m		a m
.....	.....	.....	.....	.....	.....	.....Detroit.....	9.50	.....	7.45	.....	11.55
Chi. Pass.	B. C. Pass.	Lmtd Exp	Pacific Exp.	Pacific Exp.	Mail Exp.		Mail.	Lmtd Exp.	Atlte Exp.	Day Exp.	Prt.H Pass.
am	pm	pm	pm	pm	am	Dep. Arr.	pm	am	am	pm	am
5.59	4.14	12.13	8.59	7.24	7.16	.....Port Huron	10.31	12.31	7.35	8.21	10.45
7.28	5.40	1.20	10.10	8.55	8.31	.....Lapeer.....	8.55	11.15	6.17	7.01	9.17
8.05	6.27	1.48	10.43	9.45	9.05	.....Flint.....	8.0	10.45	5.40	6.27	8.35
8.48	7.20	2.14	11.28	10.30	9.35	.....Durand.....	6.50	10.20	5.03	5.55	7.40
10.00	8.25	3.00	12.33	11.30	10.30	.....Lansing.....	5.37	9.30	4.00	5.05	6.35
10.37	8.58	3.25	1.06	12.05	11.00	..... Charlotte.....	4.58	9.01	3.25	4.37	6.02
1.00	10.00	4.10	2.00	1.00	11.50	....BATTLE CREEK....	4.05	8.20	2.35	3.55	5.15
1.48	pm	.....	2.50	1.48	12.30	.....Vicksburg	2.55	7.43	1.48	.....	am
1.58	.....	.....	.....	1.58	.....	.....Schoolcraft.....	2.42	.....	1.33	.....	.....
2.52	.....	5.20	3.48	2.45	1.22	.....Cassopolis.....	1.50	7.00	12.45	2.35	.....
3.40	.....	6.00	4.25	3.35	2.10	..... South Bend.....	1.00	6.20	12.00	1.57	.....
.....	.....	.....	.....	.....	.....	.....Haskell's.....	.....	.....	.....	.....	.....
5.15	.....	7.21	5.55	5.10	3.40	.....Valparaiso.....	11.25	5.00	10.30	12.40	.....
p m	.....	9.30	8.05	7.30	5.50	.....Chicago.....	8.40	3.00	8.15	10.40	.....
.....	.....	pm	am	am	pm	Arr. Dep.	am	pm	pm	am	

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STATIONS.							
Chicago.....	am 7.05	am 9.00	pm 12.20	pm 3.10	pm 10.10	pm 9.25	pm 4.50
Michigan City	9.10	11.10	2.00	4.48	am 12.25	11.25	7.00
Niles.....	10.2	pm 12.45	2.56	5.50	1.45	am 12.40	8.25
Kalamazoo	11.50	2.20	4.00	7.04	3.35	am 2.17	pm 10.05 / am 7.15
Battle Creek...	pm 12.55	3.03	4.30	7.37	4.29	3.04	8.00
Jackson.....	3.10	4.30	5.38	8.52	6.25	4.45	9.55
Ann Arbor.....	4.42	5.20	6.30	9.45	7.50	6.05	11.00
Detroit.....	6.15	6.45	7.30	10.45	9.20	7.30	pm 12.10
Buffalo.....	a m 3.10	am 3.10	am 3.10	am 6.25	pm 4.55	pm 4.55	8.30
Rochester.			6.00	9.20	8.00		11.20
Syracuse			8.00	11.35	10.20		am 1.30
New York.....			pm 4.00	pm 8.50	am 7.20		9.42
Boston.....			6.00	10.57	9.35		pm 2.00

WEST.	†Mail.	†Day Express.	*N. Shore Limited.	*Chicago Express	*Pacific Express.	†Kal. Accom'n	†Eve'g Express.
STATIONS.							
Boston.....		am 8.30	pm 2.15	pm 3 00	pm 7.00		
New York.....		11.50	4.50	6.00	10.00		
Syracuse		pm 8.30	11.55	am 2.10	am 8.00		
Rochester, ...		10.40	am 1.42	4.20	10.45		
Buffalo.....	pm 11.30	11.30	2.25	5.30	11.50	am 8.45	
Suspen. Bridge	am 12.28	am 12.28	3 25	6.25	pm 12.50		
Detroit	8.30	7.50	9.25	pm 1.20	9.15	4.4.	pm 7.45
Ann Arbor.....	9.43	8.57	10.19	2.19	10.30	5.55	8.58
Jackson.....	pm 11.25	10.05	11.18	3.20	11.50	7.15	10.25
Battle Creek ..	12.55	11.35	pm 12.22	4.30	am 1.23	8.47	11.57
Kalamazoo. ...	2.17	pm 12.12	12.59	5.02	2.17	pm 9.30 / am 6.00	am 12.50
Niles....	4.10	1.23	2.08	6.17	4.15	7.40	3.10
Michigan City	5.25	2.31	3.08	7.20	5.45	8.55	4.30
Chicago..... ...	7.35	4.35	4.50	9.00	8.05	11.20	6.40

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

Accommodation train for Jackson and all intermediate points leaves Battle Creek at 6.16 P. M., arriving at Jackson at 7.55 P M., daily except Sunday.

Accommodation train for Niles and all intermediate points, leaves Battle Creek at 8.00 a. m. arriving at Niles at 10.05 a. m., daily except Sunday.

Trains on Battle Creek Division depart at 8.03 a. m. and 4.35 p. m., and arrive at 12.40 p. m. and 7.00 p. m., daily except Sunday.

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Oatmeal Biscuit	12	White Crackers	10	Wheat Granola (bulk 10)	12
Medium Oatmeal Crackers	10	Whole-Wheat Wafers	10	Avenola (bulk 10)	12
Plain Oatmeal Crackers	10	Gluten Wafers	30	Granola (bulk 10)	12
No. 1 Graham Crackers	10	Rye Wafers	12	Gluten Food No. 1	50
No. 2 Graham Crackers	10	Fruit Crackers	20	Gluten Food No. 2	20
Plain Gr'h'm Cr'kers Dyspeptic	10	Carbon Crackers	15	Infant's Food	40

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