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ZOOLOGICAL HEALTH STUDIES.

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

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1. Our Four-Handed Cousins.

ANIMALS are the mediators between nature and degenerate mankind. Millions of our instinct-guided fellow-creatures still enjoy an earthly paradise. Baron Holbach, in his "System of Nature," describes the "Golden Age" as an "era of innocence, when wealth had not yet bred tyrants, nor poverty sycophants," but I always liked his synonym better than his definition. Tyrants and flatterers were probably coeval with the contrast of weakness and strength, but in the "era of innocence," ages before the dietetic aberrations of snow-land exiles, our primitive ancestors, as a rule, must have enjoyed the advantage of being able to follow their inclinations with impunity.

Our vices have forfeited the Eden of that harmony with the laws of nature. The wolfish feasts of the slaughter-house patron breed propensities tempting to manslaughter and savage vendettas. Narcotics induce indolence that cannot be indulged without the risk of moral and financial ruin. Stimulants rouse untimely passions. The fancied ideality of sin and self-indulgence has become a sad reality.

Organic disorders, it is true, may render even the gratification of natural appetites risky: a raw apple will afflict a dyspeptic with hours of gastric agony. How, then, I have been asked, can we distinguish a normal appetite from an unnatural appetency, since the indulgence of both may avenge itself in physiological penalties? — In the first place, by remembering that only unnatural stimulants, like opium and alcohol, are apt to beget a progressive poison habit, and that only natural appetites have natural limits. But, in a wider sense, an infinite number of practical health hints can be derived from the study of the inclinations and antipathies of unseduced children and animals — especially our next relatives, the frugivorous tree-climbers of the tropics.

"Unseduced," I say, for I have seen a baboon drink beer, and a pet Capuchin monkey on board the "Garonne" would chew tobacco, and eat it, too. Inquiries, however, elicited the fact that in both cases vice had been preceded by compulsion. The proprietor of poor Peggy had made her swallow a pint of ale every morning for weeks, before the protests of nature yielded to the incipience of an abnormal craving; and the forecastle idlers of the "Garonne" had as often amused themselves with capturing the shrieking ringtail, and holding him down while an accomplice stuffed his cheek-pouches with "quids."

There are plants like the *Nicotiana tabacum* and the *palma-Christi*, or castor-bean, that would need no fence, if it were not for the possible admixture of cattle-attracting weeds. Starvation of the deadliest North Dakota table-land type would not tempt a cow to masticate tobacco leaves. Billy-goats, omnivorous enough usually, will leave cigar stumps severely alone. Caged monkeys in urgent need of a pastime will pick them up, smell them, drop them with a grimace, and rub their hands against the edge of the seat-board.

As for alcohol, I am certain that no hunter, trapper, or Hindu ape-worshiper ever came across such a thing as a monkey with an innate fondness for

fermented or distilled beverages. Since 1865 I have burdened my resources with the expense of a private menagerie, including often as many as ten, and rarely less than three, four-handers. In the course of those thirty years, I have owned African, Asiatic, and South American monkeys, marmosets, lemurs, and three varieties of baboons, including the mane-ape of the Abyssinian highlands, where death by denutrition can be avoided only by the extreme of dietetic versatility. I have studied their propensities under every possible change of topographic and climatic conditions, and have become convinced that their symptoms of natural depravity do not include the slightest indication of the abnormal penchant which a contributor to the *Saturday Review* called the "alcohol passion." They will fish a slice of pineapple out of a glass of wine, permit it to drip for a while, nibble it, and put it away with evident disgust. Brandy nauseates them from afar. If their tidbits, baked apples or fried eggs, are served in a sauce of lager beer, they will reject both, even after a long fast, just as a hungry vagrant would decline to pick a biscuit out of a coal-oil barrel. Culinary tricks, of course, can deceive that warning instinct. The Frères Provençaux would undertake to mix meat hash with pies in a way to fool the most scrupulous vegetarian, and spices and condiments may modify the repulsiveness of a small dose of alcohol.

"Is it not true that the Nubian trappers catch baboons by giving them a chance to befuddle themselves with rum?" English topers used to ask their abstinent countrymen, and puzzle them sorely, till the traveler Brehm traced the report to its bottom facts. He admitted that Hamadryad baboons can be trapped with alcohol, and may be seen waddling toward their captor with open arms or contemplating the sky in ecstatic silence; but he also stated that the success of the trick depends upon a liberal admixture of saccharine ingredients, — say, one pint of treacle to a tablespoonful of rum. Rum "straight" would fail to beguile the most depraved four-hander of that unregenerate wilderness. A trapper might as well try to fool a wolf with unmixed strychnin.

Nor does the first fall from grace suffice to develop a case of alcoholism. The captured baboons sit disconsolate the next morning, hiding their heads in shame, or meeting the eye of their jailer with a look of intense reproach; but they decline to "brace up" on a breakfast dram, and groan at the mere smell of the liquor that has brought them to grief.

That despondency, however, is sure to thaw before the end of the week. "If heaven sends you tribulations, why don't you tribulate?" Sydney Smith asked a bald-headed deacon whom he saw shaking with laughter; and monkeys in the enjoyment of tolerable health will preserve their sportive humor under the most discouraging circumstances. They show temper at deliberate provocation, and can be roused to paroxysms of vindictive fury, like Darwin's Charma ape that "bit its own arm till the blood flowed;" but they do not believe in the doctrine of sorrow-worship, and make the best of transient chances for fun. In the long intervals between winter meals, menagerie monkeys in ill-warmed cages will romp about to while time away, and "Pat Rooney," the consumptive chimpanzee in the Cincinnati Zoo, responded to the caresses of his keeper a few hours before his death, and even tried to twist toys out of his gunny-bag couch.

"Though my last breath I am drawing,
Yet it shall not be a sigh."

But misfortune-proof optimism now and then yields to the misery of solitude, and pet-fanciers generally try to buy monkeys pairwise. "The manager of the Hamburg Zoo," says the author of an essay on "Health and Recreation," "noticed that the apes in the happy-family department generally outlived the solitary prisoners, and concluded to try the Swiss nostalgia-cure, 'fun and cider-punch;' but the liquid stimulants proved superfluous. The introduction of a grapple-swing and a few toys sufficed to reverse the shadow on the dial of death, and man by man the quadrumana recovered from a disease which evidently had been nothing but ennui, since the mortuary lists of the last decade showed an almost uniform death-rate throughout the year, except in midsummer, when the monkey-house could be thoroughly ventilated."

Menu, the Moses of the ancient Hindus, however, advised old men, after they had seen their children and children's children, to retire to the mountains, and pass their remaining days in solitary contemplation; and grizzle-headed apes now and then volunteer a spiritual retreat of that sort. "Jenny," the pig-faced old Charma baboon of Fairmount Park, had weeks when she seemed to prefer reveries to the chatter of the sprightliest companion; and I cannot help thinking that the "cruelty" of the solitary confinement plan is often overrated in the case of aged prisoners.

The romping propensity of our Darwinian cousins sometimes manifests itself in the perpetration of severe practical jokes, but with the rarest exceptions that penchant stops short of fatal truculence. Monkeys not merely spare their fellow-captives, but try

their utmost to protect them from bodily harm; the sight or noise of a cruel act is sure to set a whole monkey-house agog, and a little pet rhesus of mine, who would hardly ever use his teeth in self-defense, once bit a big boy to keep him from thrashing a dog. And like the Brahmans, an enormous plurality of our four-handed relatives would sooner perish of hunger than save their life by sacrificing that of such fellow-creatures as rabbits, kids, or guinea-pigs. They will kill insects of all kinds (including even scorpions, if we are to believe the naturalist Rueppel); but the idea of utilizing vertebrate animals as comestibles seems never to suggest itself to the famine-born meditations of the simian soul.

The fiercest-looking of all the larger quadrumana is perhaps the blue-nosed mandril — "Cynocephalus Mormon,"— the "monster dog head," as naturalists call him, a beast as large and strong as a panther, with canine teeth an inch and a half long. His superhuman fists will strangle a dog at arm's length, and his grin of rage is far more diabolical than that of the male gorilla. And yet — if it were not for the horrible inhumanity of the experiment — I would wager that an ogre of that kind could be caged and starved, together with a speckled fawn, and that at the end of two weeks the two vegetarians would be found dead, side by side, the paws of the four-hander perhaps torn by frantic attempts at escape, but not a scratch on his little companion in misery.

The smaller monkeys, as a rule, reject even cooked meat in every form (though perhaps not in every admixture); but it would amaze vegetarians of the Graham school to see the supposed adherents of their doctrine tackle a dish of eggs or dairy products. My little rhesus monkey recognizes chopped pork in even homeopathic doses, and will refuse stews on account of such small commixtures; he would as soon chew up a fur shawl as a piece of liver-sausage; and after a long fast will lick a top stratum of bread crumbs and gravy off a beefsteak without touching the meat; but his fondness for sweet cream amounts to a perfect passion. At the mere sight of the little pot he begins to dash about his cage in a tumult of emotion, reaches out his arms at the risk of cracking his ribs, and, after finishing the last drop, scrapes the bottom of the dish, and sucks and sucks his fingers.

The same predilection manifests itself in all other species of four-handers, with the possible exception of the capricious marmosets, which have weasel-claws instead of hands, and a dietetic code all their own. Even the before-mentioned lager-beer baboon would push her "schooner" of beer aside at the entrance of the milkboy, and threaten to thrust her long hairy paws into the big can unless she was accommodated with a saucerful of the contents.

The rage for eggs, too, is a trait of nature that makes all ape-kind kin. "Islam or the sword" was Abu Hassan's ultimatum to the envoys of the Mongolian mountaineers, but the delegates replied that however anxious they might be to propitiate the wrath of Allah, the national council preferred war and pork to peace without it; and neither whoops nor pistol shots will keep the East Indian hanuman apes out of the hen-roosts of the British residents. Partridges have long since disappeared from any slopes of the Abyssinian Alps that can be reached without wings, as the nest-birds confine themselves to the most inaccessible tower-plateaus, knowing from sad experience that, if within their reach, the prowling baboons would be sure to discover their eggs and devour them on the spot. The plan of keeping monkeys in the castle park of Petropolis, near Rio de Janeiro, had to be abandoned because the sharp-eyed four-handers would rob every bird's nest in the lowest shrub or the tallest tree. Yet for the sake of prohibiting an indulgence sanctioned by the instincts of all our nearest zoological relatives, the ultra-vegetarians have forfeited the allegiance of thousands of health seekers, who would cheerfully subscribe to the first law of Brahma, but decline to share the repasts of King Nebuchadnezzar.

(To be continued.)

A PATIENT was arguing with his doctor on the necessity of taking a stimulant; he urged that he was weak, and needed it. Said he: "But, doctor, I must have some kind of a stimulant; I am cold, and it warms me."

"Precisely," came the doctor's crusty answer. "See here: this stick is cold," taking up a stick of wood from the box beside the hearth, and tossing it into the fire. "Now the stick is warm, but is it benefited?"

The sick man watched the wood first send out little puffs of smoke and then burst into a flame, and replied: "Of course not; it is burning itself."

"And so are you when you warm yourself with alcohol; you are literally burning up the delicate tissues of your stomach and brain."

PROGRESS IN DIETETICS — TWO NEW CEREAL FOODS.

BY J. H. KELLOGG, M. D.

(Concluded.)

IT is thus evident that when starchy food enters the stomach in pasty masses, it is almost certain to escape digestion, and hence is not dissolved, but remains in the stomach for a long time until it is gradually broken up into particles so small as to make their exit from the stomach possible. Too long retention of starchy food in the stomach always gives rise to fermentation. Bouchard has shown that when food is retained in the stomach for a longer period than five hours, it is certain to undergo fermentation or putrefaction, according to the nature of the food substance. According to my own observation, fermentation often begins at a much earlier period. We have here an explanation of the acidity, heartburn, formation of gas, and the various annoying symptoms of which so many patients complain as the result of the use of cereals when taken in the form of mushes or other soft preparations.

The objections, then, to which cereal foods, as commonly used, with the exception, of course, of breads, are open, are two :—

1. They are usually eaten in a half-raw or uncooked condition.

2. Even when thoroughly cooked, they form pasty masses in the stomach, which are not easily acted upon by the digestive fluids, and in consequence ferment and give rise to various digestive disorders.

For many years the writer has sought for a solution of these difficulties. The average American is suffering from the excessive consumption of meat and other forms of nitrogenous food. This is evidenced in the great prevalence of hyperpepsia, inactive liver, Bright's disease, rheumatism, and nervous disorders in their myriad forms, which are attributed, by our most eminent masters in therapeutics, to the presence in the blood of an excessive amount of uric acid, the most prolific cause of which is a flesh diet. Fully half of all dyspeptics, as shown by Bouchard's investigations in Paris and our own studies of the subject in this country, are suffering from dilatation of the stomach. This condition is much more common in women than in men, owing, doubtless, to their harmful mode of dress. Glenard pointed out long ago the injurious effects of milk in cases of dilatation of the stomach, owing to the retention of curds or particles of casein in the stomach, and the consequent development of putrefactive processes.

Thousands of adult dyspeptics are suffering daily from headache, dulness, drowsiness, a "bilious" taste in the mouth, inactivity of the bowels, and other unpleasant symptoms which are directly traceable to the use of milk. These facts render it of the highest importance that the nutritious cereals should be made available as articles of diet which may be substituted for meat and milk by the great multitudes of invalids to whom these substances have become not only a source of inconvenience, but in many instances positively noxious, through the readiness with which they give rise to the symptoms described by Bouchard as due to autointoxication, or poisoning from the absorption of the products of decomposition in the stomach and intestines.

The numerous experiments conducted by the writer with the hope of solving the problem presented, has finally led to the perfection of a food which is called granose grits. The mode of preparation is essentially as follows : The finest wheat being selected, it is carefully cleaned by the most elaborate processes known to modern milling methods. The reader would be surprised to see the quantity of dirt which may be removed from wheat which seems to be perfectly clean, and which one would not hesitate to put in his mouth. The wheat is next subjected to a process of natural diastatic digestion by the aid of cerealin, a natural digestive agent, the effect of this being to convert a portion of the starch into dextrin and sugar. The grain is next subjected to a process of cooking which continues for a number of hours, and results in the hydration of the starch and the conversion of a considerable portion of it into dextrin. By a special modification of the cooking process, the product acquires a peculiar quality which renders it incapable of ever again assuming a pasty or adhesive condition. Finally, the product is ground through a specially constructed mill, by which it is cut into particles closely resembling very coarse amber-colored sand.

In preparation for the table, it really requires no cooking whatever — only moistening. As hot water is much more rapidly absorbed than cold water, however, the application of heat expedites the preparation. If soaked in either warm or cold water for an hour in advance, ten or fifteen minutes heating is sufficient. The degree of moisture or dryness may be regulated by the amount of water added.

An equal quantity gives a preparation as light and dry as rice cooked after the Chinese fashion. A somewhat larger amount of water and a little more time in cooking gives a softer, moister product.

The branny flavor so conspicuous in all other preparations of whole wheat is conspicuous only by its absence in this preparation. Granose grits requires the least attention of any grain in its preparation for the table. It is impossible to make it heavy or pasty by any sort of neglect or carelessness. The simple addition of water, with a little heat for any length of time, providing the time is sufficient to give the particles an opportunity to absorb the necessary amount of moisture, will always secure good results. It is admitted to be altogether the most delicious, tasty, and nourishing breakfast dish which has yet been discovered.

The flavor of granose grits is so delicate and palatable that it scarcely requires a dressing of any sort. It may be eaten with cream, fruit juices, or fruit sauces, or in combination with almost anything, as, like bread, it does not disagree either in flavor or in digestive qualities, with any other food.

With the exception of granose flakes, this is the only thoroughly cooked preparation of wheat before the public, and rivals it for first place as a breakfast food. Like the flakes, it is of great service in all forms of indigestion, and especially as a remedy for constipation, a malady which sooner or later afflicts almost every human being who is living under the ban of highly sophisticated modern civilization. Here are some recipes for the use of this delicious food preparation: —

Granose Grits. — Into a pint of boiling water in the inner cup of a double boiler, sprinkle an equal measure (one pint) of granose grits. Let it boil until thickened, stirring continuously; then place the cup in the outer boiler, which should be filled with boiling water, and cook half an hour to an hour. Serve with cream, fruit juices, or fruit sauce.

Granose grits is equally well cooked in the oven, as follows: Place the required quantity of grits in a stone baking-dish, with an equal quantity of boiling water. Cover tight, and place in the oven for half or three quarters of an hour.

Granose grits may be used in a great variety of other ways. An imitation of Boston brown bread, which is vastly superior to the Boston brown bread itself, and does not require soda, saleratus, or raising material of any sort, may be made by the following recipe, for which we are indebted to the Experimental Kitchen connected with the Cooking-School of the Battle Creek (Mich.) Sanitarium: —

Brown Bread. — Take four cupfuls of strong caramel-cereal, and add to this one-half cup of nut meal or two tablespoonfuls of nut butter, one-half cup of sugar, and a pinch of salt. Heat to boiling, then add one-third cup of rye flour, one-third cup of white flour, one-third cup of best corn-meal, and three cups of cooked granose grits, in order named. Turn into an oiled mold or pan, and steam for three hours.

Granose grits has already been tried in the cases of scores of invalids who have found difficulty in the use of other grain preparations; and it is the universal testimony that it is unequaled by any other cereal food which is intended to be eaten in a moist state. Many prefer granose flakes, from its dryness and delicious crispness, which is an aid and encouragement to salivary digestion; but few can content themselves to make a whole meal on the flakes, so many will welcome granose grits as the appropriate complement of granose, or granose flakes. Of the hundred or two who have eaten this delicious food at the tables of the Sanitarium, we have yet to hear of a single individual who did not pronounce it far superior to any other of the cereal preparations in appetizing qualities; and no instance has been reported in which it has failed to agree with the stomach of even the most delicate invalid.

Granose. — Granose differs from granose grits in that, after having been subject to the same preliminary process, it is crushed into thin flakes instead of being cut into the form of cereal crystals. These flakes, or as some admirers of the food have termed them, wheat chips, are so extremely thin that when dropped into water they are instantly macerated, and fall at once to the bottom completely softened. Although none of the bran is excluded in the process of manufacture, no large flakes are to be found, as the bran is, by the process of preparation, glued fast to the kernel, the different layers being cemented together in such a manner that as the grain is spread out between the powerful rollers with which it is compressed, the bran spreads out with it, and is thus divided into a multitude of minute particles. The extremely attenuated form in which the cereal is presented in granose flakes, gives the saliva and other digestive fluids an opportunity to come instantly in contact with every particle of the starch, thus bringing it quickly into solution. In the stomach, the granose is converted at once into a soft, pulpy mass with which the digestive fluids readily mingle, and which is rapidly reduced to maltose and peptone, the product of stomach digestion, then passed along to the small intestine for the action of the other digestive fluids.

The gustatory properties of granose flakes are very remarkable. Its delicious crispness stimulates the flow of saliva to a degree unequaled by any other food. In a laboratory experiment it was found that one ounce of granose chewed in portions during five minutes, produced more than double its weight of saliva, and twenty times the amount of saliva produced in the mastication of an equal weight of gruel or other soft food for the same length of time.

Another remarkable property of granose is the aid which it gives the stomach in the destruction of microbes. After a meal of ordinary food, a great number of microbes are always found in the stomach. A drop of stomach fluid contains millions of these moving organisms. After a meal of granose, it is rare to find a single microbe. This was shown by careful experiments made by Professor Novy, professor of bacteriology in the University of Michigan, in the Laboratory of Hygiene connected with the Battle Creek (Mich.) Sanitarium, a few months ago. This is due to the fact that granose is perfectly sterilized, and contains no substances which encourage the growth of germs in the stomach, while at the same time promoting the digestive activity of the stomach to such a degree that it is able to destroy all the microbes which are incidentally derived from the air and the mouth in the act of eating. This is a matter of no small consequence to dyspeptics, who may justly attribute the most of their distressing symptoms to the growth of germs in their stomach and intestines. By suppressing the development of germs in the stomach, those in the intestines soon diminish in number, and finally disappear almost altogether. An ounce or two of granose eaten dry at the beginning of a meal is of infinitely greater value to a dyspeptic than any number of pills or artificial digestants swallowed after a meal.

Granose is found to be a perfect food remedy for constipation in at least nine cases out of ten, in the majority of cases affording perfect relief within a week after its use is begun.

Granose combines well with every other article of food. It may be eaten dry, or with milk, soup, fruit juices, and in a variety of other ways. The Sanitarium Experimental Kitchen has devised a number of recipes for this new food product, as well as for granose grits. Here are a few of those which are especially recommended:—

Granose with Liquid Foods.— Granose, like wheat bread, combines admirably with every flavor. It is unequaled as an addition to liquid foods of all sorts, but is, by the mode of manufacture, rendered so extremely soluble that it softens at once; hence to preserve, in part, its delightful crispness, it should be combined with liquid as eaten, instead of being added and allowed to soak, as in the case of zwieback and crackers.

Granose Shortcake.— Cover the bottom of a shallow pudding-dish with a thin layer of granose flakes, add a layer of fresh strawberries, chopped and slightly sweetened, then a second layer of granose. Fill the dish thus with alternate layers of granose and berries. Set away in a cool place for an hour, when it will be ready to serve. Cut in squares. No dressing is required, but it may be served with cream, if desired. This is a delicious dish, and one which is as wholesome as delicate. Raspberries and other small fruits may be used in the same manner.

What has been said in relation to granose flakes and granose grits may seem to be overdrawn, but it is, nevertheless, based wholly upon facts which have been developed by many months' careful observation and experience, and which can be fully verified by any one who desires to investigate the matter. Any one who will obtain a sample of either of the foods mentioned, from the Sanitarium Health Food Company, and test their merits, will certainly give us credit for having spoken very moderately in our statements concerning the virtues of these new foods, and will be ready to give them a much more enthusiastic commendation than we have done. Samples may be obtained by addressing the Sanitarium Health Food Company, Battle Creek, Mich.

WHAT CRIPPLES GERMANY.— From the latest German imperial statistics we learn that one fifteenth of all the cultivated land in that country is devoted to the production of materials used in the manufacture of alcoholic beverages. The drink traffic employs directly 1,500,000 men out of the 20,500,000 engaged in German industries of every kind. The loss to the country in money through this diversion of land, capital, and labor into the service of a business which leaves the country no richer than before, is estimated at 458,000,000 marks — an average loss to every family of eight persons of a sum large enough to keep a laboring man's family of that size for eight weeks.

THE beer consumed in the United States last year would fill a canal ten feet deep, fifty feet wide, and fifty miles long.— *National Temp. Advocate.*

RESULTS OF TEACHING PHYSIOLOGY IN THE PUBLIC SCHOOLS.

(Concluded.)

THE next question, put only to the boys, read, "Did what you learned of tobacco in physiology lessen the liability of your falling into the habit of using it?" Five of the seven answered, "Yes;" a sixth feels sure he never should have used it anyway, and the seventh, who is a member of a brass band, does use it. "Do you know of any person whose ideas concerning the use of tobacco have been modified for the better in any way by your influence?" was answered affirmatively by three girls and one boy. "Do you, or any of your friends, have less faith in medicine, or realize more fully the harm done by it?" Eleven answered, "Yes," one of them saying, "The extent to which my opinions on the medicine question have been influenced is unlimited. I may have gone to an extreme, but I am still well and strong, notwithstanding I have used almost none since I studied physiology." "Do you give less credence to patent medicine advertisements?" Ten said, "Yes;" the rest never had any faith in them. Nine use less tea or coffee or none at all since studying physiology, and two of the other six never used either. Six are more careful than they were before about eating pork that has not been thoroughly cooked, or veal. Five eat more brown bread than before, eight less cheese, four less of spices, some of the others saying they do not use much. Eleven are more particular to masticate their food well. Five are more punctual at meals, and four eat less between meals. All but one are more careful about the drinking-water they use, a fact shown not only by their answers, but by their willingness when on excursions with their teacher to remain thirsty for some time rather than drink water of a questionable character. In the minds of many sanitarians their knowledge of the subject of drinking-water would be considered of enough value to pay for many weeks of study. Six of the fifteen are more careful than before about getting regular sleep, and ten in regard to letting enough sunlight into their rooms or houses.

The answers to the fiftieth question — "Name another important thing that you learned to do or stop doing by studying physiology" — were varied, some specifying several things; one saying they were too numerous; another ending with the sentence, "Physiology has done me a great deal of good in a number of other different ways;" and a third, "These forty-nine questions embrace about all I can think of at present, but there is no doubt I have been much influenced by my study of physiology, and by lectures and talks since then, and I shall always consider it among the most beneficial, important, and interesting subjects I have studied."

The fifty questions asked in class may be passed over more briefly. The answers of the first thirty involved a knowledge of hygienic rules or the principles on which they are based; many of them, though highly practical, admitted of occasional application instead of applying, as did the first fifty, to daily life; *e. g.*, "What is the harm in trying to get an infant to stand before it seems inclined to make the effort?" "What is coagulation for?" "How is typhoid fever usually caused?" "Name three ways in which the contagion of consumption may be taken into the system." "For persons with what affection is chloroform especially dangerous?" "If blood spurts in jets from a cut, is it from an artery or a vein?" "Is it harder or easier to stop, than from the other kind of blood-vessel? and why? Tell two or three things about stopping the bleeding." "Is a fireplace or a stove better for ventilation? Is a fireplace better with or without fire?" "Is there any way of opening a window so as to avoid a draught that might otherwise be felt?" "What harm is there in ice-water?" "What would you do for a person who had fainted? what for a person partly drowned? what for a person who had taken poison?" "What is the principal objection to having a tooth pulled when it aches?" Of these thirty questions, twenty-two and eleven fifteenths on an average were answered right, and three and seven fifteenths were partly right. The next ten were purely physiological, and not so evidently capable of useful application; *e. g.*, "What is the pancreas for?" "Where is the nerve center that controls respiration?" "Name three sets of organs by which water is excreted." "Name two uses for the fat of the body." Of these ten an average of four and nine fifteenths were answered correctly, and two and two fifteenths were partly right. The last ten questions related to anatomy, as, "What is the ulna, the aorta, the pleura, etc.?" Of these ten an average of five and thirteen fifteenths were answered correctly.

That there are many important laws of health which children are not likely to learn at home or anywhere outside of school is shown by the fact that every one of these fifteen students of the senior class probably comes from a home where, even before he

studied physiology, the laws of health were better understood than in the average of homes. One of the girls is a daughter of a good and intelligent physician, and yet she answered thirty-one of the first fifty questions in the affirmative. Some parents do not take the time to explain hygienic rules to their children; some say little or have little influence because their own habits, firmly fixed upon them before they knew their harm, prevent them from setting a good example; but a much larger number have no very positive knowledge regarding many hygienic laws. When the parents of the children now in our high-schools were students themselves, sanitary science was still in its infancy, and physiology had hardly become a common study. Even our college professors are, some of them, ignorant of its plainest teachings. Well do I remember — for who that was in his class could forget it? — how the instructor, now professor of history in a Western university, insisted on keeping all the windows closed in spite of the protests of the boys, who, crowded for a whole hour into a small room, were compelled to breathe that stifling air over and over again till the injury done to the health of some of them must have been greater than all the history they learned could atone for. They could have told a great deal about the divorces of Henry the Eighth's wives, the intrigues of Queen Elizabeth, and the idiosyncrasies of James the First, but it is doubtful if one in five could have told a single thing about the Black Death of which more than half the people of England perished in less than two years.

Nor can we depend upon the newspaper to impart instruction in hygiene. Save those who are foolish enough to pin their faith to patent medicines, people suspect that every article on health may turn into an advertisement of one of these humbugs, and the few they venture to read they do not know whether to believe or not.

Physicians only now and then take the trouble to tell people how to keep well — they have enough to do to cure them when they are sick.

It is only by studying the science that students come to understand the meaning of the laws of health, and see the importance of their application. The vast majority of those who have not learned differently in school, but rely upon ancestral tradition or old wives' sayings, or on what they are pleased to call their common sense, still believe that diseases are unaccountable things, or to be accounted for only as visitations of an inscrutable providence, and to be driven away only by mysterious medicines. They have a horror of night air; and any other, if it does not smell bad, they think must be all right; and so sure are they that water which looks clear and tastes good is harmless that they do not hesitate to drink it, even if it comes from a cemetery pump. They have not learned that wells drain an area whose radius is equal to the depth of the well; that freezing will kill anything in water, if not, filtering will surely make it pure. They think that because the flesh of an old animal is tough, the younger the creature, the better the meat must be; and they are sure that any article of food or drink which very old people have used all their lives must be exceedingly healthful. Beer makes people stout, and is therefore strengthening, and as liquor makes a man feel warmer, it must help him to resist the cold. Their common sense is not enough to tell them that the dram drinker feels warmer because the alcohol causes his blood to come more freely to the surface, and for that very reason it will cool off the faster. It takes more than common sense to show that in every case alcohol causes a lessening of the temperature and a greater liability to freeze on exposure. The scientific study of the effects of alcohol on the human system will have an abiding effect on the conduct of the student, and give a weight to his influence upon others compared with which the outbursts of enthusiasm which follow sensational temperance lectures, useful though they may be, are mere trifles. — *Professor E. L. Moseley, Sandusky, O.*

Mr. H. M. Stanley, a member of Parliament, at the recent International Geographical Congress held in London, spoke strongly in favor of abstinence from alcoholic drinks in tropical climates by Europeans and Africans alike. He said that what people who went to Africa and other tropical countries needed to learn was the art of "how to live;" that he had constantly seen men in torrid regions drinking spirituous liquors; that "Dutch courage" was not needed in Africa, and the men who drank liquor were the men *who never returned* from Africa.

If you value your happiness, if you value your lives, banish from your houses, from your tables, from your sick-rooms, every drop of intoxicating drinks; for be assured they produce weakness — not strength; sickness — not health; death — not life. — *Dr. T. L. Cuyler.*

COFFEE POISONING — The strong "black coffee" to which the French are addicted, and which is drunk before the volatile essence of the drug is allowed to escape, begins to bring forth serious results, which are attracting the notice of medical authorities in France. If anybody has the curiosity to look through the shop window of a Paris *laundresse*, he will probably see it crowded with female figures moving their arms backwards and forwards like frantic marionettes. If he concludes that they have been recently "wound up" with coffee, he is not likely to be far wrong. It was the large number of laundresses showing the same symptoms, who had recourse to hospital treatment, that caused the attention of Dr. Gilles de la Tourette and others to be searchingly directed upon the immoderate use of coffee. They were not long in coming to the conclusion that coffee was responsible for a great deal of disease that had been commonly attributed to alcohol. For instance, a form of dyspepsia arising from excessive coffee-drinking or tea-drinking produces phenomena hardly to be distinguished from those of alcoholic gastritis. The worst stage of coffee-poisoning is described by the French doctors as *cachexie caféique*. The patient is then so emaciated that he is like a living skeleton. He is troubled with terrible dreams and hallucinations; and when not under the influence of a recent dose of his favorite stimulant, the general depression is such that the pulse may not give more than fifty beats in a minute. — *St. James Gazette (English)*.

A CRY FROM THE DEPTHS. — Charles Lamb makes one of his characters say: "The waters have gone over me, but out of the black depths, could I be heard, I would cry out to all those who have set a foot in the perilous flood. Could the youth to whom the flavor of the first wine is as delicious as the opening scenes of life, or the entering upon some newly discovered paradise, look into my desolation, and be made to understand what a dreary thing it is when he shall feel himself going down a precipice with open eyes and passive will — to see all godliness emptied out of him, and yet not be able to forget the time it was otherwise — to bear about the piteous spectacle of his own ruin; could he see my feverish eye, feverish with last night's drinking, and feverish looking for to-night's repetition of the folly; could he but feel the body of death out of which I cry hourly with feebler outcry to be delivered, it were enough to make him dash the sparkling beverage to the earth in all the pride of its mantling temptation."

FUMIGATION IN REVOLUTIONARY TIMES. — An old Revolutionary War pensioner is made to tell a curious little incident of primitive quarantine methods in Samuel Adams Drake's recently issued book, "The Watchfires of '76."

The old veteran surprises and amuses his companions who are sharing with him the comforts of the village inn, by asking them, "Were any of you ever smoked alive?" His question is greeted with a general burst of laughter.

"O, you may laugh," he said, "but I mean what I say. Listen! In the summer of 1776 I was at my old home in Boston, on a furlough. The smallpox was raging in town, and the authorities were very strict about letting any one go out of it who had not had the disease in the natural way, or been inoculated for it, for fear of spreading it. I knew that if I did n't report back at camp before my furlough was out, I would be posted as a deserter. So they took me, and put me into their smoke-house, where I was nearly smoked to death by the fumes of burning sulphur, tar, and such rubbish. "Fumigating" they call it now. Here is what they gave me. I brought it with me on purpose," he continued, taking a much-crumpled piece of paper out of his waistcoat pocket. "Here, deacon, you read it." The deacon read aloud as follows: —

BOSTON, August ye 13, 1776.

These certify that Ebenezer Stimpson has been so smoked and cleansed, as that in our opinion, he may be permitted to pass into the country without danger of communicating the smallpox to any one.

JOHN SCOLLAY, NATH'L APPLETON, } Selectmen.

— *The Voice.*

A CORRESPONDENT of the *National Druggist*, living in Lynchburg, Va., writes that although the negroes rarely suffered with toothache in slavery days, and had very white teeth, now the whiteness is less noticeable, and the toothache is a common ailment among them. He sells more toothache remedies to negroes than to white folks in his town — though they are found there in about equal numbers. The change he attributes to change in food. Formerly the blacks lived on coarse corn breads, and had good digestion from labor and outdoor life. Now, on their own responsibility they are less healthy generally, and live on breads less favorable to good and clean teeth.

THE vine bears three clusters. The first is of pleasure, the second of drunkenness, the third, insult. — *Epictetus.*

MECHANICAL EXERCISE.

BY J. H. KELLOGG, M. D.

INVENTIVE genius has devised a considerable number of appliances by means of which a more or less perfect imitation of the action of the hands in the application of massage may be obtained. Zander, of Stockholm, and Taylor, of New York, as well as the writer, have invented machines for this purpose. For nearly twenty years the writer has made use of various forms of apparatus designed to administer mechanical massage, or what is more commonly termed mechanical Swedish movements, with most excellent results in appropriate cases.

Mechanical massage may be advantageously used as a substitute for a number of the procedures of manual massage. I have, however, found no device quite equal to the human hand, for the administration of kneading movements. Shaking and vibratory movements, on the other hand, may be applied more efficiently by apparatus than by hand in cases requiring vigorous and prolonged application, for the reason that much more vigorous, rapid, and uniform movements can be executed by machinery than by the hand, and the movement may be continued as long as necessary; whereas these movements are exceedingly trying to the masseur, and cannot be maintained, at best, for more than a few minutes continuously.

Several other procedures may be given by mechanical appliances quite as well as by the hand, and with even greater efficiency. The following is a brief description of the apparatus and modes of application which the writer has had in use in the Battle Creek Sanitarium during the last fifteen to twenty years, and which have stood the test of practical use in some thousands of cases, not as an exclusive mode of treatment, but as an auxiliary means employed in connection with manual massage, exercise, hydrotherapy, electricity, and other rational methods.

The meager knowledge which has heretofore existed in regard to the functions of the sympathetic nerve and its relation to the activities of the viscera, has rendered difficult an explanation of the remarkable therapeutic results which have been constantly witnessed from the employment of mechanical massage, especially in the treatment of hepatic and digestive disorders. Now that the functions of the great sympathetic nerve and of the abdominal ganglia and solar plexus are coming to be better understood, it is very clear that the application of strong vibratory or shaking movements to the abdomen may produce powerful physiological and therapeutic effects through the stimulation of the sympathetic. When it is recollected that the great abdominal brain controls the nutrition of the entire body through its influence upon the circulation and its universal control of glandular action, it must be clearly seen that therapeutic applications capable of affecting this portion of the nervous system cannot be made without marked results.

The observations of the late eminent Professor Charcot have called the attention of the profession to the powerful physiological and therapeutic effects of vibration in the treatment of organic disease of the spine, one of the most intractable classes of maladies. The confidence in mechanical massage as a therapeutic measure inspired by the great prestige of this renowned Parisian physician, has encouraged the writer to give publicity to some of the observa-

FIG. 1.—VIBRATING CHAIR.

FIG. 2.—VIBRATING PLATFORM.

FIG. 3.—VIBRATING BAR.

FIG. 4.—ENDWISE AND LATERAL VIBRATION OF THE FEET AND LEGS.

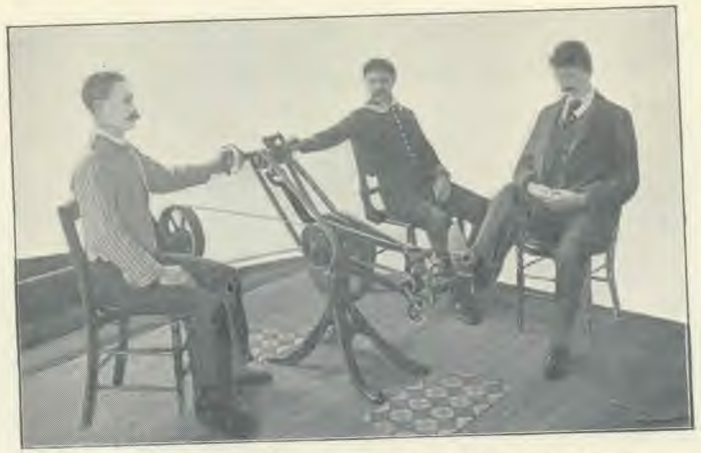


Fig. 5.— Rotary Vibration of the Legs and Arms.

Fig. 6.— Vibration of the Trunk.

Fig. 7.— Nerve Percuter.

Fig. 8.— Apparatus for Kneading the Abdomen.

tions which he has made upon the subject during the last twenty years, and to describe some of the various means employed by him. Among the several devices made use of are a number which were invented by Zander and Taylor, who have also been working in this line; but the majority of those which the writer considers the most effective are the outgrowth of his own personal experience, and have been constructed after designs furnished by him. Several devices other than those described have been made and utilized, and have been found not without merit, but are not described here for lack of space.

Mechanical Vibration.— One of the most useful of all the several forms of mechanical massage is mechanical vibration. The highest rate of movement which can be attained by the hand is ten to twelve to-and-fro movements per second; whereas, by the use of mechanical, electrical, or acoustic devices, effective vibratory movements may be produced at any rate desired between forty and fifty per second to ten times that number. Vibratory movements forcibly communicated to the body at the rate of six per minute, have been shown to produce at first a distinct muscular contraction with each oscillation; but if the vibration is long continued, the individual contractions become gradually less distinct, and after a time merge one into another, so that the contractions become continuous, or tetanic. From this fact it is apparent that mechanical vibration is capable of producing very decided physiological results as a mode of exercise; and that it exercises a powerful influence upon the circulation is a frequent observation. My patients constantly report that vibratory movements make them warm, and restore the balance of the circulation when disturbed by morbid reflex action, so that, while the feet are warmed, the head is cooled.

Carefully conducted experiments which I have made, show that the temperature of a part subjected to mechanical vibration is actually increased, the amount of the increase depending upon the length of the application, and the degree of depression below the normal temperature at the start.

Vibration is also one of the most efficient means with which the writer is acquainted for relieving the great variety of paresthesias from which neurasthenic patients suffer, such as numbness, formication, tingling, etc.

The Vibrating Chair.— Figs. 1 and 2 represent the vibrating chair devised by the writer in 1883, and since in constant use at the Battle Creek Sanitarium. The usual rate of vibration employed is twenty per second. A person needs to experience but a single application to become convinced of the powerful physiological effects which may be produced by mechanical vibration. When seated in the chair, strong vibratory movements are experienced, in which the whole body takes part. The greatest amount of force is applied to the lower portion of the trunk. The vibratory impulses communicated are felt powerfully in the lower bowel, and have a decidedly stimulating effect upon the rectum.

By placing the hands upon the arms of the chair, and inclining the trunk either forward or backward, the impulses may be transmitted more or less forceably, as desired, from the lower to the upper portions of the spinal column. The application should continue from three to ten minutes, to secure decided physiological effects.

Vibrating Platform.— In standing erect upon the moving platform on which the chair rests, the muscles of the legs are brought into powerful action. Not only the muscles of the lower leg, but the muscles of the thigh, are thrown into tetanic contraction by the strong vibratory movements transmitted through the legs (Fig. 2). The application usually lasts about five minutes. A separate platform may also be used.

The Vibrating Bar.— Fig. 3 is a very imperfect representation of an apparatus constructed for the writer several years ago, in which a suitable mechanism drives a pair of horizontal bars at a high rate of speed. In using the vibrating bar, the hands are first placed upon it with the fingers spread and held rigid, but with the wrists flexible. This throws the hands into violent vibration without communicating the vibratory impulses to any other portion of the body. The bar is then seized by the hands, which grasp it tightly while the arm is partly flexed at the elbow, the shoulder-joint being relaxed. Then, straightening the arms and holding them rigid, the muscles of the shoulders being fixed and the bar held firmly, the vibratory movements may be communicated to the upper spine and head with very great vigor, producing a powerfully stimulating effect upon the upper spine.

The vibratory impulses may also be communicated to the stomach, liver, loins, sacrum, rectum, and other parts, by bringing these portions of the body into direct contact with the bar.

Powerful endwise vibratory movements are given to the legs by placing the patient in a chair facing the apparatus, with the feet against the uprights which support the end of the bar opposite the driving mechanism. The vibratory movements obtained

from this apparatus are applied to each part from half a minute to one minute.

Vibration of the Arms and Legs.— The legs are vibrated in three ways: (1) By means of an endwise movement; (2) by means of a lateral movement; (3) by means of a rotary movement. The effects of these three modes of vibration are similar, yet in some respects different. The time of application is usually from three to five minutes.

Endwise vibration is by far the most vigorous of the three modes. It is administered by means of a horizontal vibrating bar against the end of which the feet are placed, supported in suitable rests (Fig. 4).

Lateral vibration is administered by means of the same apparatus, the feet being placed against the side of the bar instead of the end (Fig. 4).

Rotary vibration is produced by means of a rotating bar against the end of which the feet are supported (Fig. 5). The leg is held straight, not flexed as in the cut. The same apparatus is used for the arms.

Vibration of the Trunk.— In Fig. 6 is shown a method of applying vigorous vibratory movements to the trunk. The apparatus consists of a mechanism by means of which a strong horizontal bar is made to oscillate at the rate of 1200 to 1500 times per minute. By means of suitable padded rests placed upon the bar, vibratory movements may be communicated to the back, the abdomen, or to either side, as may be desired. The special purpose of this apparatus is to communicate mechanical motion to the liver, stomach, bowels, and other abdominal viscera. It is a vigorous means of stimulating peristaltic activity, and of quickening the circulation in the large viscera of the abdomen. This apparatus the writer has had in use at the Battle Creek Sanitarium for twenty years, and has found it an exceedingly effective device. It is not simply a means of amusing the patient, but is capable of producing powerful physiological and therapeutic effects. The time of application to each part is usually from three to five minutes.

Nerve Percuter, or Vibrator.— This instrument, which I have recently had constructed, and to which reference has previously been made, consists of a metallic chamber in which a mass of soft iron is made to play to and fro with considerable force by means of an alternating electrical current passing through a coil of wire which constitutes a part of the chamber. The blows struck by the oscillating mass of iron are communicated to the portion of the body under treatment by a brass rod terminating in a knob. By means of this simple device, very vigorous vibratory movements may be applied to the head, to a nerve trunk, or to any part of the body to which it is desirable to make vibratory applications (Fig. 7).

Mechanical Kneading.— By means of suitable apparatus, mechanical kneading may be applied in a very efficient manner to the bowels, the arms, the legs, and even to the whole trunk.

Mechanical kneading of the abdomen is one of the most useful of the several forms of kneading; it may perhaps with justice be said to be the most useful of all. It is best administered by means of the apparatus shown in the cut (Fig. 8). The writer had this apparatus specially constructed for the purpose some twelve years ago, and has had it in constant use since. The apparatus consists of a table with a large aperture near the center of its top. In this opening plays a series of six vertically placed bars, each surmounted by a suitable pad. Each bar is separately actuated by a cam, or eccentric, so that it has its own independent motion. These six eccentrics are so arranged as to give a wave-like form to the combined movement of the six kneading pads. Simultaneously with the vertical movement of this kneading device, the table top, with the patient which it bears, is made to move back and forth, thus changing the relation of the pads to the abdominal surface, and causing them to knead the entire abdomen. The two sets of movements are so timed that the wave-like kneading movement is made to follow very closely the course of the colon, thus bringing this part of the intestine especially under control. Zander has a similar machine.

I have found this apparatus of very great service in the treatment of constipation. It is not, of course, a panacea for this disease, which arises from many different causes; but it is a most efficient auxiliary to other measures, and not a few cases have been observed in which the patient traced the greater part of the benefit received from a systematic course of treatment to this apparatus alone.

Mechanical kneading of the abdomen is useful not only in constipation, but also in cases of dilatation of the stomach in which there is, as a result of the dilatation, a considerable degree of motor insufficiency, in consequence of which the stomach does not empty itself with normal promptness. This treatment is of value in all cases of slow digestion so-called, and should be used an hour or two after each meal. The kneading is usually continued from five to fifteen minutes.

(To be continued.)

A SAD TRIO.

THE accompanying cut is from an English magazine which has copied our name, but which seems to be, unhappily, a very poor representative of a popular instructor in matters pertaining to health. The picture teaches its own lesson to persons who have an intelligent idea of the contents of the abdomen, and of where the stomach, the liver, and the vital organs ought to be. Where can the stomach be in one of those poor fashion-enslaved creatures and others like them, of whom one meets so many upon the crowded streets of every city ?

The writer meets in his examining office, every day, women whose stomachs, livers, and other organs have been crowded several inches out of place by the wearing of the conventional dress. While the majority have not been addicted to tight-lacing to such an extreme degree as is represented in the above cut, they have, nevertheless, suffered most serious, and sometimes irremediable, injury as the natural consequence of the pernicious notion that a very small waist is a mark of femininity and an element of beauty in a woman.

BREATHING EXERCISES.— Exercises in breathing would not be so necessary if all the air the lungs contain was changed with each respiration, but this is not the case. While each lung ordinarily contains about two hundred and twenty cubic inches of air, twenty only are breathed in and out with each quiet respiratory movement. If an unusually long inspiration is made, one hundred and ten cubic inches can be added to what each lung contains; and if an unusually complete expiration is made after such an inspiration, two hundred and thirty cubic inches can be forced out. It is evident, therefore, that ordinarily one third the actual capacity of the lungs is unused. If irritants gain lodgment in these unused portions, they are likely to remain long enough to do irreparable harm; but it is scarcely possible for foreign substances to remain in those portions constantly emptied and filled. This is one reason why it is desirable that the entire lung capacity should be brought into use. Moreover, in those parts of the lungs where there is air, but where it is rarely or slowly changed, waste matter that should be exhaled accumulates; and if disease exists in or near these areas, products of its action may be formed, and be reabsorbed, and prove poisonous to the body. It has often been experimentally proven that the exhalations from healthy lungs are poisonous. If slowly and continuously absorbed, they cause languor, loss of appetite, and loss of mental as well as physical vigor. But enforced deep breathing insures perfect ventilation of all parts of the lungs, and, as is almost self-evident, helps to prevent infection when contaminated air is breathed, and also to eliminate deleterious materials generated by the human system both in health and disease. It is evident that the ill effects of imperfect ventilation are most apt to be developed in those whose lung capacity has been greatly diminished by the acquirement of rounded or stooped shoulders or other deforming attitudes, or by disease which destroys the air space.— *N. S. Davis, A. M., M. D.*

HARALD HAGAN, the Norwegian skater, advises all athletes to abstain from intoxicants and tobacco. He has never used either, and is a fine specimen of manhood, twenty-six years of age, over six feet high, straight as a rush, and weighing, when in condition, 175 pounds.

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

PURITY AND PARENTAL RESPONSIBILITY.*

WERE there some spot upon this sin-shadowed earth where impurity could not enter, or a time or an age in the life of a child when temptation would not assail him, then might responsibility, with impunity, lie, as it so often appears to do, with a feather's weight upon the parent's heart. But with vice everywhere prevalent, the parents who hope to keep their children in the path of virtue, must be awake to their trust, studying to understand the hundreds of different avenues by which depraving influences and temptations may reach their homes, and striving to increase the safeguards around their children. They must face the fact that their children, like themselves, are by nature sinful, and liable to stray into forbidden paths; hence they must endeavor to hedge up the way against evil by right training, by the formation of correct habits, and by the environments of a pure home atmosphere.

Few other influences have such power to keep a person in the path of rectitude as that of right home training. Upon parents rests the responsibility of this training. They stand before God as surety for those human beings, made in his likeness, whom he has entrusted to their care. Parents may shrink from this self-assumed responsibility, ignore it, shirk it, try to delegate it to others, but it is still there — they cannot escape it.

To train a child wisely, to develop within him a strength that shall dominate over weakness, to inspire in him such a love for that which is pure and good that evil will be distasteful, is the duty incumbent upon all parents. If, through their mistakes or those of their ancestors, their child has inherited a nature morbidly susceptible to evil, ready to fall into temptation at the slightest provocation, then is their responsibility indeed greatly increased; then what special watchfulness and care are needed to intercept temptation, to build up the wall within at the points where it is weakest, and to so accustom the child to a pure moral atmosphere that he cannot breathe freely in any other. Inherited tendencies may be overcome or greatly modified by proper training, but it should not be neglected till the germs of evil have sprouted, and their roots become firmly grounded, with the hope of then crowding them out. The soil should rather be preoccupied with good seed, and thus the mischief-making seeds be prevented from germinating. Says Dr. Talmage, "Before they sow wild oats, get them to sow wheat and barley. You will thus fill the measure with good corn, and there will be no more room for husks." Herein lies one of the highest responsibilities of parenthood,— to so nourish and cultivate right tendencies that the evil ones will be choked out.

One of the chief reasons why so many homes are saddened by the terrible revelation that a son or a daughter has gone astray lies in the fact that parents do not awaken to their responsibilities early enough in the life of their children. They think, as they watch their little one in its cradle or guide its first faltering footsteps, that when the child grows older, their responsibilities will increase; but that if for the present his physical needs are well supplied, and the enjoyment of his waking hours assured, it is all sufficient. All the child's thoughts and tendencies are left to chance during the susceptible period when every word he hears and every act he sees may serve to influence his whole life. In these impressionable years the seeds of both good and evil take deeper root because the child is lacking in the power of resistance which comes with later years. If parents neglect to sow and tend the good seeds at the outset of life, while they are asleep to duty the enemy will come and sow tares and weeds. If these first germs of evil are allowed to take root and unfold, it need scarcely be wondered at that in later years

* Paper read before the National Purity Congress, held at Baltimore, Md., October, 1895.

rank growths of sin should flourish in the soul, and yield their harvest in unchaste lives. The embryo man should be started along the path which the man of mature years ought to tread.

We are so accustomed to associate impurity with some gross breach of moral rectitude that the early beginnings, the first steps, the little deviations, the trifling words and acts, are overlooked and neglected. The flood-gates are closed against the great temptations, but the little drops which go to swell the mighty river of impurity too often fall unheeded; and yet these little things — mere trifles they may appear to be — sum up into a vast column, the total of which is appalling.

The change from virtue to vice is not a sudden one. A long preparatory process goes on in the heart before the individual commits open sin. Parents must study to recognize the first indications of evil, and check them at the outset. This they can only do by maintaining the closest intimacy with their children, by studying to know them and their needs, by keeping in full sympathy with them, — in other words, by "living with their children." This sympathetic relation must begin with the very dawn of life, grow with the child, and overspread with loving light his whole existence. The wise parent who establishes such an intimate fellowship with his children will find it one of the strongest barriers against evil that could be erected. It will, however, require much painstaking effort, trouble, and self-sacrifice on his part to perpetuate such a relation, for it must be continuous, not merely spasmodic, in its nature.

The secret of so many parental failures lies in their unwillingness to sacrifice the love of personal ease and enjoyment, to set aside the demands of society, the engrossing cares of business, or other of their own selfish ends, for the sake of their children. It is so much easier to turn the little ones out-of-doors to hunt up their own amusements than to give up one's time to their instruction and diversion; so much less trouble to allow them to select their own companions than to accord them one's personal companionship, that a dangerously large proportion of parents share the sentiments of a mother who, when asked by a friend concerning the welfare of her five little ones, replied, "I am so thankful to have them out of the way that I do n't trouble myself to find out where they are so long as they come in for their meals at the proper time, and are in in time to go to bed at night." Yet this mother, a prominent church member, kept two servants, and was in nowise so hampered as to be unable to give her children watchful care. One shudders to think of the risk such parents are carelessly and perhaps thoughtlessly taking, particularly when it is remembered that before the child has reached the age of ten years, the parents have done half they will ever be able to do toward the formation of its character. With this thought we turn again to the magnitude of parental responsibility and the importance of early beginnings.

Among those elements of character which, if early established and firmly rooted, will help to antagonize vice in later years, is self control. The boy who is trained in childhood to intelligent self-mastery over his appetites and passions, will grow to manhood strong to resist the blind leading of impulse. Self-control is not, however, an innate instinct, but a quality that must be cultivated by judicious training; hence it is a matter resting largely in the hands of the parents. Much of the child's inability to govern himself in later years is due to his mismanagement in infancy. It is so much easier to give baby what he cries for, to consult his inclinations and whims, than to make the effort necessary to restrain and control him, that parents are very apt to make the mistake of choosing that which will afford the easiest course at the moment. The little one very soon learns that he is master of the situation, that what he cries for he will get, and so he cries for everything he wants; if the coveted thing is not immediately forthcoming, he cries the harder. To his mind the act of crying is the effort he must put forth to secure the desired object, and so he increases his efforts in proportion to the delay. He is only doing as best he knows how, just what he would be commended for in his struggles to attain success in later years; but he soon cries so hard that he is unable to stop, and his parents begin to wonder what can have caused their little one to exhibit such "outbursts of temper."

A recent writer upon babyhood asserts that children do not exhibit temper until they have learned to be angry either through seeing signs of ill temper in others, or through being unnecessarily thwarted in their natural impulses. The little one was not angry when he began to cry; he was simply putting to use the means he had at command, which from previous experiences he supposed would be effective in bringing about the result he desired; and when at first his efforts seemed unavailing, he increased them until he became wholly excited and unbalanced. If he is permitted frequently to bring himself into this condition, the habit of uncontrol will soon take possession of him. The oftener he gets into such a state,

the easier it is to again lose control of himself. All bad habits as well as all good habits gain force and strength by exercise. Through thoughtless mismanagement parents may thus foster a condition of uncontrol which years of after discipline can never quite correct. A parent who duly appreciates the great work that every human being has to do in attaining self-government will assist the process from the very first by every means within his power.

Self-control can be made much easier for the child by careful attention to his physical habits, particularly as regards his diet. A child fed largely upon stimulating foods will be likely to have a fiery and excitable disposition. If by careful feeding his physical condition is kept in an unexcitable state, the temptation to give way to irritability is lessened, and self-control made more easy. While parents teach their children to do right, they should *make it as difficult as possible* for them to do wrong. Much of the child's ability to control himself is dependent upon his physical condition. The will is under the control of nerve centers. The will inhibits or restrains the action of muscles and of the intellectual organs just as other nerve centers restrain the action of the heart. An unhealthful condition of the nerves will therefore lessen the individual's power of self-control. Hence every cause productive of an unhealthy or abnormal nervous condition should be sedulously avoided. All hygienic measures, such as good, wholesome food, plenty of sleep, proper clothing, abundant air and exercise, lend a most salutary influence toward the upbuilding of self-control. E. E. K.

(To be continued.)

THE BATTLE CREEK SANITARIUM DRESS SYSTEM.—XII.

FOR the benefit of our new subscribers who are ignorant of the merits of our valuable dress system, we will here recapitulate its leading principles, as well as outline some of the advantages it possesses over other systems. The foundation of our hygienic costume comprises: —

A PERFECT PHYSICAL POISE.

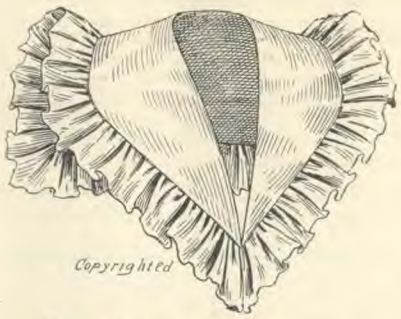
1. Union underwear.
2. Tights.
3. A divided or circular skirt attached to a waist fitted to the individual. If desired, both the divided and the circular skirt may be worn, the circular skirt being buttoned to the lower part of the waist of the divided skirt.
4. A gown form, upon which may be draped any suitable style of dress.

This system locates the waist-line at the point which will produce the best effect for the individual wearer. A short figure will require this line to be placed higher, a tall figure, lower. It must, however, always be placed well above the lower border of the ribs, that there may be no compression of the soft portion of the body lying between the ribs and the hips, and that the entire weight of the clothing may hang from the shoulders.

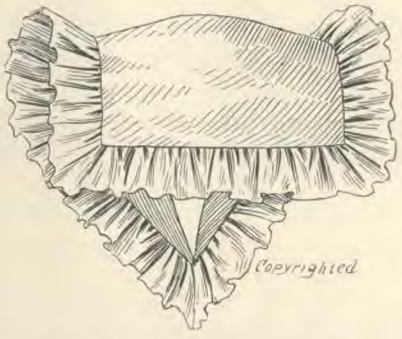
The popular systems of dress fitting are all based upon the corseted figure; this system deals alone with the natural curves of the body as exhibited when in perfect physical poise. The following are some of the advantages claimed for the Battle Creek Sanitarium system of dress: —

1. It is practical, healthful, and artistic.
2. It lessens rather than exaggerates the physical peculiarities of the tall, spare woman, as well as those of the woman whose figure is short and stout, hiding defects, and so improving the appearance of those not by nature blessed with what is called "a fine figure." It thus possesses a range of adaptability which is impossible to any of the conventional styles of dress.
3. The principles of this system are of such a fundamental and general character that they can be adapted to any style which recognizes the outlines of the natural figure as its basis.

No woman who has deformed her figure by corset-wearing would like to have a dress exactly fitted to her misshapen form. Therefore, in adopting a thoroughly hygienic system of dress, the first thing to be done is to correct the misshapen figure. This is easily accomplished in the majority of cases, by having the individual learn how to stand and sit correctly, and how to discipline the neglected and weakened muscles of the trunk so as to enable them to hold the figure in proper shape.



FICHU-COLLARETTE — FRONT.



FICHU-COLLARETTE — BACK.

LUCILLE COSTUME.

LUCILLE GOWN — FRONT.

LUCILLE GOWN — BACK.

The following is an excellent way in which to bring the body to a proper poise: Stand against some hard, flat surface, as the wall of the room, touching it with the heels, hips, and shoulders. Then tip the head over back until the top of the head touches the wall. Now suffer the head to swing slowly forward into a natural position, being careful to retain the position already assumed by the chest and shoulders. This procedure leaves the head erect, the chest well up and forward, and the abdomen retracted, which is the correct poise. This position should be assumed and kept by the individual by sheer force of will-power until habit has made it second nature, or until the trunk muscles have been so educated and strengthened as to support the trunk without conscious effort. But let no one think that such a state of things will come about by anything short of the most strenuous and persistent endeavor. And since in a body not entirely harmonious in the relation of each part to every other part, there can be no proper degree of health, is it not worth while to be at some trouble to secure this condition? Often the determination to straighten a bent and drawn figure is the first real step healthward taken by some poor invalid; and the correction or non-correction of such grave bodily defects frequently makes the difference between health and semi-health or debility in the average woman. In the matter of dress, a proper carriage of the body is all important, since it is this alone which gives the gown its true expression; and to our patrons we would say that it is only by holding the body properly that an individual gets the best effects from our dress system. Our garments are designed in perfect and symmetrical proportions for a perfect figure, and thus our patterns will prove far less satisfactory, nay, even disappointing sometimes, no doubt, to the possessor of a sunken chest, round shoulders, or an obtruded abdomen. But once throw the chest well up and forward, and the rest of the body into position as seen in the illustration, and lo! the difference! The proportions of the pattern will then be seen to be all right, and the garment settles easily and naturally into its own becoming curves, and takes on at once the look and air it wore when originally designed.

Our designer furnishes this month the Lucille gown, whose beauty and simplicity are at once apparent as we study the accompanying illustrations. This design may be utilized as a house gown or for street wear, and may be made of any material, heavy or light, entirely plain with one or two rows of machine stitching around the cuff, or it may be rendered more elaborate by the accession of braid, ribbon, velvet, or lace. There is a fichu-collarette which may be made a part of the costume, and this may be made of any material desired, — silk, satin, crepe de chine, — and may then form the only decoration of the gown, if the wearer is so inclined. The graceful sleeve of this dress is worthy of special attention, as it is so fashioned as to give the distinguished Paquin effect, without the usual bunching of the material at the wrists. This sleeve differs from the ordinary bishop sleeve in that the lining is fitted to the arm. The gown has the six-gore skirt in which the fulness is so skilfully distributed that no special weight is felt at any particular point. Indeed, this gown as a whole possesses all the hygienic advantages of our admirable dress system.

The Lucille Gown.— This pattern is in seventeen pieces, — half of front, half of back, and under-arm gore of lining of waist, half of back and half of front of outside goods, two collar portions, cuff, box-plait, four sleeve portions, two portions of lining, and two for outside goods, half of front, half of back, and two side-gores of skirt. The gown was developed in the present instance in light-weight camel's hair serge, and decorated with machine-stitching, ribbon, and buttons. Silk, satin, cashmere, cheviot, or any of the wool novelty goods may be used, and trimmed most attractively with braid, ribbon, velvet, or lace. Flannelette and outing flannel make comfortable house gowns, and are very attractive when decorated with braid or ribbon. The quantity of material needed is 8 yards of 36-inch goods. Patterns can be furnished in the even sizes from 30 to 44 inches, bust measure. Price of pattern, 35 cents.

Fichu-Collarette.— The half of this pattern is given in one piece. If made of velvet, silk, or wool goods, an interlining of chamois fiber should be used. This little article may form the sole decoration of any plainly made dress, and is a very becoming adjunct to any lady's toilette. The quantity of material needed is 1 yard of 24-inch goods. Three sizes of pattern are given, large, medium, and small. Price of pattern, 10 cents. For all patterns, address Sanitarium Dress and Pattern Department, Battle Creek, Mich.

To clean a sewing machine of oil and dirt, go over it with a rag wet with coal oil.

SILVERWARE may be brightened by rubbing it with oatmeal.

HOW TO BE HAPPY.

ARE you almost disgusted
With life, little man?
I will tell you a wonderful trick
That will bring you contentment
If anything can —
Do something for somebody, quick;
Do something for somebody, quick!

Are you awfully tired
With play, little girl?
Weary, discouraged, and sick?
I 'll tell you the loveliest
Game in the world —
Do something for somebody, quick;
Do something for somebody, quick!

Though it rains like the rain
Of the flood, little man,
And the clouds are forbidding and thick,
You can make the sun shine
In your soul, little man —
Do something for somebody, quick;
Do something for somebody, quick!

Though the skies are like brass
Overhead, little girl,
And the walk like a well-heated brick;
And are earthly affairs
In a terrible whirl?
Do something for somebody, quick;
Do something for somebody, quick! — *Set.*

IN THE CHEERING UP BUSINESS.

WHEN the hard times began last year, it was reported that a clever woman declared that if she had to earn her living she would become a "general sympathizer," going to any one who wished to pour out her troubles and worries, listening and comforting for a fixed sum per hour; the interviews to be strictly confidential, and the professional sympathizer never to allow herself to have pains or trials greater than those of her client. This seemed an odd little fancy, as impracticable as original, until a short time ago, when, reading over the lists which a woman's exchange prepares to meet the wants of its patrons, the eye fell upon this item :—

"In the cheering-up business. A lady who has had successful experience will read to or amuse invalids or convalescents."

Then there is such an occupation, after all, and one which this cheering lady has made successful as well. How does she manage her delicate work? By what cunningly devised means has she bottled up the sunshine which carries its brightness into the lives of those who are strangers to her? And from what founts does she draw sparkling, exhilarating draughts? And who, after she has spent her day in "reading to and amusing invalids and convalescents," cheers *her* when twilight gives her back to herself?

It is a beautiful and self-effacing occupation, demanding special gifts of tact and sweetness, and calling for keenness of eye and quickness of ear, and also, contradictorily enough, for a certain judicious near-sightedness and mental deafness, which can leave unnoticed and unheard all that tends to mar the perfect harmony which it is so essential to maintain.

Yet, while as a means of gaining a livelihood the business is undoubtedly new, it is really an old, very old vocation, to which from time immemorial women have spontaneously devoted themselves. In the home nest, as daughter and sister, a woman learns to express the sympathy of a loving heart, and in the new relations of wife and mother, her opportunities increase immeasurably and unceasingly. Upon the so-called weaker partner has ever fallen the duty of lightening by her ready responsive cheerfulness the burdens borne by her husband. When everything down-town goes wrong, home is made to take on more than its usual attractiveness, and the domestic atmosphere has a soothing calm which refreshes the tired man, whose wife and bairns are at their brightest when poor papa comes in. A married man is more apt to retrieve his fallen fortunes and to reinstate himself more speedily than the unfortunate bachelor, whose only comfort is that when he puts on his hat his whole family is under it!

It is by no means claimed that women have a monopoly of this inspiriting, comfort-imparting quality, yet it is always conceded to be such a right womanly talent that the highest compliment that can be paid to one of the other sex is to liken his powers of sympathy to those of ours. The men whom one must depend on in the dark hours of life, when illness and sorrow and losses depress the most buoyant nature, often possess in the highest degree the power of cheering — physicians, whose mere presence seems to bring healing; lawyers and clergymen, whose help glows with the unaffected goodness of their sunny natures; and others, weighted with the exacting cares of business life, who yet have a pleasant word and a bright smile in even the darkest hour of their own troubles.

Blessed be all, of whatever age, sex, or condition, who are "in the cheering-up business"! — *Harper's Bazar.*

WHERE DO CHILDREN LEARN LYING?

A CHICAGO kindergarten teacher says that mothers come to her so often, asking how they shall break their children from telling untruths, that she has almost come to think that lying is a national evil. Humiliating as is this conclusion, its truth cannot be gainsaid.

"I am so distressed," said a mother to her boy's teacher, "that Freddie could deceive you so. I can't imagine why he is so untruthful; his father is truth itself, and I am sure no one ever heard me tell a lie. Call him in," she added, turning to her little daughter.

"He won't come if he knows Miss —— is here," said the child. "Say it 's grandma wants him," suggested her mother; "that will fetch him."

And yet she wondered at her boy's untruthfulness!

"Have you a dog?" asked the tax collector at another home.

"Not a dog of any description," was the prompt reply.

"What about Speck, mamma?" asked the little son, appearing in the doorway with a tiny dog in his arms.

"Cost me two dollars," laughed his father, relating the incident. "Capital joke on his mother, though."

Rather a costly joke, involving the loss of a boy's respect for his mother's veracity, and by reflex influence lowering his own standard of truth.

If mean little lies and petty deceptions on the mother's part are the child's early object lessons, what wonder that he soon outstrips his teacher, and even shocks her by his proficiency in the art? — *Donahoe's Magazine.*

HEALTH CULTURE. — Health culture is an aim for all, — an aim which will make each stronger, and saner, and wiser, and healthier, and better. It will make each in the end more helpful to all. To be sound in wind and limb; to be healthy in body and mind; to be educated, to be emancipated, to be free, to be beautiful — these things are ends toward which we should all strive, and by attaining which all are happier in themselves, and more useful to others. — *Grant Allen.*

THE stalest bread on record is an Assyrian loaf which has been discovered by a French explorer, M. Monthon. This loaf is supposed to have been leavened and baked about the year 560 B. C. It is round, not unlike the common bun in shape, and in color a delicate brown. It is, we understand, in perfect condition, having been found, along with the remnants of several similar loaves, wrapped in cloth, in a tightly sealed sarcophagus, the custom being quite common in Assyria, as in Egypt, to enclose food in the tombs of the illustrious deceased. — *London Invention.*

A LAD rather small for his years, works in an office as errand-boy for four gentlemen who do business there. One day the gentlemen were joking him a little about being so small, and said to him: "You never will amount to much; you can never do much business, you are too small."

The little fellow looked at them. "Well," said he, "small as I am, I can do something which none of you four men can do."

"Ah, what is that?" they asked.

"I do n't know as I ought to tell you," he replied. But they were anxious to know, and urged him to tell what he could do that none of them were able to do. "I can keep from swearing!" said the little fellow.

SEASONABLE RECIPES.

Steamed Fig Pudding. — Moisten two cupfuls of finely grated graham bread crumbs with half a cup of rich milk. Mix into it a heaping cupful of finely chopped fresh figs, and a quarter of a cup of sugar. Add last a cup of sweet milk, turn all into a pudding dish, and steam about two and one half hours. Serve at once with orange sauce.

Orange Sauce. — Squeeze a cupful of juice from well flavored, sour oranges. Heat a pint of water, and when boiling, thicken with a tablespoonful of cornstarch. Add the orange juice, strain and sweeten to taste with sugar that has been flavored by rubbing over the yellow rind of an orange until mixed with the oil of the rind.

SIMPLE FEVERS OF INFANCY AND CHILDHOOD.

THE nervous system of infants and children is very susceptible, and is easily disturbed. The principal growth of the brain is during the first five years of life. At birth the average circumference of the infantile head is thirteen and three-fourths inches; at six months, sixteen and three-fourths,—a gain of three inches. During the next six months there is a gain of an inch and one-fourth. For the next two years the gain is one-half inch for each year. Between the third and sixth years there is a gain of half an inch, but only one-half inch in the years from six to twelve. During the next nine years the gain is one and a half inches, the average adult head being twenty-one and a half inches.

When a system of organs is growing very rapidly, it is using a great deal of energy in forming the organic structures, and is in an excitable and easily disturbed condition. Thus slight causes often produce a high fever and even convulsions in children. The overloading of the stomach of a child one year old with some indigestible food, may cause convulsions, insensibility, and a high fever; and yet all these symptoms may subside within twenty-four hours, from the use of an emetic, a mild cathartic, or a warm bath, and a fast of twenty-four hours. A simple fever may be caused by overeating, eating indigestible or spoiled food, or eating when overheated, tired, frightened, or otherwise disturbed. The digestive organs may have had more food than they could digest, or the quality may have been poor, or the food not suited to the age of the child; or perhaps the digestive organs were weak, and needed time to rest and recuperate for active work. Bad results may occur from overloading the stomach with proper food, even mother's milk. The digestive organs of children raised on artificial food are often injured by their being given solid food too young. With older children, eating between meals, eating green fruit, raw vegetables, or spoiled food, also swallowing the food without proper mastication, are often disturbing causes. Germs are taken in with most foods except healthy mother's milk, but the digestive fluids, if not overtaxed, are capable of destroying them. If not destroyed, these germs will cause fermentation and the formation of poisonous matter, which, being taken into the circulation by the absorbents, will permeate every tissue of the body, and derange the function of every organ. Simple fever due to indigestion, if the attacks are often repeated, injures the constitution of the growing child, and is a most frequent predisposing cause of tuberculosis, dyspepsia, and the various nervous disorders which are so fatal during infancy and early childhood, and which, if not immediately fatal, cause much trouble in after-life, by developing into chronic disorders of the stomach, liver, respiratory organs, and nervous system. Eczema and other skin diseases, also rheumatism, which so often, in children, results in valvular disease of the heart, and cripples forever the heart's action, are other untoward results of simple fever.

Overheating is a very frequent cause of rise of temperature. A heat stroke is not always due to direct exposure to the sun's rays, but may occur in any hot place where there is no ventilation and the air is several degrees above the temperature of the body. Delicate children in large cities often suffer from fever due to this cause, and sometimes die within a few hours. Taking cold is a cause of simple fever in children much oftener than in adults. Deaths due to disease of the respiratory organs occur very frequently during the second and third years of life, because a child's body is much more exposed to changes of temperature during this time. A cold on the lungs, and what physicians call acute bronchitis, in a healthy adult or twelve-year-old boy or girl, is not usually a serious or fatal disease; but in the tender little infant or two-year-old it may, and very often does, terminate in capillary bronchitis and

catarrhal pneumonia, resulting in chronic bronchitis, which may annoy the patient for a lifetime. Fright, overexcitement of the nervous system by too hard study, overtaxing school examinations, preparation for school or other public exhibitions of the child's precocious smartness, are often preceded or followed by an attack of simple fever due either to the unhealthy excitement, overwork, and want of sleep during the preparation, or to the depression due to failure to win the coveted first prize or position.

Transient emotion, as grief, anger, etc., may likewise result in a rise of temperature more frequently in the child than in the adult, and too great physical exertion may have the same effect. Starvation, falls and blows, and other injuries, especially of the head, may all result, in infancy and childhood, in a more or less marked rise of temperature. Whenever a child's temperature is 100° F. or over, the cause of the rise should be ascertained at once, if possible, as fever always means that some poison is being absorbed into the tissues either from without or from some cavity of the body, or that it is being retained or formed in the blood or tissues.

If a child has taken too hearty a meal, and wakes up in the morning with headache, sour stomach, and fever, do not, fond mother, try to tempt the appetite with your choice, indigestible dishes of hot buttered toast, savory beefsteak, cake, pie, or the like. What the stomach needs is rest, not food, and an emetic to rid it of its oversupply. A mild cathartic or an enema should be given, to rid the bowels of the poisonous matter which is being absorbed from the irritated surface of the alimentary tract. The patient will not suffer for lack of food for twenty-four hours or more, but his sufferings may be prolonged by putting more food into the stomach to spoil, and form more poisons. Let the patient rest in bed while there is fever, and drink plenty of pure water, either boiled or filtered. Foment the stomach and bowels, and give a warm bath; and when the headache, fever, and other symptoms begin to subside, do not try to coax the little patient by dainties to overeat again; but let him take a simple diet of sterilized milk, gruels, well-cooked grains, and other simple foods; and because the appetite is not as keen as usual, do not fret or annoy the child by constantly urging it to eat.

A sore, inflamed finger needs rest to permit the inflammation to subside; and so does an inflamed stomach. Give it time to recover power to digest normally, and no serious results will be likely to occur from the one attack. But if the crippled digestive organs continue to be overworked, the fever and other symptoms will increase until the child is seriously ill with acute inflammation of the stomach or bowels, and either loses its life or recovers a semi-invalid from chronic dyspepsia or some intestinal disorder which may afflict it more or less the remainder of its life. When it fully recovers, do not allow a repetition of the surfeit, even on special occasions. Cut off all food between meals, and do not allow the stomach to be upset by candy, sweetmeats, or any other unwholesome food. Do not tempt the little one to gluttony or self-indulgence, which may lead it in after-life to the love of strong drink, tobacco, or other bad habits resulting from the cravings of a depraved, unsatisfied appetite.

When the child has a cold, and is hoarse, croupy, and feverish when it goes to bed, do not add to the labors of the already overtaxed eliminative organs the task of disposing of the waste matter of a hearty evening meal which cannot be properly digested; but instead, give the little patient a warm bath and let it rest in bed for a day, giving only some simple fluid food, and afterward tone up the skin so that it will not be so subject to colds from changes of temperature.

In the dog-days, especially when living in the city, if the children show evidence of heat depression, such as fretfulness, languor, stupor, and a rise of temperature, immediate measures should be taken to cool them off. Remove them to as cool and shady a place as possible, and put them in a cool bath, give a cool enema, and place cold wet cloths on the head. Keep this up till the temperature subsides to near the normal line. Always keep the extremities warm, and do not continue the cold treatment long enough to cause too much depression. Heat stroke is most likely to occur on a damp, hot day when the overheated air is full of moisture, and loss of heat by free perspiration from the skin is hindered by the air's being so still and overcharged with water as to interfere with the heat-eliminating functions of the skin by a free perspiration and change of the surrounding air. The little one weak from some chronic wasting disease, or prostrated by some recent acute illness, will be most likely to suffer from heat stroke, and should be carefully watched and kept cool in extremely hot weather.

Sunstroke, or fever and prostration due to the direct action of the rays of the sun, often assume a very violent type, the temperature sometimes reaching 108° or 112° F., and death occurring in a few hours. Such cases require very heroic cold treatment at first, to cool the patient — a cold full bath, a cold enema, and ice to the head. The temperature

should be watched until it begins to fall rapidly, and then the cold water and ice gradually removed to prevent a sudden fall below the normal, and consequent collapse. Children who are not very strong, and overexert themselves at either work or play on very hot days, exposed to the direct rays of the sun, and also the reflections from tall buildings, are most likely to suffer from sunstroke. This is a rare disorder in the country, unless in some deep valley or other sheltered place where there is no air circulating. In the city in the heated season both children and adults suffer from this cause very often, and in the milder forms it is frequently the cause of simple fever without the fact's being realized.

The overstimulation of the emotions, as anger, fear, even extreme joy, all tend to produce poisonous elements in the body, as has been proved by actual experiment; and may thus be the cause of a rise of temperature. Whenever a child is feverish at night or at irregular times, as after a school examination, a fright, violent anger, a fall, or any other cause, do not pass the matter by as unworthy of your notice. It may be the beginning of some serious disorder, which, if neglected, will result in irreparable damage.

Half a century ago the model student was supposed to be a pale, cadaverous-looking youth with a hectic flush of the face and a hollow cough, who burned out his own life with the midnight oil he was sentimentally said to consume. No parents ought to be proud of such an unhealthy, unnatural mental activity. Better send the stoop-shouldered bookworm out into the fields to fill his lungs with pure air, and burn out the waste toxic matters which are overexciting the nervous system, and consuming the tissues of the body. Set him to moderate physical labor to strengthen and enlarge his muscles, and to a gymnasium to straighten his crooked spine, and teach him how to hold himself erect. Do not rest easy about him until his temperature remains at the normal, and his physical health and strength are restored to the average of other youths of his age.

For the overexcitable, imaginative child, or the timid, easily frightened one, who becomes feverish from the excess of his emotions, much can be done by taking care not to cultivate the emotions in any way. Tell it no exciting stories; never allow it to be frightened, and always be calm yourself when dealing with it in any way. The child prone to excessive anger ought to be shielded as much as possible from any annoyance likely to provoke an attack of temper. Unfortunately these children often suffer from the members of their own families. When the little one is high-tempered, and gets angry easily, some mischievous brother or sister will tease and provoke it to an outbreak of insane, ungoverned rage, only to laugh at its puny attempts at taking vengeance on its persecutors. The poor infant's nervous system is thus strained and injured, and the brain congested. Often the little face becomes livid, and the heart's action and the breathing are impeded. The writer has several times seen vomiting and high fever occur after such an outbreak. Do not attempt to discipline the little one then. Give it a cool bath, or pour cold water over it, or even sprinkle it on its face. Quiet it, and put it to bed until it is calm. Then teach it by what seems the best methods for the case, the lesson of self-control. The one to be severely dealt with is the persecutor, who should be enlightened as to the dangers of his course of cruelty, and the serious after-results of his thoughtlessness.

The fever thermometer is a convenient instrument to keep in the family, and will do much to keep the watchful parent advised as to the health of the children. Whenever one of them shows a continued rise of temperature, or is subject to attacks of even simple fever occurring frequently, the cause should be looked after carefully, and removed at once, lest some fatal acute or tedious chronic disease shall develop.

HOW DISEASE GERMS AND PARASITES FIND ENTRANCE INTO THE BODIES OF CHILDREN.

THE new-born infant is usually free from most disease germs, and from worms and other parasites which infest the cavities and tissues of the human body. Thus it is shown by the numerous autopsies made in the large hospitals of foreign cities that tuberculosis is extremely rare in the new-born, and uncommon during the first three months of life, but that it increases very rapidly during the latter half of the first year. Thus Asler gives statistics of five hundred and seventy-six infants who died in one hospital of various diseases; and in three hundred and fourteen of them tubercular germs were found in more or less active condition. Other autopsies made in children between the ages of one month and fifteen years showed one third of the cases tubercular.

As the germs which infect the bodies of infants

are taken in from without, it is worth while to look for the sources of this infection. No doubt the food and the air are the principal vehicles of tubercular infection in infancy. In adults the lungs are usually the organs affected, while in children it is the lymphatic glands of the neck. The mesenteric and intestinal glands, the bones, and also the brain are very frequently infected. The disease germs are sometimes taken in with a tubercular mother's milk, but more often from diseased cows' milk. Children who live in the same house with consumptive adults are often exposed to the infection of dried sputa. The young child creeping and playing about on the floor or carpets is in special danger. It puts its rubber ring or other toy into the mouth, then takes it out and drops it on the carpet, where it becomes covered with dust, which adheres readily to the moist surface. Then back it goes into the mouth again and again. Some small children pick up every piece of splinter or anything they see, and put it into the mouth. The air next the floor is more dust-laden than that near the ceiling, so the infant takes in germs both by breathing and swallowing them. Every one is stepping on the carpet in the living room with feet more or less soiled with street dirt, which in cities is always very foul, and on the farm often contains the filth from the barn-yard. This is not a pleasant picture to contemplate, but we must look into the causes of disease infection before we try to invent means for the prevention of sickness.

Worms are the most usual parasite which infect children. The most common of these are the pinworm, the roundworm, and the tapeworm. The first two are rather common in children; the latter much more so in adults. The first two are taken into the alimentary canal in the form of eggs or ovum, in uncooked food or water that has become defiled with excrement of some sort. The carpet may contain ova of the round or pinworm, some of which the infant will be very likely to put into its mouth and swallow along with the other dirt. The tapeworm is usually eaten with partially cooked meat, so does not often find its way into the intestines of small children.

The baby must creep and move about in order to grow, but it should be protected from floor dirt, especially during the winter months, when it is necessarily much indoors, by having a railing built about a platform raised above the floor a few inches, so as to be as free as possible from floor dirt. This may be carpeted with some washable material, so as to insure a reasonable degree of cleanliness. In the summer the infant's out-of-doors playground should be some nicely kept, clean lawn, free from all animal excrement and filth. As soon as old enough to understand, children should be taught that it is dangerous to put unclean things into the mouth. Lead-pencils, slate-pencils, chewing-gum, money, pins, tacks, nails, etc., are all things likely to be infection carriers. The common drinking-cup, soap, towels, and hair-combs and brushes are more or less dangerous; so also is promiscuous kissing and every other means by which infectious material may be conveyed from one person to another.

Many will say that it is too much trouble and expense to take all these precautions to preserve the health of the young. But sickness is very expensive, and it is much more difficult to seek the means for curing disease than to take a few simple, preventive measures. The baby, inside its little exercise-pen, will not be as much care or get into so much mischief as if permitted to roam at large; and a little pains taken to cultivate good habits in the older children will be of great use to them in after-life, making purer, cleaner men and women, both morally and physically.

SPOILED FOOD.

DURING hot weather, especially when it is sultry and damp, all kinds of germs grow rapidly, also all kinds of fungus plants, as toadstools, mushrooms, and molds. These plants give off spores; and wherever they find a suitable soil in damp organic matter, they begin to germinate at once, and set up a fermentation in whatever substance they have found refuge.

Bread, vegetables, grains, meat, and milk often spoil in a night, unless kept in a clean, cool, dry place. The particles left in the bread-box, cupboard, or refrigerator, or on the cellar floor or walls, all readily become thrifty growing fields of molds and other fungus plants; and these fill the atmosphere and infect all the food kept in their locality, no matter how fresh it may have been when placed there for preservation. From this source come many of the disorders of hot weather, which often prostrate a whole family at once, in the short space of twenty-four hours. To prevent food infection from this cause, cool the food rapidly, and keep the receptacles free from germs.

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

POISONING FROM SAUSAGES.

THE reports frequently published of cases of poisoning resulting from the eating of sausages, would seem to afford sufficient evidence of the dangerous character of this article of food so popular among certain classes.

The *Journal d' Hygiene* recently summarizes some of the facts which have been published in late years, which clearly indicate the noxious and dangerous character of sausage as an article of food. We briefly abstract the article referred to, which is from the pen of Charles Morot, Municipal Veterinary Surgeon at Troyes, France: —

"In Belgium, in 1892, forty persons were made dangerously sick from eating the flesh of a diseased calf, and several died.

"Last year (1893) an epidemic of trichinosis prevailed at Prealle, from eating pork sausage, in which thirty-nine persons were sick, of whom thirteen died.

"The present year a number of cases of illness occurred in the village of St. Tronc, giving symptoms of poisoning as the result of eating sausage made from horse-flesh. Six persons died."

"The use of sausage has long been opposed by hygienists. It is important that the public should be inspired with as intense a disgust as possible against the use of this food."

The latter statement was made by Dr. Pappenheim, of Berlin, in 1858, relying upon the following arguments: —

Sausage is a favorite object of adulteration. It frequently contains decomposing flesh, flesh containing trichina, tendons, and other indigestible portions of flesh, decaying viscera, — in a word everything which could not pass inspection.

Pappenheim also relates the following circumstance which occurred in London: —

"One day Dr. Aldis asked a justice to order the destruction of a quantity of decaying and disgusting flesh, of which a butcher intended to make sausage. The butcher did not deny his purpose, but alleged that it would be impossible to continue his business if such flesh should be condemned, as he could not compete with other butchers, since all the butchers in the city employed flesh of the same sort."

Unquestionably it is the general practice of butchers to work up into sausages various odds and ends which could not otherwise be sold. Sausage is, perhaps, of the many disgusting and unwholesome articles of food which appear upon modern tables, the most unwholesome and disgusting of all. — *J. H. K. in Modern Medicine and Bacteriological World.*

DR. ERNEST HART ON TEA.

DR. ERNEST HART, editor of the *British Medical Journal*, recently delivered a lecture on the subject of tea, coffee, and cocoa, in which he gave an interesting history of the introduction and a description of the production of the different varieties of tea and coffee. The special point to which we call attention is Mr. Hart's statements respecting the question of tannin in tea. He gave the result of an extended series of experiments, which quite contradicts the current views upon this subject. The idea has prevailed quite generally that by the long contact of water with tea, an excessive amount of tannin is extracted, which may be avoided by the infusion of the tea for only a short time, as ten or fifteen minutes. It has been found by actual experiment that after the exposure of tea to the action of hot water ten or fifteen minutes, little or no tannin can be extracted. The extract obtained after the first fifteen minutes has a disagreeable flavor. But, contrary to the popular notion, this

extract does not contain any excess of tannin. Tannin is an exceedingly soluble substance, in fact, its solution begins the instant the tea leaves come in contact with the water. The pale infusions of tea made in three minutes are found to contain a large proportion of tannin.

Dr. Hart entirely agrees with Sir William Roberts in the view that the ill effects of tea-drinking are due to thein and the volatile extractives of the tea leaf, and not to tannin. It is also stated by the lecturer to be an error to suppose that common teas contain a greater amount of tannin than the so-called choice varieties. The very opposite of this is true in many cases. The time cannot be far distant when the evils resulting from the use of tea will be so generally recognized that, in medical circles at least, tea and its congener, coffee, will be universally condemned.

Influence of Tobacco on Microbes.— M. Tusseau recently reported three cases of tuberculosis of the tonsils, in all of which the patients had been addicted to the very free use of both alcohol and tobacco. The reporter expressed the opinion that the use of alcohol and tobacco is a predisposing cause of a tuberculous infection of the tonsils. In one case in which the disease was cured by thorough cauterization of the tonsils, the patient, an innkeeper, remained well for some little time, but on resuming his bad habits, was again attacked by tuberculosis, and died of the disease.

In still another case the local disease was cured, but the patient, a soldier, continued his bad habits, and a few months later died from a return of the malady.

These observations afford the best possible evidence against the theory that tobacco is in any way advantageous as a germicide. Of all the various pathogenic microbes which attack the body, those of tuberculosis are perhaps the most easily destroyed, yet the antiseptic quality of tobacco, even when used to a great excess, as in the cases reported by M. Tusseau, has no influence whatever in preventing their development in the mouth, but actually encourages the growth by producing an irritated and inflamed condition of the tonsils.

A Good Law.— We are glad to note that the Legislature of the State of New York has passed a law prohibiting, under a penalty of from $100 to $500, the exposure of fish, game, or poultry before any shop or store. This will do away, in the State of New York, with the exposure of the dead carcasses of animals in all conditions of mutilation which have heretofore decorated the fronts of butcher shops in every civilized city of the globe. The law has a moral as well a hygienic value, in the protection of the eyes of the public from revolting spectacles; hence it is to be hoped that the example of New York will be followed by other States.

A Sanitary Use for Cows' Horns.— A sanitary argument can now be added to the humanitarian, against the cruel practice of dehorning cattle. The municipal authorities of Rome, Italy, have taken more advanced ground in relation to the protection of the people from infection with tuberculosis through the milk of diseased cows than has been taken by any other public authority. The sanitary regulations of the City of Rome for some time have required an inspection of all milch cows, and this sanitary surveillance has now been extended to the surrounding campagna. When a cow has been inspected and found to be capable of furnishing good milk, the fact is indicated by a mark placed upon the animal's horns and a license issued to the owners of the animal. No milk except that produced by those inspected and licensed animals is allowed to be sold. The inspection is repeated every year. All cows suspected of tuberculosis are subjected to the tuberculin test described in these columns some months ago, and if found to be diseased, are destroyed. This practice is one which may be well commended to the attention of sanitary authorities everywhere.

Decline of Hypnotism.— It is pleasing to note that hypnotism, which, a few years ago had fully attained the proportions of a medical fad, at least in France, has for some time been declining, and at the present time it may be said to be falling rapidly into disfavor with intelligent practitioners, and most rapidly with those who have seen the most of it. Most physicians who have had an opportunity to observe carefully the subjects of hypnotic treatment in the clinics at the hospital Salpêtrière, in Paris, will agree with the writer that the hypnotic state is a morbid or pathological condition, and also that the hypnotic state is one which cannot be easily induced except in persons who are morbidly weak mentally,— those whose volitionary powers are decidedly defective.

THE CAUSES OF DYSPEPSIA.

Our forefathers knew comparatively little of the pangs of indigestion, or of the constitutional maladies which grow out of the tissue starvation and systemic poisoning developed from derangement of the digestive functions.

An old German proverb reads, "As a man eateth, so is he." This perhaps is a parody upon a more ancient proverb, "As a man thinketh, so is he." Putting both sayings together, we may formulate another equally true, "As a man eateth, so he thinketh." Our bodies are composed of what we eat; nevertheless, the simple eating of good food does not guarantee good tissues, a healthy body, a sound mind, and normal functions. Food must not only be of proper quality, but it must be well digested. Normal digestion is performed unconsciously. An individual who is conscious of the working of his stomach is suffering with a disordered state of that organ. The disorder may be of any degree, from that indicated by a slight feeling of weight or uneasiness occasioned by taking a small excess of food, to the most chronic case of indigestion, exhibiting all the most annoying symptoms of this formidable disease. We say *formidable* disease, not because it is often a fatal malady, but because of its obstinacy, which too often baffles for years the best efforts of those suffering from its debilitating effects. In most instances, unfortunately, the efforts of the patient and of his advisers, though earnest and persevering, are unavailing, because not well directed. With this, as with all other diseases, the first step toward recovery lies in the discovery and removal of the causes of the disease. Having considered the process of digestion as it occurs in health, and the conditions required for healthy digestion, we shall now be better able to appreciate the influence which various violations of the laws of health relating to this function may exert upon it.

Healthy digestion depends upon a maintenance of the following conditions in relation to the stomach: —

1. The secretion of gastric juice in proper quantity and of good quality.

2. The prompt absorption of the digested food substances.

3. Normal muscular activity on the part of the stomach, by which the organ is emptied of its contents in due season, or by the end of three hours after a meal.

4. The maintenance of an aseptic condition of the stomach; or, in other words, a condition in which the stomach is free from microbes, or germs.

Dyspepsia may result from a departure from the normal standard in relation to one or all of the above conditions. The gastric juice may be either deficient or too abundant. Absorption is never too rapid, but may be greatly diminished, as in gastric catarrh.

Muscular activity may be either deficient or excessive. If deficient, the food is retained for too long a time in the stomach, resulting in irritation of the mucous membrane from too prolonged contact with the acid gastric juice, and in some cases even giving rise to ulceration. This delay in the digestive processes also allows opportunity for the action of germs upon the food, thus causing fermentation and putrefaction. Professor Bouchard, of Paris, has shown that if food is retained in the stomach for more than five hours, putrefactive changes take place. Fermentation may begin much sooner than this. Muscular action may be excessive, in which case the food will be hurried out of the stomach into the intestines before the process of gastric digestion is completed, thus giving rise to irritation in the intestinal canal from contact with food which has not been properly

prepared for the processes which occur in this part of the digestive apparatus.

Healthy gastric juice is capable of keeping the stomach in a perfectly aseptic condition; that is, destroying all classes of germs which are likely to find entrance to the stomach. If the gastric juice is deficient in quantity or quality, it may fail to do its work as a disinfecting agent, so that germs may develop in the stomach, and, becoming imbedded in the mucus which covers its lining, permanently establish themselves there. Different classes of germs may thus become active in the stomach, either singly or in combination. Such symptoms as acidity, or sour stomach, heartburn, coated tongue, a bad taste in the mouth, distention of the stomach, eructations of gas, etc., are due to the presence of germs in the stomach, and their action upon the food elements. Germs do not find lodgment in the stomach when the food is digested thoroughly, and promptly absorbed or passed onward into the intestine. The special causes here mentioned are more or less active as agents in the production of dyspepsia, in proportion as they disturb the essential conditions of good digestion.— *From forthcoming book on "The Stomach: Its Disorders and How to Cure Them."*

EATING BETWEEN MEALS.— This is a gross breach of the requirements of good digestion. The habit many have of eating fruit, confectionery, nuts, sweetmeats, etc., between meals, is a certain cause of dyspepsia. No stomach can long endure such usage. Those who indulge in this manner usually complain of a poor appetite, and wonder why they have no relish for their food, strangely overlooking the real cause, and utterly disregarding one of the plainest laws of nature.

This harmful practice is often begun in early childhood. Indeed, it is too often cultivated by mothers and the would-be friends of little ones, who seek to please and gratify them by presents of confectionery and other tidbits of various sorts. Under such indulgence, it is not singular that so many thousands of children annually fall victims to stomach and intestinal diseases of various forms. In great numbers of cases, early indiscretions of this sort are the real cause of fully developed dyspepsia in later years. What a sad thought that the lives of such persons have been modified in their usefulness, and their whole characters more or less depraved, by the morbid influence of disordered digestion.

DRINKING AT MEALS.— In addition to the evils which it occasions directly, hasty eating induces the drinking of large quantities of hot or cold liquids to wash the food into the stomach. Thus two evils are associated. Too much liquid of any kind is prejudicial to digestion, because it delays the action of the gastric juice, weakens its digestive qualities, and overtasks the absorbents. In case the fluid is hot, it relaxes and weakens the stomach. If it is cold, it checks digestion by cooling the contents of the stomach to a degree at which digestion cannot proceed. Few people are aware how serious a disturbance even a small quantity of cold water, iced cream, or other cold substance, will create when taken into a stomach where food is undergoing digestion. This process cannot be carried on at a temperature less than that of the body, or about 100°. Dr. Beaumont observed that when Alexis St. Martin drank a glassful of water at the usual temperature of freshly drawn well-water, the temperature of the food undergoing digestion fell immediately to 70°, and did not regain the proper temperature until after the lapse of more than half an hour.

Of course the eating of very cold food must have a similar effect, making digestion very tardy and slow. If any drink at all is taken, it should be a few minutes before eating, so as to allow time for absorption before digestion begins. If the meal is mostly composed of dry foods, a few sips of warm or moderately hot water will be beneficial rather than otherwise, taken either at the beginning of the meal or at its close. The habit of drinking during the meal should be discontinued wholly, and especially by those whose digestive powers are weak. If the diet is of proper quality, and the food is well masticated, there will be little inclination to eat too much. When the food is rendered fiery with spices and stimulating condiments, it is no wonder that there is an imperious demand for water or liquid of some kind to allay the irritation.

BREATHING AND LIVER ACTION.— The circulation of the blood through the liver, and hence all the functions of the liver, are greatly aided by the action of the chest and diaphragm in breathing. When the chest wall is lifted outward in the act of inspiration, air is not only drawn into the chest, but blood is also drawn toward the heart. Deep breathing is thus a very important means of aiding both the stomach and the liver in their work.

ANSWERS TO CORRESPONDENTS.

BALDNESS. — A subscriber, Ind., asks: "1. Is there any remedy for baldness? 2. What will prevent the hair from dropping out?"

Ans. — 1. When the scalp is smooth and shiny and there is no hair at all to be seen, the case is hopeless. If the bald place is covered with fine, short hairs, the growth of hair may be stimulated by measures which will promote the general health, such as the improvement of digestion, the application of local treatment, as rubbing with a good hair-brush and shampooing with the tips of the fingers dipped in cold water.

2. The same measures are useful to prevent the falling out of the hair.

CHRONIC COUGH — GROWING WEAKNESS, ETC. — Mrs. L. H., Ohio, writes: "I have had a cough for about three years, and it has gradually been growing worse. I was not troubled except by a hard coughing spell in the morning, until within the last three months. I now have coughing spells throughout the day and sometimes at night. I raise considerable light-colored, frothy mucus, and some that is heavy and yellow. I am growing weak and very thin, though I still do most of the housework for our family of six. I cannot walk up-hill or take much exercise without becoming short of breath. There is no pain in the lungs except a heavy, aching feeling. Bowels have been regular until lately, but now have spells of looseness lasting a day or two. I am thirty-eight years of age. Our family physician does not think I have tuberculosis, but says there seems to be an obstruction to the circulation in the right lung. 1. What do you think is the cause of my cough? 2. What would you advise me to do for the improvement of my health?"

Ans. — 1. You are probably suffering from chronic bronchial catarrh. It is possible that you have fibrous phthisis; an examination of the sputum should be made by a bacteriologist.

2. Such a case as yours requires especial care at a sanitarium or a change of climate. You might be benefited by the use of the Perfection Vaporizer, but you should stop short of nothing but the most thoroughgoing measures.

HEALTH FOODS, ETC. — An Australian subscriber asks: "1. Why do you not appoint an agent for the sale of your health foods in Australia? I have tried everywhere to get some preparation of wheat minus the irritating bran, but with the gluten retained, but without success. The bran in whole wheat always gives me first eructation, and afterward griping when it has passed out of the stomach into the bowel. 2. Do you favor the treatment (hot water-drinking) advocated by Dr. Salisbury and Dr. Ephraim Cutter, of New York? 3. Do you favor Dr. Densmore's non-starch system of vegetarianism? I find that fruit and nuts disagree with me as much as vegetables and farinaceæ. Both seem to ferment and cause pain and gaseous distention. 4. Ought one to eat meat in such a case? 5. Are the animal extracts, cerebrine, medulline, testine, etc., proper to take in any case?"

Ans. — 1. We hope to have our food represented in Australia soon.

2. Hot-water drinking is frequently overdone.

3. No; there are persons who have difficulty in digesting starch in its ordinary form, but we rarely find any one who cannot take starch food in the form of granose and granose grits. Bromose is exactly suited to these cases.

4. Not if you can get anything better to eat.

5. We have no faith in animal extracts for any purpose.

LA GRIPPE — COATED TONGUE — HEADACHE, ETC. — J. T. T., Ind., writes: "1. In March, '92, I had a severe attack of la grippe, and for six months was unable to leave the house. I gradually regained some strength, but have never recovered my former health. My tongue ever since has been coated with yellow, and at times I have severe headache and fever. Generally I feel drowsy after eating, and my heart palpitates continually. My appetite is good, my stomach gives me no trouble whatever, and the bowels are in good condition. My food is fruit, bread, and raw vegetables. What is the cause of the coating on the tongue, and what can I do to remove it? 2. Are raw potatoes injurious to a weak stomach by reason of the starch they contain? 3. Are they a good food for healthy stomachs? 4. Please give a description of the kola nut."

Ans. — 1. Germs. Your stomach is evidently disturbed. You probably have hypopepsia, and perhaps dilatation of the stomach. An aseptic diet is necessary. Granose, granola, kumyzoon, and bromose are to be especially recommended. You should also take two or three antiseptic charcoal tablets after each meal.

2. Yes.

3. No.

4. The kola nut contains a narcotic principle somewhat similar to that of coffee.

FRUIT AT MEAL-TIME — LEMONADE, ETC. — J. E. F., N. Y., writes: "1. I have seen it stated that fruit eaten at meal-time hinders digestion on account of the acid it contains. Is this true? 2. Would this be true of all kinds of fruit both raw and cooked? 3. Is lemonade taken at meals a healthful drink? 4. I am a canvasser and am often obliged to eat cold meals when traveling about. I have been in the habit of taking Sanitarium crackers for a lunch, but would like something to eat with them, such as bananas, apples, raisins, maple sugar, etc. What would you advise as an accompaniment for the crackers? 5. When should fruit be eaten, if not at meal-time?"

Ans. — 1. Very acid fruits, as lemon, interfere with starch digestion, especially in persons whose stomachs produce an excessively acid gastric juice.

2. No.

3. No; it is not wise to drink at meal-time.

4. All the articles named, with the exception of maple sugar.

5. Meal-time is the proper time to eat fruit.

ACIDITY OF THE STOMACH — REGURGITATION — BLOATING, ETC. — Mrs. A. D. C., No. Dak., writes thus: "1. My husband is troubled with acidity of the stomach, regurgitation, and bloating. He is a man of abstemious habits, uses no coffee nor liquors, and a very small amount of tea. He lives wholly on grains, vegetables, fruits, and milk. Lately I attempted to give him lavage, about five hours after eating. There seemed to be difficulty in ejecting the water, and when only about one half of the quantity had come up, blood began to come. I became alarmed and so withdrew the tube, leaving the remainder of the wash in the stomach. What was probably the cause of this bleeding? 2. Did I do right to remove the tube, or should the remainder of the wash have been withdrawn, even if blood did come? 3. Is it wise for him to attempt lavage? 4. Please give me advice in the case."

Ans.— 1. It is possible your husband may be suffering from ulceration of the stomach. His case should have careful investigation at once.

2. The removal of the tube was the proper proceeding.

3. Probably not.

4. My advice is that the patient should visit the Sanitarium.

THE REST-CURE. — M. O. B., Mich., writes as follows: "Please explain the so-called rest-cure. I hear conflicting accounts of the way it is given, and what it is given for; and an explanation will settle a controversy."

Ans.— It would be difficult to explain the whole subject of rest-cure in such a brief paragraph as is admissible in this department. It may be sufficient, however, to say that rest-cure is practiced in different ways by different physicians. Our method is the following: The patient is put to bed; all business, gossiping friends, and every possible disturbing influence are excluded, no one but the physician and the nurse being allowed to see the patient. The diet is made as simple as possible, and is carefully adapted to the condition of the patient. Massage is administered daily, together with such other treatment as the patient's case may require. At the end of one, two, three, or four weeks, according to the case, systematic exercise is begun, and the patient is gradually accustomed to life under ordinary conditions.

WATER DRINKING. — A subscriber, Iowa, inquires: "1. Does water drinking to the extent of so much as two quarts per day have an injurious effect upon the system? 2. Does it thin the blood?"

Ans.— 1. The amount of water indicated might not be too much for a person engaged in active exercise in hot weather, but it is not well to overload the stomach with a great quantity of water unless demanded by too profuse perspiration.

2. Water drinking, of course, thins the blood, but the kidneys quickly reestablish the normal condition of the blood by taking out the surplus water.

HOME-MADE CRACKED WHEAT. — M. M., Valencia, Spain, writes thus: "I used to feed my children on American cracked wheat, but since difficulties in receiving it from America and high duties in Spain have made this impossible, I have made use of the wheat of this country, a cereal of excellent quality, which I grind in an ordinary coffee-mill, and boil like the common wheat. Will you kindly tell me if it requires any other process, if some particles of the grain ought to be removed to render it more wholesome, or if I can give the wheat as stated to my children with impunity?"

Ans.— Your process of making cracked wheat is perfectly wholesome, provided the wheat is carefully cleaned before grinding. The best manufacturers of cracked wheat in this country take great pains to thoroughly clean their wheat by special machinery, but the wheat may be as thoroughly cleaned by washing and thorough drying before grinding. We were pleased to note, a number of years ago when visiting the Indians of our Western plains, that the wheat which they ground upon a stone called a "metate" is always carefully washed and dried before grinding. Cracked wheat made in this way could not be improved upon from a health standpoint.

ULCERATION OF THE BOWELS — NASAL AND ANAL CATARRH, ETC. — R. B., Kans., writes as follows: "1. I have had what has been pronounced ulceration of the bowels now for about four years, and a physician told me a few weeks ago that the ulcers were still there. During this time my ears began to trouble me,— every noise sounds so loud. During the last few months they have been very bad, even a whisper hurting them at times. I am told that this is caused by a drying up of the ear, and that it will eventually cause deafness. I suffer from catarrh and bronchitis. Would these cause the ear trouble? 2. I have pain in the right side below the ribs, also across the small of the back. My right hand and foot are colder than the left. Several years ago a horse kicked me, breaking five ribs loose from the breast bone. Would this fact account for the pain and coldness? 3 Please advise me as to treatment, especially for the ulcers and the ear trouble."

Ans.— 1. The disease of the ear is likely to cause deafness.

2. No. You doubtless recovered from the accident long ago. The pain in the back is more likely due to intestinal indigestion, from which you are probably suffering.

3. Your case is more likely intestinal catarrh than ulceration of the bowels. The following treatment will probably help you: Fomentation over the stomach at night, to be followed by a moist abdominal bandage to be worn during the night; a cool sponge bath every morning; an aseptic or antiseptic dietary, avoiding meat, cheese, and all easily fermentable articles. For further directions respecting dietary, our correspondent is referred to a work entitled, "The Stomach: Its Disorders, and How to Cure Them," now in press by the Modern Medicine Publishing Company, Battle Creek, Mich., announced to be ready in two or three weeks. For the ear trouble, you should give immediate attention to the nasal catarrh, which is the most common of all causes of disease of the ear. Would advise you to purchase a Perfection Vaporizer, which affords a most effective means of treating disease of both the ear and the nose. Directions accompany each instrument. Address the Sanitary Supply Company, Battle Creek, Mich.

RELIEF DEPARTMENT.

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

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

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

1. To obtain intelligence respecting young and friendless orphan children, and to find suitable homes for them.

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

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

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

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

NOS. 262 AND 263.— A little boy and girl six and eight years old living in Pennsylvania have been brought to our attention. They are motherless, and their father, being in very poor circumstances, needs assistance. He desires to place his children in the homes of Christian people. We learn that they are good children, easy to teach, and of good appearance. They are now with their aged grandparents, who cannot care for them longer.

NO. 282 is a boy seven years of age. He has blue eyes and light hair. His father and mother are both dead, and he has been cared for by his grandparents for three years. They cannot provide for him longer, and rather than place him in the poorhouse, they apply for a home in a Christian family.

NOS. 285 and 286 are boys living in Pennsylvania. Their condition is like several that have been referred to us before; and from what we learn of them we are satisfied that they are worthy of help. Their father is dead and the mother not able to care for them. She has tried for the past few years to keep them with her, not wanting to part them, but has now reached the point where she can see no other way than to place the children in homes. The boys are seven and eight years old, have blue eyes and brown hair, and are in good health. The mother has kept them with her most of the time.

NOS. 293 and 294 are girls living in Pennsylvania. Their mother is dead, and the father is an inmate of the poorhouse. He is unable to provide for the children, and is very anxious to secure good homes for them. The girls are twelve and nine years old, and have dark eyes and hair, are in good health, and have good dispositions. Is there not a home in one of the Eastern States that will open its doors to these children who are in such great need?

NOS. 296 AND 297 are two little girls living in Kansas. They are five and six years of age, and are in need of a home. They have dark eyes and light hair, and are said to be well behaved and very quiet. Their father is dead, and the mother, not being able to provide for them, is very anxious to find good homes for them. She would prefer to find a home for herself with them. Will not some one offer them a home?

NOS. 298 and 299 are two little girls aged six and eight years respectively, who are living in one of the New England States. They have blue eyes and light hair, and have had the best of training while their mother was alive. The father is very anxious to find good homes for them, as he does not feel competent to give them proper care and training. Here is a chance to do real missionary work.

NO. 306.—Here is a baby boy only four months old who is sadly in need of a home. His father has abandoned him, and the mother is anxious to place him in a good Christian home. He has dark blue eyes and light hair and is in good health. The mother and child are at present staying with friends, but will soon have to look for shelter elsewhere. Will not some one offer to take this little one and give him the influence of a Christian home?

NOS. 312 AND 313 are two little boys aged eight and five years respectively, whose father has deserted them. The mother being away from home all day to earn a living, they are thus left to themselves. The older one has brown eyes and hair, and the younger one blue eyes and light hair. Will not some one offer them a home, and train them for usefulness? They are now living in New York State.

No. 314 is a little girl nine years old, with brown eyes and hair, living in Michigan. Her father is dead, and the mother feels as though she could not properly care for her. She is bright and quick to learn, and no doubt would prove a blessing to some home.

No. 315 is an orphan boy living in Michigan, who is sadly in need of a home. His stepfather is no longer able to provide for him, and he is staying with whoever is willing to keep him for a day or two at a time. He is eleven years of age, and has blue eyes and light hair. He has not been neglected, and no doubt, if he is surrounded by good influences, and receives proper instruction, he will be an honor to those who will thus direct his steps in the right path.

Nos. 318–321. This is a group of four little boys living in Michigan, aged ten, eight, six, and three years respectively, whose mother has abandoned them, and whose father is not able to support and care for them. They are said to be obedient and well behaved, and to have acquired no bad habits. They have dark eyes and light hair and are all in good health. Will not some mother open her heart, and take them into her home?

Nos. 325 AND 326 are two little boys aged seven and six years, who are staying with friends in Pennsylvania. Their mother is dead, and the friends who have cared for them thus far are no longer able to provide for them. They have brown eyes and hair, and are said to be eager to learn of spiritual things. They have no bad habits, and with proper care and training, would no doubt prove a blessing to some home. Will not some kind friends in the East offer them a home?

No. 327 is a little German girl ten years of age, with brown eyes and hair. Her father is dead, and the mother having to work out by the day, is not able to properly provide for her. She is in good health, and is easily controlled. The mother is very anxious to have her under Christian influences, where she may be trained for usefulness.

No. 329 is a little Holland girl seven years of age. Her mother is dead, and the father deserted her last spring. The stepmother, who has been caring for her, is dependent upon relatives for her support, who are not willing to care for this child. She is said to be well behaved and bright appearing. Is there not some home in Michigan or a neighboring State that will open its door to this little girl who is in such great need?

No. 330 is a little boy seven years old living in Michigan. He has blue eyes and light hair, and is in good health. He is said to be affectionate, and to learn very easily. His father is dead, and the mother feels as though she could not properly care for him.

No. 331.— Here is a bright little boy only two years old, who is sadly in need of a mother's care. His mother is dead, and his father being a day laborer in limited circumstances, cannot give him proper care and training. He has black eyes and brown hair.

PERSONS intending to visit the Haskell Home will please note that the visiting days are Sundays and Wednesdays, from 4 to 6 P. M. J. H. KELLOGG.

CLOTHING FOR THE POOR.

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

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

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

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

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

5. Clothing intended for the Chicago mission should be sent to Chicago Medical Mission, 40 Custom House Place, Chicago, Ill.

LITERARY NOTICES.

THE FUNK AND WAGNALL'S STANDARD DICTIONARY. — The book is illustrated with a number of colored plates — a novel feature — executed in Prang & Co.'s best style. The plate of gems and precious stones is one of the most beautiful specimens of the lithographer's art ever turned out. The two volumes of the work contain altogether about five thousand illustrations, including a number of full-page pictures. Those at *horse*, *dog*, *fowl*, *seals*, *sheep*, and *swine*, and like words are practical and valuable. An important feature for the scientific reader in this connection is the exact definition of the six primary colors of the spectrum, containing the analysis of several hundred shades and tints. Many thousand samples were considered and carefully compared by Professors Hallock and Gordon, of Columbia College, in perfecting the color plate and in preparing the table of some four hundred formulas which accompany the spectrum plate. This beautiful and instructive color plate under *spectrum* was made by L. Prang & Co., of Boston, in more than fifty separate lithographic printings, and at a cost of several thousand dollars.

To avoid the confusion that often arises, especially in a dictionary, by the use of a hyphen for the division of both single and compound words, the German double hyphen has been used in hyphened compounds.

THE N. Y. *Independent* announces to its subscribers and to any who may become so, that it is prepared to furnish any papers and magazines published in this country, England, France, and Germany, at a very large reduction from publishers' rates. This opportunity is open only to subscribers of the *Independent*. Upon receiving list of papers or magazines from individuals or reading-rooms, an estimate will be given by return mail. The yearly subscription of the *Independent* is $3.00, or at that rate for any part of a year. Clubs of five, $2.00 each. "Trial trip" one month, 25 cents. Specimen copies free. Address the *Independent*, P. O. Box 2787, or 130 Fulton Street, New York.

THE *Home Journal*, New York, an international journal founded in 1846 by George P. Morris and N. P. Willis, is the foremost literary and society weekly of New York; a newspaper of literature, art, music, and the drama, with a reflex of the doings of New York society. This journal contains poems, stories, translations, letters of travel, Paris and London correspondence, excerpts from the foreign press, music, dramatic and art criticism, essays, book reviews, and gossip of fashions. Out-of town readers will find the best life of the metropolis reflected in its pages. It is an international journal, and by its foreign correspondence and essays brings its readers *en rapport* with the social life of the great European centers. Single copies, 5 cents. Annual subscription, $2.00. Send for specimen copy. Address, Morris Phillips & Co., 231 Broadway, New York.

THE *Arena*, the people's review, free, frank, fearless, unmuzzled and unsubsidized, is recognized as the leading progressive, liberal, and reformative review in the English-speaking world. The *Arena* for 1896 will be absolutely indispensable to thoughtful people who love purity, who think below the surface, and who are interested in the great fundamental social, ethical, economical, political, educational, scientific, religious, and psychical problems which are challenging the attention of the most thoughtful minds of the world to-day. Beginning with the December number the price of the *Arena* was reduced from $5.00 to $3.00. The Arena Publishing Company, Copley Square, Boston, Mass.

THE *Mother's Friend* is the title of a little monthly edited and published by Mary Wood-Allen, M. D., Ann Arbor, Mich. It is published in the interests of the family and the home, and is the organ of the Purity Department of the National W. C. T. U., of which Dr. Allen is superintendent. The well-known reputation of the latter is sufficient guarantee of the value of the little periodical, both as a subject of study and reference for mothers' meetings, and for use in schools and homes. Single copies, 5 cents. One copy one year, 50 cents. Send for specimen copy and club rates.

"THE ART OF LIVING LONG AND HAPPILY."— By Henry Hardwicke, member of the New York Bar, author of "Modern Advocacy," etc., etc. 12mo, cloth, $1.00. G. P. Putnam's Sons, New York.

The author has clearly and succinctly shown how the joys of life may be multiplied and the sorrows of life decreased. Many of the sources of happiness are pointed out. He has not only given his own opinion upon the subject of long life, and the best means of attaining it, but he has given the views of many aged persons upon the same subject, with sketches of their lives, manner of living, etc.

PUBLISHERS' DEPARTMENT.

WE wish all our readers a Happy New Year, and take advantage of this opportunity to remind those who have not already renewed their subscriptions, that now is the time to pay up for another year. We feel sure that those who have received GOOD HEALTH during 1895 and have perused its columns, have felt well paid for the small investment which has made the magazine a regular visitor to their homes. For nearly thirty years, GOOD HEALTH has made regular monthly visits to many thousands of homes, and has not missed a single appointment. Each year the publishers have made an effort to improve the usefulness of the magazine, and during the coming year they hope to do even more than heretofore in this direction. Several new writers have been secured to contribute articles to its columns, some of which will appear as early as the February number; and it is believed that those who have been pleased with the magazine during the past year or in previous years, will be still more so during the year to come. GOOD HEALTH stands for all that is good in the way of physical, mental, and moral reform, and endeavors to keep pace with progress in all these directions. Its special mission is in the interests of the home, which it seeks to make healthier and happier.

***

WE are happy to be able to announce to our readers that arrangements have been made with Dr. Felix L. Oswald, who has long been a leading contributor to our columns, for a series of articles during 1896 entitled, "Zoological Health Studies." From the first article, which appears in this number of the magazine, we think our readers may be assured that in this series Dr. Oswald will fully sustain his long and widely established reputation as an instructive and entertaining writer. The subject is a new one, and full of interest and abounding with excellent texts upon which to preach telling sermons on practical hygiene for human beings.

***

TWO NEW SANITARIUMS FOR CONSUMPTIVES.—The management of the Battle Creek Sanitarium have long contemplated the establishment of branch institutions in the Rocky Mountain region for the treatment of consumptives and other classes of invalids who require the advantages of a high, dry atmosphere. After much investigation of the merits of different localities, extending all the way from Winnipeg to the City of Mexico, two points have finally been settled upon as presenting advantages superior to any others. These are Boulder, Colorado, and Guadalajara, Old Mexico.

Boulder has the advantage over many cities and localities in Colorado, that, while having all the climatic advantages possessed by any other locality, it has not as yet become a settlement of consumptives; and hence its virgin soil is practically free from contamination with the germs of this

disease, which cannot be said of some other localities in Colorado, in which tuberculous disease has become practically endemic, causing infection of the street dust, hotels, boarding-houses, churches, and public halls by the unrestricted expectoration of hundreds of consumptives.

The site selected in Boulder is just at the edge of the foot-hills of the mountains overlooking the city, and looking down upon the streets of Denver. A spur of the foot-hills just behind affords excellent protection from prevailing winds during the winter season. The large tract of land purchased for sanitarium purposes includes a fine peak, which presents admirable advantages for mountain climbing, and will be laid off in regular graded walks and measured stations, thus affording a fine opportunity for lung development by carefully-graduated exercise. The site is, all things considered, the most picturesque and advantageous with which we are acquainted. Some sixty thousand dollars are being expended in the erection of suitable buildings, which will include an electric light plant and every facility for baths, exercise, and control of the invalid's health habits. Two fine cottages, already erected, afford accommodations for the forty patients now under treatment. A number of patients suffering from tubercular disease, sent to Boulder a few months ago, have recovered, and are loud in their praises of the advantages afforded them even wish the comparatively imperfect facilities of the present arrangements. Boulder is easily reached from Denver by a branch of the Union Pacific R. R. Correspondence should be addressed to the Colorado Sanitarium, or Dr. O. G. Place, Boulder, Col.

A fine site has been purchased at Guadalajara, Old Mexico, in the most salubrious portion of the city. The grounds are ample, and are surrounded by beautiful gardens and fine residences of the wealthy people of Guadalajara. The erection of a building will begin at once, and will be the first sanitarium in Mexico. There is probably no other place in Mexico better suited for sanitarium purposes than Guadalajara. The climate is delightful the whole year. Perpetual summer reigns, yet oppressive summer heats are never known. Snow and ice are never seen. Two or three light frosts in the month of December are the only suggestions of cold weather, although the nights are always cool. Roses, oranges, bananas, and tropical fruits of every description flourish outdoors at all seasons of the year, and with a luxuriance in development which can scarcely be imagined by one who has never visited a tropical region.

Guadalajara is just the place for invalids who require a high, dry climate, but have not the vigor to endure the zero temperature or the harsh winds of the Rocky Mountain region of this country.

The sanitarium work at Guadalajara is now being carried on in four large rented buildings, and during the two years since it was established it has achieved a most unexpected degree of success.

Address correspondence to D. T. Jones, or Dr. J. H. Neall, Calle del Carmen, Guadalajara, Jalisco, Mexico.

***

REDUCED POSTAL RATES ON MSS. — The *Author's Journal* is preparing an immense petition to be presented to Congress at as early a date as possible in order to influence the passage at this session of Congress of a bill to reduce the rate of postage on MSS. The editor of the *Journal* requests that all writers who favor such reduced rates, cut out, sign the following petition, and mail it to him at No. 1 William Street, New York.

To the Honorable Senate and House of Representatives at Washington: —

We, the undersigned, writers and authors actively engaged in literary work, do respectfully ask that on MSS. mailed to or by publishers, a reduction be authorized in the postal charge to the merchandise rate; namely, one cent for two ounces. We submit —

That such MSS. are in fact merchandise, and that the rate proposed is the rate charged in other countries on all MSS., and also charged in the United States for transmission of MSS. to any foreign country in the Postal Union.

That the existing condition is a serious injustice to a very large number of American citizens.

Name .....

Street .....

City and State .....

***

A NEW WORK ON DIGESTION. — Dr. Kellogg's new work on digestion, "The Stomach: Its Disorders, and How to Cure Them," is promised by the printers to be ready in two or three weeks. The work is well illustrated, the illustrations including several colored plates, and contains, among other invaluable matter, a complete list of Diet Tables for use in different diseases, as well as for different forms of indigestion. Every dyspeptic ought to have a copy of this book to show him the road to health; every mother ought to have a copy to enable her so to order the diet and regimen of her children as to save them from the terrors of indigestion in later years. American people enjoy the unenviable reputation of being a nation of dyspeptics, and the majority are probably dyspeptics before they are twenty years of age. The price of the work is $1.00.

***

MODERN MEDICINE LIBRARY. — The Modern Medicine Publishing Company begins, with the month of November, the publication of a monthly to be known as the "Modern Medicine Library." Each number of this library will consist of a paper upon some important medical subject. Among the subjects which will be considered during the year 1896 are the following: —

New Discoveries in Relation to Digestion, and New and Successful Methods of Treating Disorders of the Stomach.

Non-Surgical Treatment of Diseases of the Ovaries.

Scientific Physical Culture.

The Liver: Its Functions and Disorders, by the eminent Dujardin-Beaumetz, of Paris.

The Influence of Dress in the Physical Deterioration of American Women.

Malarial Diseases: Their causes and Successful Methods of Treatment.

The Climatic Cure of Consumption.

Other equally practical and important subjects will be treated.

The subscription price of the Modern Medicine Library is fifty cents per year. The publishers have so arranged that the two journals, GOOD HEALTH, and the Modern Medicine Library, can be furnished to subscribers at $1.25. While a few of the papers which will appear in the Library will be quite technical, the majority are so practical in character that the lay public as well as physicians, for whom the Library is especially intended, may be instructed by them. The publishers feel confident that many of the subscribers of GOOD HEALTH will be glad to profit by this very advantageous offer.

***

THE managers of the Sanitarium Company have been urged to establish upon the Pacific Coast, a branch of their manufacturing business for the production of their incomparable health foods, the most important of which are now manufactured nowhere in the world except at Battle Creek. Steps will soon be taken for this purpose. The manufacture of the foods will begin either at San Francisco or Oakland, with a depot for distribution at Portland, Oregon.

***

ARE YOU GOING North, South, East, or West; if so, write me. I can interest any one desiring a new location to build a home, or engage in fruit raising, or diversified farming; send a postal card giving your address, and I know you will be interested. Harry Mercer, Mich. Passenger Agent Chicago, Milwaukee & St. Paul Railway, 7 Fort Street West, Detroit, Mich.

***

AN enigmatical bill of fare for a dinner served on the Dining Cars of the Chicago, Milwaukee & St. Paul Railway, will be sent to any address on receipt of a two-cent postage stamp. Apply to Geo. H. Heafford, General Passenger Agent, Old Colony Building, Chicago, Ill.

***

FROM now until spring, overcoats and winter wraps will be in fashion. They can be discarded, temporarily, while traveling in the steam-heated trains of the Chicago, Milwaukee & St. Paul Railway. For solid comfort, for speed, and for safety, no other line can compare with this great railway of the West.

***

WINTER TOURS.—The Michigan Central has placed on sale winter tourist tickets to all the principal Southern winter resorts at reduced rates. For full particulars, address, Geo. J. Sadler, Pass. Agt., Battle Creek, Mich.

BATTLE CREEK (MICH.) SANITARIUM

HEALTH FOODS

ESTABLISHED 1876

Granola,

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

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

One Pound More than Equals Three Pounds of Best Beef

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

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

BROMOSE...

Makes Fat and Blood.

BROMOSE, an exceedingly palatable food preparation, consists of cereals and nuts, in which the starch is completely digested, the nuts perfectly cooked, and their fat emulsified. It is thus ready for immediate assimilation. It is the most easily digested and most fattening of all foods, and at the same time rich in proteids, and hence **unequaled as a tissue builder.**

BROMOSE makes fat and blood more rapidly than any other food. It is the food par excellence for blood, brain, and nerves. Invalids whose troubles are due to the fact that they cannot digest the starch of cereals and vegetables, find in **BROMOSE A PANACEA.**

BROMOSE is rich in salts, as well as proteids and food elements. It is excellent for invalids who are thin in flesh, those who cannot digest starch, old people, feeble infants, consumptives, convalescents, fever patients, neurasthenics, and those who wish to **gain in flesh.**

SANITAS FOOD COMPANY

Battle Creek, Mich.

Perfection Vaporizer,

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

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

1. It furnishes a continuous stream of medicated air, without the necessity of continuously working the bulb.
2. By its aid, medicated air may be introduced into the nasal cavity with sufficient force to cause it to enter the ears, frontal sinuses, and other connecting cavities.
3. It permits thorough treatment of the coats of the nose and throat at the same time, and so economizes time.
4. It is strong, does not upset easily, is durable and efficient. It embodies all the good qualities of any other volatilizer or vaporizer in addition to the above.

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

PRICE, $3.

Modern Medicine Company,

Battle Creek, Mich.

CHICAGO & GRAND TRUNK R. R.

Time Table, in Effect Nov. 18, 1894.

GOING EAST. Read Down.					STATIONS.	GOING WEST. Read up.				
10 Mail Ex.	4 L'v'd Ex.	6 Atl. Ex.	42 Mixd Tr'n.	2 Pt. H Pass		11 Mail Ex.	1 Day Ex.	3 R'd L't'd	23 R. C. Pass.	5 P'ke Ex.
a m	p m	p m	a m			p m	p m	pm		a m
9.00	3.10	8.15	a m	.....	.....D.Chicago A.....	6.45	1.50	9.10	.....	7.50
11.25	5.05	10.30	6.00	.....	.....Valparaiso.....	5.05	11.35	7.10	.....	5.45
p m										
1.05	6.30	12.00	10.05	.....	.....South Bend.....	3.10	10.15	5.44	....	4.10
1.46	7.12	12.45	12.40	.....	..... Cassopolis	2.15	9.40	5.13	.....	3.28
2.33	.....	†1.33	3.42	.....	.....Schoolcraft.....	1.20	.....	.....	.....	.....
2.44	7.55	1.48	4.30	a m	.....Vicksburg.....	1.10	8.52	.....	p m	2.37
3.30	8.36	2.40	6.20	7.00	.....Battle Creek.....	12.15	8.15	3.55	9.35	1.50
4.33	9.26	3.25	.....	7.47	.....Charlotte.....	11.14	7.23	3.07	8.40	12.53
5.10	9.55	4.00	.....	8.20	.....Lansing.....	10.40	6.55	2.40	8.00	12.20
6.30	10.45	5.03	.....	9.30	.....Durand.....	9.35	6.05	1.55	6.50	11.28
7.30	11.17	5.40	.....	10.05	.....Flint.....	8.35	5.35	1.28	5.47	10.35
8.15	11.50	6.15	.....	10.43	..... Lapeer.....	7.49	5.02	1.00	5.10	10.01
8.42	a m	6.35	.....	11.06	.....Imlay City.....	7.28	.....	.....	4.48	.....
9.50	1.00	7.30	.....	12.05	....Pt. H'n Tunnel....	6.50	3.50	11.55	3.50	8.45
	p m					a m	a m	a m	p m	p m
9.25	.....	.....	.....	.....	..... Detroit.....	.....	.....	10.40	4.05	8.45
	a m	p m					p m			p m
.....	8.15	5.25	.....	.....	..... Toronto.....	.....	9.20	.....	.....	1.00
	p m	a m					a m			
.....	8.15	7.25	.....	.....	..... Montreal	.....	9.15	.....	.....	.....
	a m	p m					a m			
.....	8.12	7.15	.....	.....	.....Boston.....	.....	8.30	.....	.....	.....
	a m	p m					p m	a m		p m
.....	7.50	4.25	.....	.....	.....Susp'n Bridge.....	.....	10.15	7.05	.....	2.25
	a m	p m								p m
.....	7.00	5.40	.....	.....	.....Buffalo.....	.....	.....	.....	.....	1.00
	p m	a m					a m	p m		p m
.....	8.53	8.03	.....	.....	.....New York.....	.....	8.15	6.10	....	8.00
		a m								p m
.....	.....	10.20	.....	.....	.....Boston.....	.....	.....	.....	.....	7.00

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

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

Valparaiso Accommodation daily except Sunday.

Way freights leave Nichols eastward 7:15 a. m.; from Battle Creek westward 7:05 a. m.

† Stop only on signal.

A. B. Mc INTYRE,
Asst. Supt., Battle Creek.

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

MICHIGAN CENTRAL

"The Niagara Falls Route."

Corrected Nov. 24, 1895.

EAST.	*Night Express.	†Detroit Accom.	†Mail & Express.	*N. Y. & Bos. Spl.	*Eastern Express.		*Atl'ntic Express.
STATIONS.							
Chicago.....	pm 9.30		am 6.50	am 10.30	pm 3.00		pm 11.30
Michigan City.	11.35		8.48	pm 12.08	4.50		am 1.19
Niles.....	am 12.45		10.15	1.02	5.55		2.45
Kalamazoo....	2.05	am 7.20	11.52	2.16	7.21		4.25
Battle Creek...	2.55	8.10	pm 12.50	2.50	7.58		5.05
Jackson.....	4.30	10.00	2.40	4.10	9.20		6.30
Ann Arbor.....	5.40	11.05	3.50	5.00	10.12		7.30
Detroit.....	7.10	pm 12.20	5.30	6.00	11.15		9.00
Buffalo.....				am 12.10	am 6.45		pm 5.30
Rochester.....				3.00	9.55		8.40
Syracuse.....				5.00	pm 12.15		10.45
New York.....				pm 1.45	8.45		am 7.00
Boston.....				3.00	11.35		10.50

WEST.	*Night Express.	*N.Y.Bos. & Chi.Sp.	†Mail & Express.	*N.Shore Limited.	*Weste'n Express.	†Kalam. Accom.	*Pacific Express.
STATIONS.							
Boston.....		am 10.30		pm 2.00	pm 3.00		pm 7.15
New York.....		pm 1.00		4.30	6.00		9.15
Syracuse.....		8.30		11.30	am 2.15		am 7.20
Rochester.....		10.37		am 1.20	4.10		9.55
Buffalo.....		11.45		2.20	5.30		pm 3.30
Detroit.....	pm 8.45	am 6.30	am 7.15	8.30	pm 1.00	pm 4.45	11.05
Ann Arbor.....	10.28	7.30	8.38	9.25	2.00	5.55	am 12.15
Jackson.....	11.50	8.35	10.43	10.30	3.02	7.35	1.25
Battle Creek...	am 1.20	9.48	pm 12.15	11.43	4.18	9.11	2.55
Kalamazoo....	2.10	10.27	1.05	pm 12.21	4.57	10.00	3.36
Niles.....	3.55	11.48	3.00	1.45	6.27		5.00
Michigan City.	5.09	pm 12.50	4.25	2.45	7.22		6.00
Chicago.....	7.10	2.40	6.35	4.30	9.05		7.50

*Daily. †Daily except Sunday.

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

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

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

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

Antiseptic-Corrective Tablets

VEGETABLE CHARCOAL, SULPHUR, DIASTASE

The ingredients of which these tablets are composed constitute the most valuable known means of establishing an aseptic condition of the stomach and intestines. The great objection to their use heretofore has been the inconvenience of their administration. The discovery of a special form of vegetable charcoal, and of the method of combining it with other valuable ingredients, has enabled us to overcome the objections heretofore existing, and to present these most valuable agents in an efficient and agreeable form. These tablets, while they contain no foreign substances or excipient whatever, may be taken as easily and agreeably as a caramel.

ANTISEPTIC, DEODORANT, DIGESTANT.

Antiseptic-Corrective Tablets cure sour stomach, or acid fermentation, heartburn, bloating, flatulence of the stomach or bowels, foul tongue, bad breath, "nasty" taste in the mouth, biliousness, sick headache, nervous headache, constipation, and a variety of other conditions growing out of the action of microbes in the stomach and intestines.

Address for sample and circular, the

MODERN MEDICINE CO., Battle Creek, Michigan.

THE CYCLONE WASHER

THE CYCLONE STILL WHIRLS,

Washing Everything Clean that Comes in Its Way.

See What the People Say.

MESSRS. COON BROS., Battle Creek, Mich.

PAW PAW, MICH., Dec. 26, 1895.

Gentlemen: Enclosed find order for "Cyclones" which please ship at once. I have canvassed five full days, made twenty-five canvasses and sold 10 machines. Four of them are delivered, and I shall deliver the rest as soon as the machines get here. Respectfully,

N. G. MERCHANT.

PAW PAW, MICH., Jan. 1, 1896.

Enclosed please find draft for more "Cyclones." Those you sent before are all delivered, and I have canvassed part of a day besides. I began after 11 A. M., and made 6 calls, and took four orders. The machine is a great seller; I wish that I had gotten hold of it years ago. I think that when I get accustomed to the business a little, I can do pretty well. N. G. M.

MASON CITY, IOWA, Dec. 24, 1895.

MESSRS COON BROS.

Gentlemen: I have made 12 exhibitions and sold 12 machines. One place they did not take one, but one man took two, so it made the number good. M. C. C.

MANUFACTURED BY **COON BROS.,**

Agents Wanted Everywhere. BATTLE CREEK, MICH.

ESTABLISHED 1844

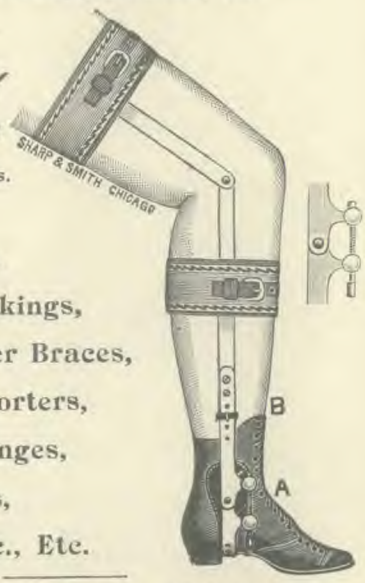
SHARP & SMITH,

73 Randolph Street, CHICAGO, ILL.

Manufacturers of....

DEFORMITY APPARATUS

....Of all Descriptions.



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