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# INTERNATIONAL HEALTH STUDIES.

BY FELIX L. OSWALD, M. D.

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

## 48.—British Columbia.

IN the volcanic region of the North Pacific coast lands, there are districts where bleak, cold hills inclose a garden spot of luxuriant vegetation; evergreen meadows, nourished by the waters of a warm spring, and leafy trees, flourishing in the vapor of a volcanic caldron,—a summer oasis in the midst of a frozen desert.

A similar contrast surprises the traveler who crosses the Rocky Mountains of the far West in the neighborhood of the fiftieth parallel. No part of our national territory, not even the "bad land" district of the upper Missouri, is more utterly desolate than that portion of British North America extending along the eastern base of the Rockies from Fort Walsh to the headwaters of the Peace River; and the change of scenery on the west side of the mountains resembles the metamorphosis of a landscape drama,—bird-haunted prairies, instead of frosty alkali plains, continuous forest and berry-covered glades, instead of snow-covered ridges.

The thermal contrast amounts to more than thirty degrees in a distance of sixty miles, and becomes more astonishing as we approach the coast, with its garden villages and evergreen parks. Is it possible that this is the latitude of Newfoundland and Labrador? What has become of the North American snowstorms? In reply, geographers have formulated rather than explained the supposed fact that the west side of every continent is warmer than the east side. But in Europe the blessing of a mild climate is enjoyed by a tract of territory stretching inland from the west coast of France to the mouth of the Danube, and even farther east, to the sunny foothills of the Caucasus; while in West America the abnormal state of affairs is limited to a narrow coast belt,—narrow even where the barrier of the Coast Range is broken by considerable gaps. Nor has that immunity from blizzards been vouchsafed to the southern half of our continent, since the island of Chiloe, under the 42nd parallel (closer to the Equator than Rome) is swept by almost continuous sleet slorms.

A thousand miles farther from the pole, South America bristles with icebergs, while British Columbia, under the 53rd parallel, enjoys the winter climate of South England and the summers of France. Figs and apricots ripen in the open air, and the garden vegetables rival the finest products of Northern Italy.

The woodlands, too, differ remarkably from the inhospitable dwarf-pine hills of Manitoba, and a similar difference has been noticed in the character of the aborigines. There is a story of a virago who passed a summer at a popular health resort, and on the day after her arrival, called her husband's attention to the tameness of the birds in the sanitarium park. "Why, just look at that! they come right up to my feet; they don't seem to be the least bit afraid." "They don't know you yet," remarked the husband. Possibly for similar reasons the Frazer River Indians treated the first white settlers with the most generous and confiding hospitality, inviting them to their wigwams and leaving them in charge of their squaws and youngsters, while they went to the river for a mess of fish. They know better now, but their jovial character still distinguishes them from their saturnine kinsmen on the other side of the Rockies, and may be traced to the same cause that made the natives of Tahiti the most amiable bipeds on earth: They could afford to be kind to one another, because

Mother Nature has been very kind to them. Prof. Northcote, in his "Flora of Vancouver's Island," enumerates eighteen kinds of wild-growing berries, besides nuts and edible roots. The fisheries are absolutely inexhaustible. In addition to the thirty or forty species found in the inland streams, shoals of seafish enter the river in the spawning season, and can be caught by shiploads, with as simple an implement as a dip-net with a long handle. The salmons of the Skeena River (latitude 55) frequently choke the channel of the narrows, and upon their return can be caught in sluice-traps, in quantities limited only by the size of the trap. There is a smaller fish, called *oulachani*, or "lamp fat," by the natives, who pierce it with a wick and use it as a ready-made oil-lamp,

SUBURBS OF VICTORIA VANCOUVER.

warranted to burn from five to seven hours, with no other assistance than an occasional squeeze.

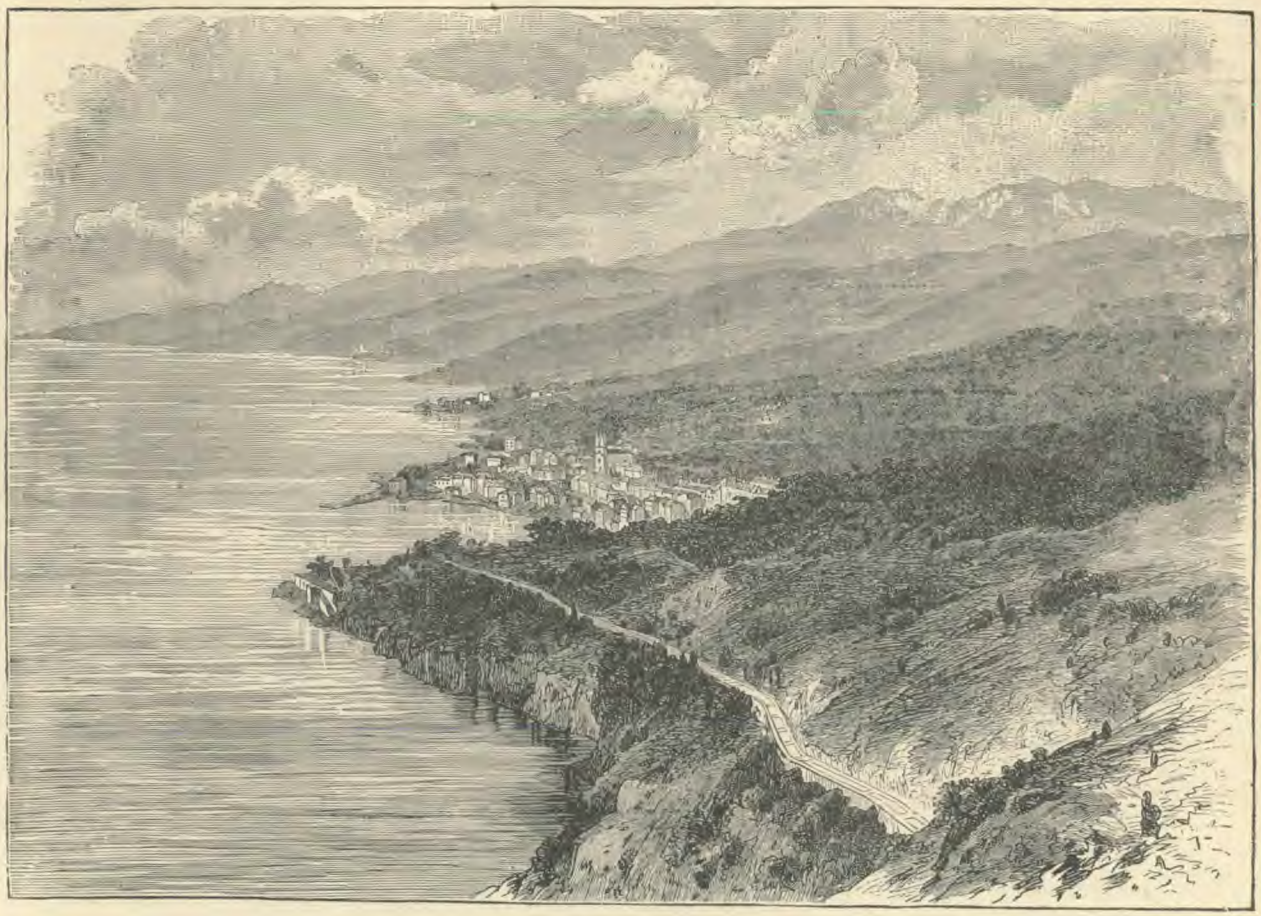
These fish are strung up in bundles and dried for winter use, and were sadly needed for sick-room lamps two years ago, when hundreds of the poor aborigines succumbed to a malignant form of grippe. Those who contracted the disease in midsummer got off with a few days' fever; but in winter, when the natives retired to their wigwams, the epidemic assumed a more virulent form, and defied all remedies till the arrival of a Nasse River witch doctor put a stop to the ravages of the mysterious affliction. Even white settlers consulted the specialist, but the effect of his prescriptions was possibly aided by the circumstance that his arrival coincided with the return of spring, when numbers of wigwam dwellers resumed their outdoor occupations. The winter is long and wet, and the aborigines build substantial wigwams of slabs out of the wood of the Douglas pine that splits as readily as red cedar, and abounds in all the coast hills north of the Skeena. These shanties are lined with rough-tanned furs, and are made almost draught-proof — too much so for sanitary purposes; for the natives dry horse-loads of deer meat and other animal substances, that are stacked up under their bunks, and do not improve the atmosphere of their dwellings.

The holiday season of their year begins in June, when the skies clear up, and the weather becomes extremely pleasant, just cool enough after dark to abate the mosquitoes, and warm enough from 9 A. M. till sunset to dispense with all but the lightest garments. Hunting still repays the toils of the explorer who makes his way beyond the clearings of the coast settlements to the magnificent pine forests of the foothill region, where he finds great herds of deer and countless squirrels. Under the alternate influence of warmth and moisture, some of the forest trees have attained gigantic proportions: pines two hundred feet high and fourteen feet in diameter at a man's height above the ground; but on the whole the woodlands do not display that variety of trees and shrubs that makes our eastern forests veritable botanic parks, the difference being probably due to the continuous belt of timberlands, which in the East stretches from the Bay of Fundy to the Gulf of Mexico, while in the West that continuity is broken by the deserts of Southern California.

Such as they are, the forests of British Columbia undoubtedly could stand a good deal of clearing without detriment to the hygienic interests of the natives. The climate is mild, even in January, but out and out too wet for human comfort, and the removal of some twenty thousand square miles of dripping forests would help to reduce the excess of humidity to an endurable medium. The 220,000 square miles of the province at present contain some 50,000 square miles of dense woodlands, without counting the pines fringing the ridges of the foothills and the tangled shrubs of the numerous coast islands. In that region of arboreal vegetation, the rainy season begins about the middle of October, and lasts till late in April, sometimes a month longer, and there are years when drizzling mists blot out the sun for weeks together.

Unless that drizzle alternates with cloudbursts, the farmers do not interrupt their outdoor work, and land speculators will assure the stranger that after a year or two they will get used to the climate and not mind a light rain a bit more than a New Englander would mind a few snowflakes. Habit, certainly,

will do wonders, but its limits are indicated by the fact that contagious catarrhs are remarkably prevalent in British Columbia. The woodcutter, coming home dripping wet, wants to enjoy the full benefit of a blazing fire without taking the trouble to change his underclothing; the windows of the crowded schoolroom are kept closed on account of the rain, and private attempts at ventilation provoke a storm of protest, especially when half the pupils are coughing and sneezing. Damp heat, the main cause, is as usual



SOUTH COAST OF VANCOUVER ISLAND.

mistaken for the best remedy for pulmonary affection, and though the stuffiness of the indoor atmosphere may not be worse than elsewhere, its baneful effects are aggravated by the very mildness of the outdoor temperature, or rather by the scarcity of expurgating frosts.

Digestive troubles are less frequent. As a rule, we eat too much concentrated food, fat meat, rich pastry, etc.; we do not dilute our meals sufficiently to facilitate the labor of the stomach. Beer drinkers partly atone for their alcohol outrage by limiting their passion to a beverage that contains more than ninety per cent of water. The Swiss grape cure has to be carried to a preposterous excess before it will miss its purpose of purifying the blood and restoring the functional vigor of a dyspeptic stomach. But moisture can enter the system by way of the lungs and the pores of the skin as well as through the mouth, and a day's work in a steaming forest may have all the sanitary value of a vapor bath, for it has been noticed that the dyspeptic effects of an overheated room can be counteracted by the simple device of putting an open kettle of water on the stove and letting its vapors counteract the dryness of the atmosphere.

Besides, the almost unparalleled abundance of fruit and berries encourages that kind of gluttony which Dr. Langenbeck considered a specific for the cure of our carnivorous excesses. A lively coast traffic is kept up with the west coast of the United States, but California and Oregon now have all the fruit they want, England is far away, and freight rates to the East would swallow up the profits of horticulture. The Vancouver farmer, under these circumstances, finds abundant excuse for the lavish

home use of his orchard products, and the Eymnosophists of ancient Hindostan, who lived on fresh fruits alone, could manage to get along in a Victoria boarding house.

The traveler Chamino held that the natives of the Caucasian continent should not talk of frost till they had spent a winter in the harbor of Archangel; and our American tourists should not growl about mud roads till they have visited British Columbia in March, when the clayey soil is soaked to a depth of thirty or forty inches. But the Columbian colonists cannot be discouraged by such obstacles. They are "thrice picked men" — the survivors of the hardy adventurers that made their way across the continent, after crossing the Atlantic; and in spite of rains and unprecedented mud, these pioneers continue to explore the valley of the northwestern wilderness, where numerous placers have been found in the foothill brooks, and the discovery of a new Eldorado may at any time revive the saturnalia of '49. On the Cariboo and the headwaters of the Frazer River there are now about fifty scattered camps, some of them furnished with hydraulic contrivances and abundant provisions, but the plurality are mere tent settlements, with a primitive store, where a retired miner sells gunpowder, boots, blankets, and perhaps a small assortment of stimulants, but very little food proper. Nearly every miner has his own "grub bag" along, and husbands his slender supply of hard tack and bacon by roasting panfuls of Lambert pine nuts and sweetening his gruel with maple juice from the neighboring forest, which is certainly a very primitive idea. If his supply gives out sooner than the bonanza of a good "pay claim," the Cariboo miner contrives to subsist on forest products altogether for a month or two, but to everybody's surprise, — his own included, — continues to enjoy abundant health, and breaks down only when the arrival of an enterprising settler gives the signal for a carnival of gluttony.

(To be continued.)

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Dangers of Gasoline. — Dr. L. F. Andrews, of Iowa, in the *Monthly Bulletin* of the Iowa State Board of Health, recently called attention to the alarming frequency with which horrible accidents involving loss of life or the permanent maiming of individuals, are reported in his State. What is true of Iowa is true of every other State. The following facts stated by Dr. Andrews, ought to be known by every one who makes use of this dangerous agent: —

"Gasoline is one of the most dangerous and explosive substances produced from petroleum — in fact it is one of the most dangerous of all explosives, for the reason that it is so generally handled, and for the further reason that the manufacturers of gasoline stoves give no warning nor instructions regarding the use of gasoline, but contra-wise knowingly and falsely strive to make the people believe that the use of these stoves is 'perfectly safe.' They know, as everybody knows, who knows anything about the subject at all, that no process has yet been discovered that will change the explosive nature of gasoline. It cannot even be frozen sufficiently to affect its explosive property. It will ignite and explode on ice. Its very explosiveness constitutes its sole value for heating purposes. The more volatile it is, the greater the combustible vapor-producing quality.

"It matters not what methods to secure safety may be devised by the stove maker, its use cannot be 'perfectly safe;' for the explosive nature of the gasoline still remains, and that is never safe under any conditions when exposed to air and flame. It is more dangerous than gunpowder, dynamite, or nitroglycerine; for they are exploded only by contact with flame, or concussion of the substance itself. An open can of gunpowder may set behind a kitchen stove indefinitely, without danger, if there be no contact with flame.

"Not so with gasoline. So volatile is that substance that a pint placed in a broad vessel on the floor of a closed room, in an hour would become entirely evaporated, and so impregnate the air that on lighting a match it would explode with disastrous results. A pint of gasoline will render two hundred cubic feet of air explosive. Gasoline, when confined, will not explode. It must be mixed with a certain quantity of air, three to nine parts air to one of vapor of gasoline. Herein lies the danger. The use of gasoline and gasoline stoves is largely by ignorant people, who know nothing of the nature of gasoline. They handle it as though it were water, regardless of fires or lights that may be in the room.

"The stove has not yet been made that renders it 'perfectly safe' to use gasoline, and no stove maker will undertake to deny this statement. The danger lies in the gasoline itself, which it is not safe to have about a house."

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Cleanliness is the most powerful disinfectant.

# HEALTHY HOMES.

## IV.

BY HELEN L. MANNING.

As to choice of building material and general mode of construction, Dr. J. H. Kellogg, in a recent lecture in the Sanitarium, covered the ground very satisfactorily. His suggestions were practical and explicit, and probably I can furnish nothing that will be of more value to the readers of GOOD HEALTH than to condense the same from shorthand notes. Hence the following: —

A perfectly sanitary house can be constructed out of either wood, stone, or brick. In different parts of the world, many different kinds of building material are utilized, climatic needs making a varying adaptability. Down in Mexico, a short time since, I saw houses constructed of straw, which answered very well in that warm country, being sufficiently porous to allow the polluted air to escape and the pure air to come in.

In the arctic regions, the Esquimaux constructs his house out of ice and snow, the entrance being through a long tunnel of like material. This is not so unsanitary as it appears, for the impurities of the air are condensed by the snow, while a supply of pure air filters in through the snow itself. But in our Northern States, where the temperature is sometimes arctic and sometimes tropical, houses need to be constructed so as to be air-tight, or at any rate, they should be so constructed that the air can enter only through channels specially provided for it. It would not do for air to enter every part of the house through a porous wall, for persons sitting next to such a wall would be very liable to take cold. It is sometimes claimed that "a house ought to breathe." Certainly some loosely constructed houses with walls simply coated with plaster, give evidence of "breathing;" for one can count the lath by the lines of dust between. One cubic yard of air will pass through an ordinary brick wall in an hour, but this is not sufficient for ventilation, unless the house is a very large one, especially if there are many persons in it.

It is best to have an air-tight wall, and this can be made of wood, stone, or brick. For a house of moderate price, one in which brick and stone are combined, is perhaps the best. After the wooden frame is put up, first cover it with matched sheeting, then one or two thicknesses of bibulous paper, then add the brick and stone laid in mortar. In this way, every place where the cold air might come in is carefully filled, making a very warm house. In a house constructed of stone, the tendency is to dampness. The rain falls on it, and the moisture is drawn up into the pores of the stone, and so the walls are kept damp and cold by the evaporation which is constantly taking place. A house of so-called solid brick, is generally a very cold house, being not only porous, but really very much like a cob house. The bricks are piled up and a little mortar thrown in, sufficient to make the outside look well when "pointed up," as the masons call it, but not enough mortar is used to keep the wind from blowing through in many places. I have seen an eight-inch brick wall put up so loosely that I could look through it here and there.

Some advocate a hollow brick wall, claiming that the "dead air" space is a non-conductor. But the idea of a "dead air" chamber in the walls of a brick house is a delusion, because the walls are never air-tight; hence the air in these spaces is "live air," or air in motion. Again, these spaces are usually filled to a greater or less extent with mortar, pieces of brick, and other rubbish which the masons find it convenient to throw in, and besides, the walls are always bound together at intervals, so that there really is no such thing as a hollow wall. This method of building, therefore, is simply economical without being sanitary.

If, for reasons of economy or preference, it is desirable to build a house entirely of wood, cover the frame with matched sheeting, and then put on two or three layers of building paper before nailing on the clapboards, and you will have a house which is warm and comfortable, the walls of which are practically air-tight.

However, the best houses we can build of wood, brick, or stone, are dark, and nature never intended that we should spend our time in darkness except in the night. The ideal material would be some transparent or translucent substance like glass. Light is very necessary for health and for the support of activity. It is surprising to see how most animal life becomes inactive in the dark. For example, notice the little star fish lying in the water, putting out its arms and slowly contracting its organs; but just as soon as a cloud comes over the sun, the little creature at once folds its arms and becomes quiet until the cloud passes. The same principle applies to plants. Some are so sensitive to light that they be-

gin to open their leaves long before sunrise. Our bodies must be much more sensitive to this occult force of nature than plant life or the lower orders of animal life; for man is the very highest type of organization. He has the most highly developed cells and tissues, and the greatest tissue activity. Yet many wealthy people live in costly houses, surrounded with every luxury, and scrupulously shut out the blessed sunlight. The dwellers in these luxurious dungeons have frail bodies, pale faces, and lusterless eyes.

With houses made of glass so that the sunlight could penetrate freely, there would be no musty corners. Mold and mosses and fungi flourish only in dark, damp places. Germs, when exposed to the sunlight, die in a few hours. It may be objected that there would be too much light in a glass house, and we could not live comfortably in it. But shades could be arranged and also screens to secure privacy, and yet not cut off the light as do our heavy, opaque walls. A glass wall a foot thick would be such a poor conductor of heat and cold that any atmospheric change which might take place outside would not be recognized within. Cold walls are a constant source of discomfort and disease. The advantages of a house built largely of glass are numerous, and it is not too much to expect that the people of a century hence will seize upon this material as the best available in the interests of health and comfort.

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NERVE HYGIENE.— It stands approved by experience that nerves and muscles which remain inactive lose strength and shrink; and just so the brain needs exercise, and in fact earnest, hard labor, but not too one-sided, in order to become, and remain, strong and healthy. Over-weariness and over-exertion, however, injure the brain as they injure muscles and nerves. To furnish power and working capacity, the muscles and nerves require a sufficient amount of such nourishment as will produce matter and force; but overfeeding is an injury. It is just so with the brain.

Sleep is the indispensable rest of the brain, during which it recovers the substance lost by the wear of the day, and gathers up strength. Good sleep is the fundamental requirement for brain health. Every nerve stimulant, and on the other hand, all substances that produce artificial sleep, are nerve poisons, and are to be condemned by a healthy nerve hygiene. The worst foes of the human brain are alcohol, morphia, ether, cocaine, and the like. Their use is never justified except very temporarily as medicine, or in order to allay the pain and the agony of death in a fatal illness.

Every one who desires to secure and to strengthen a healthy and useful brain, must first, not only labor physically, but mentally; must really labor, and that daily, and not too little. Four hours of work a day for a healthy being is altogether too little. Let any one spend his time in enjoyment and idleness, and enjoyment soon ceases to be enjoyment. He will accumulate artificial wants in ever increasing numbers until they burden his life. He will become more and more dependent and morose. His mental horizon will grow narrower continually, and more rigid. The plastic brain of youth, that is, its docility and adaptability, will become less and less active and capable of comprehending and elaborating new thoughts.

On the other hand, mental labor preserves the plasticity of the brain to a much more advanced age. Idlers, therefore, in spite of the best brain capacity, become prematurely old mentally, narrow-hearted, limited in horizon, and not seldom absolutely stupid. We often observe moderately gifted students becoming, by means of work, men of power; and highly gifted young men, by means of idleness, gradually grow useless, peevish, and now and then narrow-minded Philistines.— *Dr. Augustus Ford.*

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A NEW REMEDY.— Old Joe Case did n't have much respect for either doctors or medicine until a short time ago.

Joe had just pulled through a pretty severe attack of grippe, and was persuaded, much against his will, to take quinine as a tonic. The country doctor, to whom Joe went for the quinine, happened to be very busy that day, and did not have time to put up any capsules for him. However, he provided him with the materials, and ample directions as to how he must fill the capsules with the quinine.

A week after this Joe presented himself at the doctor's office. His face was beaming.

"Doc," he said, "I ain't never a-gwine to say agin thet you can't help a feller. You 've done me a power o' good."

The doctor was slightly surprised. He asked him how much quinine he had taken.

"Wall," said Joe, "I ain't took none of it yet. I 've just been a takin' the capsules. Quinine may be pretty good, but them thar capsules does the business. Lemme have all you kin spare. The old woman will be oneasy 'till she gits 'em, fur she 'lows they mought help her, too."— *Detroit Free Press.*

## THE ABUSE OF TONICS.

THERE is perhaps no class of remedial agents more abused than tonics. The abuse consists both in the excessive use and the misapplication of this class of agents, which, within a restricted field, possess an indisputable and important therapeutic value. The misuse of tonics is doubtless the outgrowth of a misconception of the real nature of this class of remedial agents and its limitations. Many physicians also seem to lose sight of the fact that tonics are, as has been aptly said of drugs in general, two-edged swords, which are as capable of mischief as of benefit. Indeed, when the true nature of tonics, as is true, in fact, of most medicinal agents, is thoroughly understood, it is apparent that even in cases in which they accomplish the maximum of benefit, there is also a certain amount of injury inflicted upon the organism, so that the effect obtained is really and simply the difference between the mischief done and the good accomplished. If the difference is on one side, the total result is benefit; if on the other side, the result is harm. This principle holds good with regard to most remedies, whether the means employed is a drug or a non-medicinal agent.

The popular idea of a tonic is well expressed in the following definition, which we find in the National Medical Dictionary: "An agent which augments gradually and permanently the strength and vital activity of the body or its parts." A stimulant is defined by the same authority as being "an agent which increases the functional activity of any organ or series of organs." The distinction made seems to be that a stimulant produces temporary excitement, whereas a tonic produces a permanent increase of strength and vital activity.

A careful study of the physiological effects of the various stimulants and tonics very clearly shows that upon the point in question there is really no difference whatever. The only way in which strength and vital activity can be really increased, is by an increase of the metabolic processes of the body. Alcohol and strychnia may be taken as good representatives of the two classes of drugs named stimulant and tonic. What is their effect upon the metabolic processes of the body? The experiments of T. Lauder Brunton and others have shown conclusively that both alcohol and strychnia lessen oxidation in the system. In the case of both drugs this is due to the toxic effect of the drug upon protoplasm.

The metabolism of the body depends upon oxidation. Without oxidation there can be no tissue change and no evolution of energy. How, then, can an agent which lessens oxidation produce a permanent increase of strength and vital activity? Here is a paradox which no writer upon therapeutics up to the present time has explained.

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THE CLEANSING FUNCTION OF HAIR.—An interesting example of the subservience of form to function, which the writer has never seen mentioned, is found in the arrangement of the epidermic scales forming the outermost layer of animal hairs. The buried edges of the scales point toward the root of the hair, while the free edges project obliquely in the direction of the hair end, as the shingles on a roof point to the eaves. When a hair is drawn between the thumb and forefinger, which are gently pressed upon it, it will be found that the hair glides far more easily when pulled from root to tip than in the opposite direction. When the hair is simply rolled between the thumb and finger, it will gradually move parallel to its length in the direction of the hair root. The results depend altogether on the way in which the hair scales project from the hair axis. It is at once obvious that foreign particles clinging to the hair *in situ*, would find easy the passage outward toward the tip and away from the surface of the body, but exceedingly difficult any progress in the opposite direction. Every movement of the hair, especially frictional disturbance, must set up a current of foreign particles toward the hair tip. The housewife has long known by experience how much more readily a vigorous shaking cleanses a woolen garment than one made of cotton.

The sebaceous glands opening at the mouth of the hair follicle, probably play an important part in surface cleansing; for their oily secretion sticks together the particles of shed epithelium, associated with all manner of filth, in such a manner that the "hair-rakes" can, no doubt, more easily remove them.

Ludwig long ago showed that, in the same way, the mucus secreted by the surface epithelium of the stomach and intestines agglutinates the detritus which covers the mucous membrane after digestion, and so makes possible its removal by peristaltic action. The housewife, again, uses the same principle when she sprinkles a very dusty floor before sweeping, and finds the filth rolls before her broom.

One more reference to physiological body cleansing: It has been found that the growth of epidermic epithelium proceeds in such a way, at least in certain situations, as to remove the wornout cells *en masse*. Thus, on the external surface of the ear drum, the direction of growth is such that the epithelial scales progress, pushed from below, steadily from the center of the membrane, and then along the meatus to the exterior. Foreign particles lying on the epidermis are of course carried with it.— *Henry Sewell, Ph. D., M. D., in Science.*

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A MEDICAL COLUMBUS.— The year 1893 is not only the quadri-centennial of the discovery of America, but also that of the birth of Paracelsus, the celebrated chemist and physician, although his methods were of such a character that in modern times we should call him a charlatan. It is said that Paracelsus was also one of the first discoverers of alcohol, which he called the "Elixir of Life," but demonstrated the fallacy of his theory by himself dying a sot. One of the most noted exploits of Paracelsus was in experimentation with various drugs, one of which acquired its name from the peculiar qualities which it exhibited. Having found a peculiar substance, he tested its medicinal virtues upon the monks of a neighboring monastery with the effect that each one of the persons who took the medicine promptly died. From this fact, he named the newly discovered drug "anti-monk," which in the Spanish language is "anti-monie," from which we have "antimony."

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MEAT AN ANTI-MUSIC DIET.— An amusing theory is now discussed that meat is an anti-music diet, and those who persist in feeding largely on meat can never be very musical singers. The true diet for them is vegetables and grains. Nations that eat exclusively or largely of meat and fish are not musical nations. To carry out this theory, different nations are mentioned where meat and fish are the chief diet, and who are not musical. The others that are musical are mentioned as grain and vegetable eating nations. The theory is first founded upon the diet of birds. By a queer co-incidence nearly all of the carnivorous birds croak, scream, and cry, but they do not sing, while nearly all the class of grain eating birds are sweet singers. It may be that their diet has something to do with their musical talent and voices, and in the same way people and nations may be affected similarly. An interesting collection of notes now would consist of a comparison of the diet of all great singers.— *A. S. Atkinson, M. D.*

COMPARATIVE HEALTHFULNESS OF OCCUPATIONS. — An English statistician has prepared the following table relating to the comparative mortality of men engaged in different occupations between 25 and 65 years of age. Clergymen were found to be the longest lived, and their death-rate the smallest. This was taken as the unit of comparison. Calling the death-rate of clergymen 100, the comparative death-rate of other occupations is indicated by the difference between 100 and the figures representing the death-rate for each occupation. In the following table the high death-rate of liquor dealers, hotel-keepers, brewers, miners, and file-makers will be very readily connected with the special causes of disease found in these occupations. It will be noticed that the mortality of inn-keepers, who are also with rare exceptions liquor dealers, is four times that of clergymen.

| Occupation. | Comparative Mortality. | Occupation. | Comparative Mortality. |
|---|---|---|---|
| Clergymen, priests, ministers | 100 | Builders, masons, bricklayers | 174 |
| Lawyers | 152 | Carpenters, joiners | 148 |
| Medical men | 202 | Cabinet-makers, upholsterers | 173 |
| Gardeners | 108 | Plumbers, painters, glaziers | 216 |
| Farmers | 114 | Blacksmiths | 175 |
| Agricultural laborers | 126 | Engine, machine, boiler makers | 155 |
| Fishermen | 143 | Silk manufacturers | 152 |
| Commercial clerks | 179 | Wool, worsted manufacturers | 186 |
| Commercial travelers | 171 | Cotton manufacturers | 196 |
| Innkeepers, liquor-dealers | 274 | Cutlers, scissors-makers | 229 |
| Inn, hotel-service | 397 | Gunsmiths | 186 |
| Brewers | 245 | File-makers | 300 |
| Butchers | 211 | Paper-makers | 129 |
| Bakers | 172 | Glass-workers | 214 |
| Corn-millers | 172 | Earthenware-makers | 314 |
| Grovers | 139 | Coal miners | 160 |
| Drapers | 159 | Cornish miners | 331 |
| Shopkeepers generally | 158 | Stone, slate quarries | 202 |
| Tailors | 189 | Cab, omnibus service | 267 |
| Shoemakers | 166 | Railway, road laborers | 185 |
| Hatters | 192 | Costermongers, hawkers, and street sellers | 308 |
| Printers | 193 | | |
| Bookbinders | 210 | | |

The same writer has prepared another table, showing the comparative mortality of liquor-dealers and men in general, from special diseases. The men compared were all between the ages of 25 and 65 years.

| Diseases. | Liquor-dealers. | All Males. |
|---|---|---|
| Alcoholism | 55 | 10 |
| Liver diseases | 240 | 39 |
| Gout | 13 | 3 |
| Diseases of nervous system | 200 | 119 |
| Suicide | 26 | 14 |
| Diseases of urinary system | 83 | 41 |
| Diseases of circulatory system | 140 | 120 |
| Other causes | 764 | 654 |
| All causes | 1,521 | 1,000 |

These interesting statistics teach a lesson so impressive that comment is unnecessary.

BRAINS AND INTELLECT.— The attempt has been made to show that women are intellectually inferior to men, for the reason that the average feminine brain weighs several ounces less than the brain of the average male. This conclusion is based upon the fact that idiots have small brains, and that the smaller the brain, the greater the degree of idiocy. The great brain of the anatomist Cuvier, the largest ever recorded, and the great brain of Daniel Webster, the heaviest American brain ever examined until the brain of the late Gen. Butler was found to considerably exceed it, were regarded as evidence of great intellectual capacity; and unquestionably there is a relation between brain size and mental capacity, for it is observed that those races that have small skulls and small brains are much inferior in intellectuality to those nations in which the average size of the head is large. That brain size cannot be taken as the principal measure of mental capacity and activity, is, however, well shown by a circumstance recently noted: Two brothers by the name of Leidy, both physicians, recently died in Philadelphia. One of these men, the younger Leidy, was scarcely known outside of his native city, while the elder, Dr. Joseph Leidy, had a world-wide reputation as an anatomist and naturalist. Examination after death, however, showed that the brain of the younger brother was heavier than that of the elder, and that it appeared to be more perfectly developed.

Quality as well as quantity must be considered, since as much depends upon mental balance or symmetrical development, as upon size.

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A LEOPARD TAMED BY PERFUME.— Wild animals are completely fascinated and tamed by perfumes. Mrs. Lee, in India, had a tame leopard that played in the house with her children. He was very inquisitive, as all of the cat tribe are, and loved to stand on his hind legs, with his fore paws on the window sill, and look at the passers-by.

When the children wanted the place for themselves, they would all take hold of his tail, and pull him down by that. He was generally very amiable, but sometimes, his claws being very sharp, the children were scratched. So Mrs. Lee taught Sal to keep his claws sheathed by giving him, when he did so, a little paper tray on which lavender water had been dropped. This would throw him into transports of delight. He would tear the paper into bits, and roll over them on the floor.

With nothing but a bottle of lavender water I have become the best of friends with a leopard, a tigress, and a lioness in a menagerie. — *Rev. J. G. Wood.*

A MINISTER'S PLEA.— The following is from the pen of Rev. H. L. Hastings, of Boston, who no doubt speaks from the depths of his own experience: —

"There are some excellent women who take great delight in feeding ministers with all sorts of richly cooked and highly seasoned food; cakes, puddings, pies, pastry, and everything of that kind is spread before them, till they grow sickly and dyspeptic, and often would be glad to exchange the whole of it for a cold potato or a dish of mush and milk. Dear friends who preside in the kitchen, give us something plain and healthful, that we may eat and give thanks. And remember that men are likely to eat quite enough without being coaxed and tempted. Trouble came into the world at the first by a woman coaxing a man to eat, and it has been kept up pretty steadily to this day. Let our prayer be like that of Agur: 'Feed me with food convenient for me,' and such food as that will be not too rich, nor too costly, but plain, simple, and healthful."

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A CONTRAST.— With an incredible fatuity we give our children pies, cake, preserves, hot biscuit, coffee, pepper, and all other condiments we can collect from the four quarters of the globe, and then wonder that their stomachs and nerves are a wreck before they are fifteen. We have seen children carry pepsin and quinine to school to take with their dinner. Their parents were not invalids; they endowed their children with strong frames and good digestion; but the young stomachs had been so debauched with villainous hot bread, hot cakes drowned in syrup, strong coffee, fried potatoes liberally dosed with pepper, and other such abominations, that they were unable to nourish the young bodies through the trying period of the summer season without help of the stimulants above mentioned. On the other hand, children sitting at the same desks, upon whom were originally bestowed no better physical systems, if as good, went through the summer in the enjoyment of the perfect health which is comprehended in the saying, "There was little falling-off in the animal spirits, vigor, and color which they showed in the far North." Why?— Because they were never allowed to take tea or coffee, pepper or spices, and seldom hot, heavy bread and rich pastry. They were abundantly nourished on oatmeal and cream — Jersey milk with the cream stirred in — graham or whole-wheat flour bread, made light and wholesome, and fruits well and plainly cooked, with not enough sugar to neutralize their natural acid. — *Florida Dispatch.*

## SOMNAMBULISM.

THE phenomena of somnambulism arise from the fact that the faculties are unequally suspended during sleep, so that one set of organs may be active while the others are dormant. It is frequently accompanied by dreams which arise out of a similar condition of the nervous functions. Several incidents illustrating the manner in which the partial suspension, partial activity, of the faculties affect the somnambulist, are related in an English magazine.

A boy on his way to the seaside had traveled by steamer, railway, and coach, from six o'clock in the evening till four o'clock on the next afternoon, without cessation, and with hardly any sleep. Shortly after going to bed, his companion was awakened by a crash of glass, followed by hysterical cries, and on looking for the boy, found that he had got up, broken the window, and gone. He was found in the road, wounded in the feet. It appeared from his story that when half asleep, he thought he saw a mad bull rushing at him. Catching hold of a curtain, which he thought was a tree, he swung himself over the hedge by which the tree grew, — the window, open from the top, — then jumped and ran away, breaking the window with his heel, and cutting his feet on the sharp stones. In this case the impression left on the mind of the sleep-walker was so strong as to enable him to tell all that he thought and imagined during the dream.

In the next incident no trace of remembrance survived. A servant-girl came down at four o'clock in the morning, and asked her mistress for some cotton to mend her dress, which she had torn. While she was looking in her work-box, some one offered her an empty spool, but she refused it, and taking up her gown, pointed to two holes which she said she wanted to mend. A needle was threaded for her with black cotton, but she rejected it, saying she wanted brown cotton. Some one spoke, and she said that it was her mistress; but it was not. Her vision was thus shown to be keen, but her hearing dull. She was wakened with considerable difficulty, and seeing the cotton box disturbed, asked why it had been meddled with. Several questions were asked her during the following day to test her recollection, but she could not recall her sleep-walking, or anything that had taken place during the night.

A miner near Redruth arose one night, walked to the engine-shaft of the mine, and safely descended to the depth of twenty fathoms, where he was found soon afterward sound asleep. He could not be wakened by calling to him, and he had to be shaken. When awake, he could not account for the situation in which he found himself.

Morrison in his "Medicine no Mystery" tells of a clergyman who used to get up in the night, light his candle, write sermons, correct them with interlineations, and go to bed again, while he was fast asleep.

A similar story is told of an English dissenting preacher, who had been perplexed during the week about the treatment of his Sunday's sermon, and mentioned his perplexity to his wife on Saturday night. During the night, he got up and preached a good sermon on the subject in the hearing of his wife. In the morning, his wife suggested a method of treating the subject based upon his sleep-work of the night before, with which he was much pleased, and he preached the sermon with no knowledge of its real origin.

The *Lancet* has a story of a butcher's boy who went to the stable in his sleep to saddle his horse and go his rounds. Not finding the saddle in its usual place, he went to the house and asked for it, and failing to get it, started off without it. He was taken from the horse, and carried into the house. A doctor came, and while he was present, the boy, considering himself stopped at the turn-pike gate, offered sixpence for the toll, and this being given back to him, he refused it, and demanded his change. A part of the change was given him, and he demanded the proper amount. When awake afterward, he had no recollection of what had passed.

To prevent sleep-walking, it is necessary to remove whatever is the occasion of it, if it arises from any definable disorder. Often, however, it cannot be referred to any complaint; then the best thing that can be done will be to take precautions against the somnambulist's running into any danger. — *Popular Science Monthly.*

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A LONDON oculist, Mr. Critchett, states that he is constantly consulted by gentlemen who are beginning to suffer from blindness which is caused solely by smoking. — *Laws of Life.*

A STUDY of health is vastly more profitable than a study of disease, because every mental delineation presses for outward structural expression. — *Henry Wood.*

## VEGETABLE POETRY.

POTATOES came from far Virginia;
Parsley was sent us from Sardinia.
French beans low growing on the earth,
To distant India trace their birth;
But scarlet runners, gay and tall,
That climb upon your garden wall,—
A cheerful sight to all around,—
In South America were found.
The onions traveled here from Spain;
The leek from Switzerland we gain;
Garlic from Cicily obtain,
Spinach in far Syria grows;
Two hundred years ago or more
Brazil the artichokes sent o'er,
And Southern Europe's sea-coast shore
Beet roots on us bestows.
When 'Lizabeth was reigning here,
Pease came from Holland, and were dear.
The South of Europe lays its claim
To beans; but some from Egypt came.
The radishes, both thin and stout,
Natives of China are, no doubt;
But turnips, carrots, and sea-kale,
With celery so crisp and pale,
Are products of our own fair land;
And cabbages, a goodly tribe,
Which abler pens might well describe,
Are also ours, I understand.

— *Goldthwaite's Geographical Magazine.*

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HORACE GREELEY was a vegetarian for many years. Wendell Phillips was a vegetarian for fifty years, never eating meat unless he was compelled by the lack of other food.—*Sel.*

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JAPAN has a population of about forty millions and a half. According to statistics annually compiled, an unusually large number of persons attain the age of one hundred, and pass beyond that limit even. Has not the fact that the Japanese are practically vegetarians, something to do with their longevity?—*Laws of Life.*

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DR. L. BREMER, late physician to St. Vincent's insane asylum, St. Louis, Mo., states in a pamphlet on "Tobacco Insanity and Nervousness," as follows: "The boy who smokes at seven will drink whisky at fourteen, take to morphine at twenty or twenty-five, and wind up with cocaine and the rest of the narcotics later on. It may look like overstating and exaggerating things, but I know whereof I speak when I say that tobacco, when habitually used by the young, leads to a species of imbecility. The juvenile smoker will lie, cheat, and steal, which he would not do had he let tobacco alone. This kind of insanity I have observed in a number of cases at St. Vincent's."

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HOW BABIES ARE REARED IN VARIOUS COUNTRIES. —An English periodical has collected the following interesting facts concerning the care of babies by mothers of different nationalities: —

"In Ireland, a belt made of woman's hair is placed about a child, to keep harm away. Garlic, salt, bread, and steak are put into the cradle of a newborn babe in Holland. Roumanian mothers tie red ribbons around the ankles of their children to preserve them from harm; while Esthonian mothers attach bits of asafetida to the necks of their offspring. Welsh mothers put a pair of tongs or a knife in the cradle, to insure the safety of their children; the knife is also used for the same purpose in some parts of England. At the birth of a child in lower Brittany, the neighbors take it in charge, wash it, crack its joints, and rub its head with oil, to solder the cranium bones. It is then wrapped in a tight bundle, and its lips are anointed with brandy to make it a full Breton. The Grecian mother, before putting her child in its cradle, turns three times round before the fire while singing her favorite song, to ward off evil spirits. In Scotland, it is said that to rock the empty cradle will insure the coming of occupants for it. The London mother places a book under the head of a newborn infant, that it may be quick at reading; and puts money into its first bath to guarantee its future wealth. The Turkish mother loads her child with amulets as soon as it is born, and a small bit of mud, well steeped in hot water prepared by previous charms, is stuck on its forehead. In Spain, the infant's face is swept with a pine-tree bough, to bring good luck. In America, the child is handed over to a nurse, with instructions to 'raise it on the bottle.'"

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*Mrs. Oldtymes* — "These new notions about sterilizing milk and boiling water to drink are all nonsense. They make a heap of work all for nothing. I had eleven babies, and I ought to know something about it."

*Young Mother* — "And did your children all grow up to maturity?"

*Mrs. Oldtymes* — "Two of them did."— *Brooklyn Life.*

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PAPER money has been shown to contain disease germs, to an extent not at all reassuring just now. An examination of two Cuban notes revealed that they contained more than 19,000 germs of various kinds.


## THE EFFECT OF EXERCISE UPON THE MUSCLES.

BY J. H. KELLOGG, M. D.

(Continued.)

LET us notice the changes which occur in the muscle during exercise. As the result of receiving more blood, the nutrition is improved, and thus the growth of the muscles is promoted. The wastes of the muscles are removed more completely during exercise, and these wastes,— the wastes which occur as the result of the activity of the muscles,— after the exercise has been completed, provided it was moderate in character, are more than made good. By this, nature prepares for an extra expenditure of strength on a subsequent occasion; that is, if a person exercises his muscles to a moderate degree, so that they become moderately fatigued, during the rest which occurs afterward the wastes will not only be completely repaired, but the repair will go beyond the previous waste, and the muscles will be increased in size and strength, and be prepared for an increased amount of work. It is in this way that the muscles become larger, stronger, and more elastic as the result of exercise.

Prof. Lombard, a few months ago, made some very interesting experiments relating to this subject. He attached a weight to his hand by the middle finger, and lifted this weight with his finger as many times as possible; he was only able to lift it thirty times the first day; the next day the strength of the muscles seemed to be diminished, so that he could not lift as much as on the previous day; on the next day he lifted less yet, and on the next day still less, and so on for a whole week. So that during the first week the muscles of the forearm which operate the middle finger, gradually weakened; but after the first week, there was an exceedingly rapid gain of strength, and this strength increased each day, until at the end of twenty days there was such an enormous increase of strength that he was enabled to lift the weight 778 times.

This is a good practical illustration of the way in which the muscles may be made to grow as the result of exercise. Of course, in this case, it was only one small muscle that was exercised, so that the whole nutritive force of the body could be used to strengthen that muscle. It would have required an enormous amount of vital force to strengthen all the muscles in this manner; but this force being directed, not to the whole body, but to this single muscle, its strength was increased twenty-five times.

It is found that, as the result of exercise, the muscles become, not only larger and stronger, but the tendons by which these muscles are attached to the bones become stronger; and not only the muscles and tendons, but even the bones themselves, become larger and stronger. Why? — Because the increased work of the muscle attached to the bone, brings to that bone a larger supply of blood; so that by the increased supply of blood as the result of exercise, the ligaments, tendons, and bones, as well as the muscles, are supplied with an extra amount of nourishment.

An excessive use of a muscle already well developed results in an opposite manner. When a muscle is overstrained or overworked, there is rapid deteri-

oration, so that in a few days the muscle which was hard and strong will become soft, relaxed, and flabby, and may be permanently injured. This fact is perhaps connected with another curious fact, that a muscle, when unduly stimulated and overweighted, elongates instead of contracting, indicating that its natural tension has been destroyed.

The extent to which the muscle may be developed is something astonishing. You have heard of Dr. Winship, who lifted some 2800 pounds. Louis St. Cyr, of Canada, is said to have outlifted the doctor by more than a thousand pounds. It seems that there must be a natural or hereditary physical tendency in this direction, if a person becomes so remarkably strong; and yet in the case of Dr. Winship, there does not seem to have been anything of this kind, because, when young, he is said to have been physically frail. The development of Dr. Winship's remarkable strength seems to have been due to the fact that when in college, he was very much affronted by one of his fellow-students, and he felt greatly distressed because he was not strong enough to give the fellow a good thrashing. He therefore set himself to work at private gymnastics, and practiced until he was able to give his enemy as good a thrashing as he deserved. Finding himself so much benefited and improved in health by his exercises, he continued them for many years, giving special attention to the one exercise of lifting, until by the aid of a harness so adjusted to his body as to enable him to lift with his whole physical force, he could lift nearly one and a half tons.

Unfortunately, there has not been a very careful study of this subject by gymnasts in general, probably because of the lack of proper apparatus. But we have at the Sanitarium an apparatus for testing the strength of each group of muscles, and I have finally constructed a chart, I think for the first time in the study of this subject, upon which we can represent the strength of the entire body, that is, the strength of each individual group of muscles — the muscles which close the hand, open the hand; flex the arm, extend the arm; turn the arm over, turn it back; and so of all the different groups of muscles in the body. I have isolated and studied each group of muscles, with the most interesting results. The grasp of the hand, as determined by Landois, is about seven tenths of the weight of the body; while the combined strength of the muscles of the arm is eight times the weight of the body. Of course one could not lift with his arm eight times the weight of his body, because when he undertakes to lift, his lifting is chiefly with two or three of the muscles of the arm. The total strength of the muscles of the legs is about thirteen times the weight of the body.

An ordinary man can carry about twice his own weight upon his shoulders; there are many muscles which are weaker than the muscles of the legs, so that he has only the strength of the weakest muscles to depend upon in sustaining the weight in this way. In the case of the trunk, including the chest, we have the same figures as in the case of the arms, the combined strength of the muscles of the trunk and chest being equivalent to lifting eight times the weight of the body. The total strength of the muscles of the chest,— the muscles of respiration, the muscles of the upper part of the chest and of the lower chest, and also the muscles of expiration,— is 2.3 times the weight of the body; while the total strength of all the muscles connected with the chest — the pectoral muscles and all the muscles acting upon the chest — is a little more than five times the weight of the body. The total lifting capacity of all the muscles of the body put together, is just thirty times the weight of the body.

These figures become really interesting, when one comes to study their relations to each other. I have not yet made as careful a study as I intend to make, of all the relations of the different groups of muscles to each other.

In woman, the grasp of the hand is only equivalent to five tenths of the body, and the lifting capacity of the muscles of the arms is only 4.6 times the weight of the body,— only half the lifting capacity of those muscles in man. The total strength of the leg-muscles in woman is 9.4 times the weight of the body, instead of being thirteen times the weight of the body, as in man. Strength of respiration is 1.1 times the weight of the body, and the lifting capacity, 3 7 times the weight of the body; so that the total strength of the trunk muscles is about 5 times the weight of the body, or a trifle more than the strength of the arms; while the total strength of the entire body is 19 times the weight of the individual.

The figures which I have given represent only a small fraction of the strength that the average man may possess, if only properly trained. The achievements of Dr. Winship may not be equaled by every one, and it is probable that his great strength did not prolong his own life. The average man can lift about 400 pounds. The man who can lift seven or eight hundred pounds is a very strong man; and a man who can lift a thousand pounds is considered a man of extraordinary strength. There are thousands of men who cannot lift 300 pounds, and yet the total

lifting ability of the body of an average man is about a ton; almost any man ought to be able to lift about two tons. Now suppose every man, instead of having his lifting capacity at so low a point as 250, 300, or 400 pounds, were able to lift a thousand pounds; how much greater would be the capacity of the human race for work! Every person should have use of the full power of his muscles, and have that power under perfect control of the will. This is something to which early attention should be given; children should be trained in early childhood to control their muscles, and the muscles should be so educated that as the child grows older, his strength will gradually increase, more vigorous exercises can be taken, and so, at maturity, each man and woman would reach his maximum of strength.

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Physique of Hawaiian Ladies.— While so much is being said in the press of the day concerning Hawaii and its prospective annexation to our own country, it affords us great satisfaction to note their manner of educating the children. A contemporary states that in the Hawaiian Islands the children are brought up to be healthy first, and there is not a boy or girl in any family that cannot ride and swim perfectly before the age of eight years. In rich families, too, the little ones never wear shoes or stockings until they are three years old, or more, except on state occasions indoors. They live on the elements,— air, wind, water, and sunshine,— and the ladies are all experts in outdoor amusements. The divided skirt has found its way over there, and the ladies use it in their riding habits, being thus able to compete with their stalwart brothers in equestrian sports. It is said that they ride at breakneck speed over the superb roads of those islands.

The result of this free, out-of-door life for both boys and girls is a magnificent physique in both.

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Why Lost People Walk in Circles.— The fact that people lost on a desert or in a forest invariably walk in a circle, is due to slight inequality in the length of the legs. Careful measurements of a series of skeletons have shown that only ten per cent had the longer limbs equal in length, thirty-five per cent had the right limb longer than the left, while in fifty-five per cent the left leg was the longer. The result of one limb being longer than the other will naturally be that a person will unconsciously take a longer step with the longer limb, and consequently will trend to the right or to the left, according as the left or right is the longer, unless the tendency to deviation is corrected by the eye.

The left leg being more frequently the longer, as evidenced by measurement of the skeletons, the inclination should take more frequently to the right than to the left, and this conclusion is quite borne out by observations made on a number of persons when walking blindfolded. Further, on measurement of the arms, it is found that in seventy-two per cent the right arm is longer than the left, while in twenty-four per cent the left arm is the longer, showing that a considerable majority of persons are right handed and left legged. The inequality in the length of the limbs is not confined to any particular sex or race, but seems to be universal in all respects.—*Sel.*

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An Outdoor School Gymnasium.— Sandusky, Ohio, has the honor of being the first city in America to possess a gymnasium attached to a school and placed out-of-doors. This consists of a fine outfit similar to that seen in the school-yard gymnasiums of Berlin, Dresden, Leipsic, and other German cities. It was presented to the grammar school in whose yard it is placed, by the ladies' class of Hans Ballin, the physical director of Sandusky.— *The Gymnasium.*

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Fixed Habits of Exercise.— The antidote for the abnormal development of the brain and nerves at the expense of the body, is presented in a paper by Dr. Cyrus Edson, recently published in one of the reviews: "Obviously, it is impossible to change our surroundings, to change our food, to lessen the drive of our modern life, to relieve the strain on the mind, to make competition less fierce. It is apparent, then, that as we cannot lessen the strain, we must increase the ability to undergo it. We must as a people learn to understand this,— that while we drive the brain, we must learn to build up the body. The methods of doing this are so simple that they are apt to be overlooked; they may be summed up in two words — exercise and fresh air. As we teach our children to wash their hands and faces in the morning, and continue our teaching until ablution becomes a habit so fixed as to produce discomfort if it is omitted, so we must teach them to exercise until this, too, becomes a habit, a second nature, a something that, when omitted, causes real physical distress; and we must choose a form of exercise which is adapted to persons of middle age as well as to children."

It may safely be said that ofttimes exuberant health is the secret of genius. Though miracles of literary and artistic beauty, once in awhile, are wrought in a frail, pale, sickly, physical frame; yet, as a rule, brilliant talent favors the robust type of muscles and brain.— *Sel.*

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A Nation of Athletes.— Because a boy goes to work is no reason why he should never kick a football, pull an oar, or run, or skate. If all these outdoor sports were given up, America would soon become a nation of puny pigmies. Our men would be hollow-eyed, yellow-skinned, and flat-chested, instead of rosy-cheeked and robust as they are now. Take plenty of walking exercise. Walk to and from school, to the office or shop, and in the evenings, twice or three times a week, go out to lectures or social gatherings. Go to bed early. Do not get into the habit of staying up too late. Arise early, and you will find that the hours you give to work or study will be of incalculable benefit to you. When you work, devote every thought to what you have in hand. When you study, fasten your mind upon the subject before you. When you play, let no thought of business or study disturb you.— *Foster Coates, in Ladies' Home Journal.*

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Brawn and Brain.— There is an excellent rule prevailing at Harvard University concerning athletics. It is, that no student shall participate in intercollegiate sports unless he maintain a certain standing in his studies. He must prove by his college work that he is intellectually industrious, or he cannot become, or remain, one of the physical champions and heroes of the university. That the rule is enforced is proved by the fact that an excellent ball-player and a good oarsman lost their places on the nine and on the crew this year by its application.

The authorities of Harvard are as proud as any boy among the under-graduates, of the athletic fame of their university, but they insist that athletics shall be subordinate to intellectual work. There is no incompatibility between excellence in each. The present chairman of the committee of the faculty on athletics was an excellent student, is now a distinguished professor, and was a famous second baseman on the University nine. He never found that a strong and healthy body interfered with his mental work.

And why should there be any doubt of it? The Olympian races did not interfere with the progress of the Greeks in arts and letters. Alcibiades was a keen wit, an accomplished soldier, an astute diplomat, a skillful traitor, notwithstanding his superiority in manly sports. That boy ought to be a good all-round student who gets up early in the morning for a run and a swim, who sees the first sunburst of the day, catches the opening chorus of the birds, and inhales the sweet scents of dewy nature, who later in the afternoon brings all his physical forces into play, and retires early to bed to the sleep that refreshes a body pleasantly fatigued. There is an incongruity between excessive fatigue and intellectual labor, but none between temperate exercise and study, and therein lies the wisdom of the rule adopted at Harvard.

It may be that such a rule will sometimes result in the defeat of one university by the representatives of another where a different policy prevails. Whether or not the regulation obtains at Yale we do not know, but it can easily be seen that a college which permits any of its students to make athletics supreme, may often conquer one in which sport is made subordinate to learning. But that is a small matter. Where sport is ruled by intelligence, it will not flag, for it is good in itself, and under a system which insists on the sane mind, the sound body will find its proper place, and the old Greek ideal of temperance will be realized.— *Harper's Weekly.*

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## SOME REASONS FOR DAILY EXERCISE.

1. Any man who does not take time for exercise will probably have to take time to be ill.

2. Body and mind are both gifts, and for the proper use of them our Maker will hold us responsible.

3. Exercise gradually increases the physical powers, and gives more strength to resist sickness.

4. Exercise will do for your body what intellectual training will do for your mind — educate and strengthen it.

5. Plato called a man lame because he exercised the mind while the body was allowed to suffer.

6. A sound body lies at the foundation of all that goes to make life a success. Exercise will help to give it.

7. Exercise will help a young man to lead a chaste life.

8. Varied, light, and brisk exercises, next to sleep, will rest the tired brain better than anything else.

9. Metal will rust if not used, and the body will become diseased if not exercised.

10. A man "too busy" to take care of his health is like a workman too busy to sharpen his tools.— *Sel.*

# Home-Culture

## CHILD-TRAINING.

[A lecture delivered before the Missionary Mothers' Class, by J. H. Kellogg, M. D.]

(Continued.)

THE question of the greatest importance is, How shall the child be trained? In order to find out how a child should be trained, we must study the child, to learn what he is, and what there is in him to train. A child belongs to the animal kingdom. Like other animals, he has eyes with which to see, ears with which to hear, a sense of touch, of taste, of smell, etc. These senses are the only means the child has of acquiring knowledge; all his data of information must come through these different senses. Then the child has nerves and muscles, a heart, a liver, a stomach, and other vital organs, which must be trained; and it has moral and mental faculties to be trained.

In the study of the physiology of the child, we find that these faculties have a normal order of development. For example, we find that the eye, at birth, is undeveloped. But as the child grows, the eye develops, becoming fuller and rounder, and acquires a power of perception which it did not possess at birth. And while the eye is in this process of development, the brain, and that part of the brain which governs the eye, is also developing. This is the proper time for the eye to be trained in such a way that it may be developed properly. When the child is in a healthy condition, the eye develops properly; but in ill health, that development is arrested, and in consequence, the eye remains in an imperfect state. And that portion of the brain which governs the eye is also imperfect; for, while the eye is developing, the brain is developing with it; and if the development of the one is arrested, the other suffers from the same cause.

The knowledge which we receive through the eye — color, form, size, distance, and other properties of matter which relate to the sense of sight — is something regarding which the child should be properly taught. The sense of color, for example, ought to be cultivated in the child while it is growing, and while the eye and the brain are developing. The sense of hearing is developed along with the vocal organs. The sense of hearing can be more perfectly developed in a child when he is a little older, for the reason that the vocal organs are constantly undergoing change. The same thing applies to other parts of the body; for example, the muscles continue to develop till the child reaches the age of twenty. The bones also are growing during this time, and the muscles should be developed at the same time, — not developed to the highest degree of hardness, but in flexibility and dexterity of movement. During the earlier years of the child, the bones are soft, and the attitude which the child habitually assumes is likely to be fixed in later years. If the child is in the habit of sitting much with his chest dropped, he is likely to have round shoulders. He should be trained to avoid such positions. Some of you who have not been properly trained in that particular, will have to go through the rest of your lives with round shoulders and flat chests; and you cannot help yourselves, because the bones of the body have now become solid and firm, and you can no longer make a change in your form. You have grown up into a mould, and you must wear the shape of that mould.

The same thing is true of the mental faculties as with the physical parts of the body. Each one of the mental faculties has its regular order of development. The reason, the judgment, etc., each has its particular order of development, and it is necessary

to understand this, in order to know how to train these faculties. It would be absurd to try to teach a child things which could be understood only by persons a dozen years older; and it would be as absurd to teach young men and women the things adapted only to the child. The mode of training, then, must be regulated by the physiological order of development.

During the first five or six years of its life, the child receives the bent which follows it all through life. Before the child is a year old, the things that are happening every day are making impressions upon him. All the influences which surround him give shape to his moral and physical nature. When I was a boy, I put a small cucumber into a square bottle and left it to grow there. A few months later I had what I had never seen before — a square cucumber. The cucumber had grown into exactly the shape of the bottle, because that was the only way it could grow.

One day a gentleman noticed that a flag-stone in the sidewalk, that was level a few days before, was being raised, and it continued to rise from day to day. His curiosity was excited, and finally he had the flag-stone lifted, in order to see what was the cause of its upward movement. He found that it was only a mushroom which had raised the stone by the mere impulse of its growth. Among the Rocky Mountains, I have seen trees clinging to rocks by the roots; the delicate fibers of the roots had found little crevices in the rocks, and had wedged themselves in farther and farther, thus separating the rock more and more as the tree grew, till finally the great rock was entirely torn asunder, and a large portion of it was sent rolling down the mountainside.

Now this same force is operating in every little child. The child in its cradle is growing so rapidly that you can almost see it grow. Like the cucumber in the square bottle, that little child is growing into a mould, and that mould is the circumstances with which the child is surrounded — the circumstances and conditions of its daily life.

What are the conditions into which the child grows as into a mould?— The physical, mental, moral, and spiritual atmosphere which surrounds the child constitute the mould into which it is growing. Laying aside the bias which our heredity has given us, you and I and every other human being are simply what the circumstances in which we have lived have made us; we have simply grown up into the mould of circumstances. Now when I say that the training of a child is a matter which involves the regulation and control of all the conditions to which a child may be subjected, I mean that training which has control over everything which may affect the child's nature. Good training is the right control and regulation of all the conditions and circumstances which may affect the child's physical, mental, or spiritual nature. Bad training is a neglect of some of these conditions, or a bad regulation of some of these necessary conditions. The training of a child, then, comes to be a science. One needs to know everything that can be known by man, in order to be able rightly to train a child. There seems to be no limit to the knowledge required, in order to the right training of a child.

The little child is born into a world of which it knows nothing. Everything around it seems strange. Its brain is only just beginning to comprehend. It reaches up its little hand to grasp the moon. It has no idea of distance; it reaches for everything it sees, no matter how far off it may be. The child has no idea of form or size. Give the little child any object, and see how it investigates it; it seizes it and brings it to its mouth; it begins to investigate by its own natural means of investigation.

Think what an important work it is to supply that little child with just the right conditions for acquiring knowledge! As it is growing up in the world, and looking out upon the world, wondering about this and that, how important it is to be able to give the child just the right information about everything.

A little child's mind is like a page of an open book with nothing written on it, like a blank sheet of tinted paper. Heredity tints the paper, and perhaps makes a few strong lines upon it, but the hand-writing upon it is made by the mother or those who have the control of its education and development. If that child goes wrong, somebody is to blame, because its mind was a plain, blank page, and whatever the hand-writing it presents, was put there by somebody. If the child is bad, it is because wrong things have been put into its mind. Bad heredity alone will not necessarily make the child bad, if the right conditions are supplied in its life. The conditions which surround the child should be made so good that they will over-balance the bad heredity, and make the child good. These conditions should be such that when the child reaches mature years, it will have acquired independence, self-control, and a mental and moral equilibrium.

(To be continued.)

## SLOYD WITHIN A CIRCLE. — NO. 4.

BY MRS. M. F. STEARNS.

As a means of teaching the children to become careful workers, let them know that everything with which they work has its own particular history, and an individuality will be established at once for every article they use, and a certain kind of regard and a consequent carefulness will follow. Everything used will have an added interest.

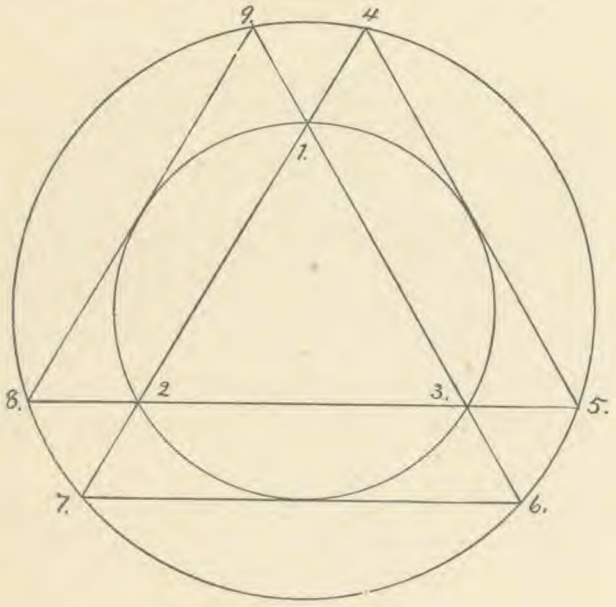


FIG. 9. — MODEL NO. 5.

The lead pencil will not be so ruthlessly sharpened away when the children consider what a long process it passed through to become a "lead pencil," with its lead from England, encased in Virginia cedar, and its rubber tip from the South American caoutchouc tree, and all put together in a German factory; they see in it the gift of four nations to help them work.

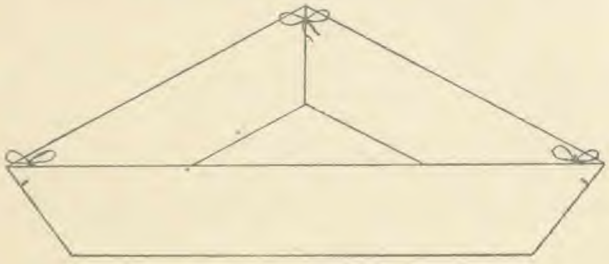

FIG. 10. — STRING RECEIVER.

So will their paper be handled with greater care if they are told what a long life it has lived, — for to a child everything *lives*, — that its babyhood in this world was spent as a fluffy, nodding cotton ball under sunny skies; then it "grew up" through the mills into practical "white cotton cloth," and spent a most useful life rejoicing the hearts of many good housewives, till worn out with life's duties it went to rest in the thrifty rag bag.

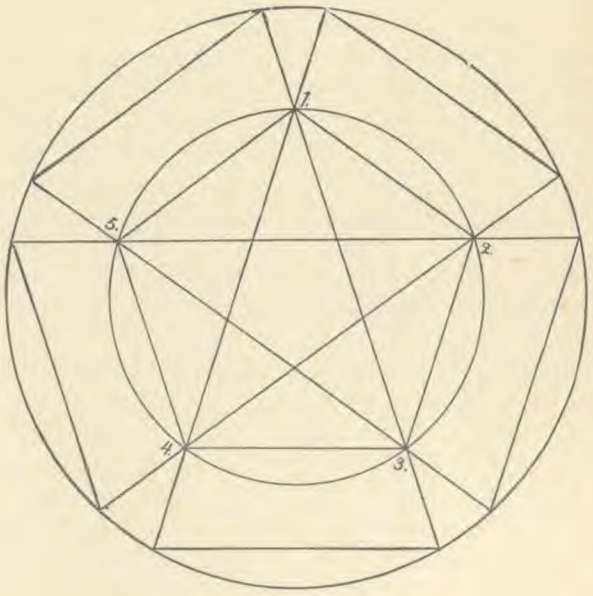


FIG. 11. — MODEL NO. 6.

Next comes the journey with the "tin peddler," then the mill again, and after many washings and pressings and rollings and cuttings, it is "transmigrated" into the world as paper. Of course after such a family history as this, the children are eager to do their very best, that their friend, "the paper," may have a position of honor on somebody's wall or table.

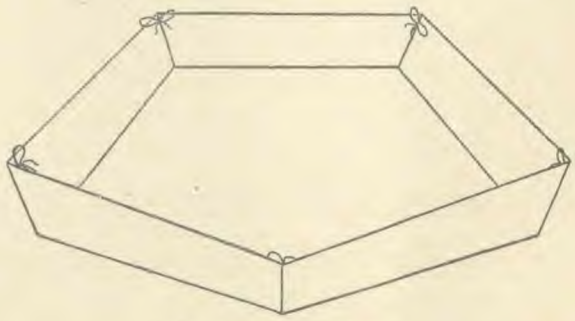

FIG. 12. — SPOOL RECEIVER.

In many such ways the most common things can

be made fascinating to children. Fancy has an ample range in tracing the intricacies of the "transmigration" of material, which manufacturers have made possible. This offers, too, many a lesson in economy that will help the children.

This month the circle gives us thread and spool receivers. To make the first, describe a small circle of four inches within the twelve-inch circle, divide this into three parts by spreading the compasses seven inches, connect the points 1, 2, and 3, and carry the connecting lines beyond till they cut the larger circle, connect points 4 and 5, 6 and 7, 8 and 9, fold on lines 1–2–3–1. After cutting out the crossed portions, tie at points 9 and 4, 5 and 6, 8 and 7, and the thread or string receiver is complete.

Draw a four-inch circle within the twelve-inch circle for the spool holder, as for the thread box, divide the smaller circle into five parts by spreading compasses four and three fourths inches, connect these five points with lines, then connect points 1 and 3, 1 and 4, 2 and 4, 2 and 5, 3 and 5. Carry the lines till they cut the outer circle, connect these last points, cut out the crossed parts, fold on lines 1–2, 3–9, 3–4, 4–5, 5–1, tie corresponding corners, and the result is a neat little receiver for spools or other sewing materials.

## PETTICOATS.

PETTICOATS seem to have originated among primitive people for whom a short skirt constituted the only garment worn by women. Such a garment would in no way impede the movements of the lower extremities, and when the demand for modesty was made by the primitive mind, seemed not unsuited for the purpose for which it was designed. But for the civilized woman, petticoats are wholly unneeded, and will doubtless be dispensed with by the coming woman. Mrs. Woolson, of Montreal, points out in "Dress and Health" some of the evils of petticoats, as follows: —

"The limbs have not half the amount of covering which is put upon the trunk of the body. Many garments have no sleeves, and what sleeves there are either come to an end a few inches below the shoulder, or they are loose and flowing at the wrists, so as to expose the arm as far as the elbow to the cold air. As to the legs, the clothing which should increase in direct ratio to the distance from the body to the feet, diminishes in the same ratio. Thin drawers, thinner stockings, and wind-blown skirts which keep up constant currents of air, supply little warmth to the limbs beneath. The feet, half clad, and pinched in tight boots, are chilled in consequence.

"The trunk of the body has as many varied zones of temperature as the planet it inhabits. Its frigid zone is above, on the shoulders and chest; for although the dress body extends from the neck to the waist, most, if not all, of the garments worn beneath it are low necked. The temperate zone lies between the shoulders and the belt, for that region receives the additional covering of undervest, corset, and chemise. The torrid zone begins with the belt and bands, and extends to the limbs below, for all the upper garments are continued below the belt, and all the lower garments come up as far as the belt, so that the clothing over the whole hip region must be at least double what it is over any other section. But it is more than double; it is quadruple, for the tops of all these lower garments have a superfluous fullness of material which is brought into the binding by gathers or by plaits."

An eminent English surgeon, Dr. Frederic Treves, points out the evils of petticoats in the following vigorous paragraphs: —

"This unequal distribution of heat over the surface of the body is an offense against definite physiological laws, and cannot prove other than injurious. It may be that the injury inflicted is in many cases slight, but it is not on that account to be ignored. On the other hand, it must be asserted that under certain circumstances the ills that may arise from this faulty protection of the body may be very grave, and prove the source of special disease and "delicate health" to many women. The clustering of many garments about the waist is obnoxious in several ways. In the first place, the plan must cause some constriction of the waist and some pressure upon the abdomen; and in the second place, it must maintain the part in an undesirable state of warmth when compared with the surface temperature of the rest of the body. A lady writing upon this subject, asserts that it is possible for a woman clad in winter attire to have her waist encircled by fourteen layers of clothing material. This somewhat alarming annoucement is explained by the statement that the garments attached about the waist are usually "attached to a doubled band" in each instance. Thus the fourteen layers represent seven actual garments.

"The waist is the district between the lower ribs and the hip bones. It is a part readily constricted,

and round it these nether garments are attached. There is no doubt that some portion of the weight of this clothing is borne by the hip bone direct, and is, therefore, comparatively harmless, especially in women with prominent hips. But the constriction cannot fail to be injurious. It interferes with the proper action of the abdominal muscles and with the functions of those viscera that come within the line of pressure. It acts perhaps most injuriously upon the organs especial to women, and the change in the position of the womb that a tight band around the waist can produce has been demonstrated by a well-known writer on the diseases peculiar to the sex. I think that without doubt a number of these diseases, which are of alarming frequency and of no trivial character, may owe their origin to this heavy, ever-dragging coil around the waist; and in cases where some other cause can be ascribed to the malady, I imagine that this constant downward pressure and constricting force is an active agent in exaggerating the disease.

"It must not be presumed that the pressure effects of many garments attached around the waist are obviated by wearing a corset beneath them. The pressure is merely modified and redistributed, while not one fraction of the weight is removed.

"Then, again, this multitude of bands above and about the hips tends to keep the region unduly warm, and to lead to congestion of the pelvic viscera. These viscera, which include the organs especial to women, are from their position peculiarly liable to congestion; and it is not difficult to understand that many layers of warm clothing in the vicinity of these organs will increase that tendency.

"While the hip region is somewhat too well provided with clothing, the lower extremities are imperfectly, and certainly injudiciously, covered. As an American physician oddly expresses it, 'The legs, clad with one thickness of cotton, go paddling along under a balloon.' This brings us to the consideration of the petticoat as an article of clothing, and especially as a covering of the lower limbs. This garment is no doubt of infinite value among primitive communities, where it forms the sole attire of the female population, but it does not appear to be suited to modern needs, nor is it the most sensible or economical way of clothing the lower extremities.

"One would imagine, from the attire of the ordinary woman, that she was a one-legged animal. To vaguely surround two distinct limbs with one garment is certainly the least direct method of clothing them, and to superimpose a second garment over the first when increased warmth is needed, is a proceeding as lacking in reason as it is prodigal in material. Petticoats, however well they may suit the decorative aspects of dress, are, as articles of clothing, bad in many ways. Their weight is inconsiderable; they seriously impede movement; by hampering the action of the lower limbs, they involve an unnecessary expenditure of muscular force; and if long enough to reach the ground, they serve to accumulate dirt.

"These wretched garments limit immensely the outdoor amusements of women; they put a tax upon all forms of exercise involving a use of the lower limbs. They are an actual drag upon the wearer, and form one of the main obstacles in the way of the proper physical development of women. It is of little use to attempt to advise a woman to take a ten miles' walk on a winter morning, in the place of sitting at home over the fire, if that walk involves the dragging about of a great weight of clothes which by dangling about the legs adds to the burden to be borne. Surely, the most reasonable way of covering the lower extremities is by covering each limb separately. Such a plan involves the need of only one garment (in addition to the outer dress), no matter whether the weather be cold or warm, for when additional warmth is required, it can be obtained by simply increasing the thickness of the material used.

"If, in winter, women were to clothe their lower extremities separately with some suitable woolen fabric, they would be no more in need of petticoats than men. Instead of the lower part of the body being hampered with a multitude of garments, there would be two only — an outer dress and a proper underdress for the extremities. If a petticoat be needed for decorative purposes, it could be added, but only then as an ornamental province of dress. Such a costume would, I presume, present the same external appearances as are shown by the ordinary dress of the time; and in practically abandoning petticoats and clothing the lower limbs in a sensible fashion, women would be introducing no very terrible innovation. I think, moreover, that this method of clothing the lower extremities would be somewhat more decent than is this petticoat arrangement, and would render the position of a woman on a windy day less embarrassing.

"The evils that have just been alluded to are exaggerated by long skirts, by 'tied back dresses,' and by heavily ornamented gowns. Every additional ounce of weight in the garments that surround the limbs, means so much additional muscular exertion, and the dress, elaborately decorated by much superfluous material, represents a superfluous amount of work for muscles that are already burdened enough."

## CONTRIBUTED RECIPES.

### Some Fruit Soups.

The following new recipes are contributed by members of Mrs. Kellogg's class in the Sanitarium School of Cookery.

*Strawberry and Apple Soup.* — Cook one and one half cups of sliced fresh sweet apple in three fourths of a cup of water, add one cup of canned strawberries. Rub all through a colander, add one and three fourths cups of boiling water. Re-heat and thicken with cornstarch. E. J. Klostemyer.

*Strawberry and Apple Soup.* — Use for this, apples which have been dried, cooked, and rubbed through a colander. Add an equal quantity of canned strawberries which have also been rubbed through a colander. Thin as required with boiling water, and re-heat. When boiling, add a little cornstarch (a scant teaspoonful to the pint of liquid) to give the proper consistency and smoothness to the soup. Ella Wigg.

*Combination Soup.* — Take equal parts of nicely dried tart apples and sweet California prunes, both of which have been cooked and rubbed through a colander, add one fifth as much dried peaches cooked and prepared in the same manner. Dilute to proper consistency with boiling water, and add a small quantity of well-cooked rice or *pasta d' Italia.*

Mary L. Coy.

*Prune and Peach Soup.* — Use one part sweet California prunes which have been cooked and rubbed through a colander. Add to this one fifth as much cooked and sifted dried peaches. Dilute with boiling water and cook together for a few minutes. Thicken with a little cornstarch to give the required smoothness, and serve hot. Stella E. Colvin.

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In packing gowns, they will be found to crease very little if paper is placed between the folds.

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Rub your stove off daily with newspapers; it will keep it in fine polish, and it will not be so hard on one's hands. — *Sel.*

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Wyoming has raised the age of protection for girls to eighteen years. Wyoming and Kansas, the two States where women vote, are the only States where the age is eighteen.

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There is not much economy in turning down a lamp. Better blow it out and light again, or have a lamp with a small wick if a steady light is used. The unburned oil escapes when the lamp is turned down.

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*Imogene* — "I was indeed awfully disappointed in the figure of the Venus de Medici."

*Isabel* — "Were you indeed?"

*Imogene* — "Well, you can't just imagine. She didn't look as if she ever wore a corset in her life." — *The Modiste.*

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A new article of food is offered in the form of flour from the banana. This fruit can be raised in the tropics in too great quantities for the demand, so it is proposed to dry the fruit and grind it into banana meal, which it is said will be cheaper than corn meal. It is said, however, by the *Journal of Hygiene,* that the new food contains too much starch to be a perfect food.

I hope that within the new century, at latest, a reformed, easy, sensible, unburdensome, unshackling dress for women may come in, and come to stay; and I believe that before the new century is old, French and American corsets and English stays will be forgotten barbarisms, to be found only in museums, classed with "ancient instruments of torture." — *Grace Greenwood, in the Arena.*

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A Pretty Incident. — A newsboy took the Sixth avenue elevated railroad cars at Park Place, New York, at noon on Thanksgiving Day, and sliding into one of the cross seats, fell asleep. At Grand street a young woman got on and took a seat opposite to the lad. His feet were bare, and his hat had fallen off. Presently the young girl leaned over and placed her muff under the little fellow's dirty cheek. An old gentleman in the next seat smiled at the act, and without saying anything, held out a quarter with a nod toward the boy. The girl hesitated a moment, and then reached out for it. The next man just as silently offered a dime, a woman across the aisle held out some pennies, and before she knew it the girl, with flaming cheeks, had taken money from every passenger in that end of the car. She quietly slid the amount into the sleeping lad's pocket, removed her muff gently from under his head without rousing him, and got off at Twenty-third street, including all the passengers in a pretty little inclination of the head, that seemed full of thanks and a common secret. This rebukes Ingersoll's sneer that if he had been God he would have made good things catching. They are catching, and God made them so. — *Sel.*

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

A FUNERAL REFORM.—The President and the Secretary of the State Board of Health have recently entered a protest against the practice of taking off the hat out-of-doors during funeral services. It is almost a universal custom for men to remove their hats during the service at the grave, no matter what may be the weather, and in many countries it is the custom for the entire male population to remove their hats when on the streets, during the passage of a funeral procession.

"Many cases of severe illness, and not a few deaths, have been noted from this cause. The most common occasions of danger have been during attendance at funerals, either as pall-bearers or mourners. In well-conducted funerals, undertakers nowadays frequently furnish skull caps to be worn by pall-bearers. The skull cap, although it has no visor to protect the eyes, is nevertheless an efficient covering, does not offend our sensibilities, and implies no want of respect for the dead. The ministers and the mourners may also be furnished with skull caps. There need be no discrimination in favor of the pall-bearers. But all reflecting persons will agree that it will require a stretch of imagination to detect the difference in the effect between the wearing of an ordinary hat and the wearing of a skull cap on such occasions. Baring the head at funerals is a mere convention that serves no useful ceremonious purpose. Wearing a skull cap is no compromise; it is a surrender.

"The custom of taking off the hat in wet or cold and stormy weather while the remains are carried from the home to the hearse, or from the hearse to the chapel or lodge-room, and again when the last sad rites are performed at the grave, is fraught with danger. Ten, fifteen, and twenty minutes are not infrequently consumed, during which pall-bearers and mourners remain uncovered, while a chill wind, laden with damp, diminishes the vital resistance of the weak and lays the foundation for a decline. The recently sick, the aged and infirm, and those who have lost the hair of the head, are in the greatest danger. But none are exempt. There are but few who, in the absence of suggestion, will defy the almost universal custom of Christian nations to uncover in presence of the dead. Their sentiments of love, honor, and respect for the dead impel them to disregard the danger involved by the exposure, notwithstanding a full comprehension of its evil import."

To inaugurate this reform, or at any rate to protect those whose lives may be fully as valuable as that of the person to whose remains respect is being shown, it is only necessary that the minister or other person in charge of the funeral should, at the proper moment, briefly speak, excusing the spectators from removing their hats, and setting the example by remaining himself covered. The common sense of such a course will commend itself to every one, and Drs. Cochran and Laine, the President and Secretary of the California State Board of Health, are deserving of thanks for calling public attention to this matter.

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BOILED BUTTER.—The necessity for boiling water to destroy the germs which it is certain to contain if obtained from any ordinary natural source, has long been recognized. At the present time, little tanks containing boiled water, are to be found everywhere on the World's Fair grounds, as a precaution to the workmen against the sewer-contaminated water of Lake Michigan. Boiling milk has also, within recent years, come to be considered one of the most important means of protecting young children as well as grown people from many grave disorders, such as diarrhœa, dysentery, and other bowel complaints, and especially tuberculosis, the prevalence of which among cows is growing with alarming rapidity in all civilized countries. Popular attention seems not to

have been authoritatively called, until recently, however, to the fact that butter is perhaps fully as dangerous a source of germs as either of the substances mentioned. For years, the writer has condemned the use of butter, on account of its germful properties. We have cured many a dyspeptic by proscribing butter as an article of diet.

The *London Lancet*, in a recent issue, calls the attention of its readers to the fact that butter abounds in "bacilli," and that in eating a slice of bread and butter, one actually swallows more germs than there are people in Europe, and that the more genuine the butter is, the more germs it contains; that is, pure butter is certain to contain a larger number of germs than oleomargarine, since the latter is made chiefly from fat and tallow, which are sterilized in the process of separation, while pure butter, being made from cream, contains vast quantities of microbes, which, falling into the milk from the body of the cow, afterward develop in great quantities in the lacteal fluid, and rising to the surface, are skimmed off with the cream, and by the process of churning, separated with the fat globules, and so retained in the butter. The *Lancet* says: "By all means boil your butter." This advice is good, so far as germs are concerned. Butter is certainly unfit to be taken without being boiled, but, unfortunately, the boiling of butter not only kills the germs, but sets free fatty acids of a toxic character, which are exceedingly deleterious to digestion. It is well known that the cooking of fats adds greatly to their indigestibility, hence we cannot endorse the recommendation of the *Lancet*. Sterilized butter made from sterilized cream has been used at the Sanitarium for the last year, in cases in which patients are unable to eat cream or milk. Even sterilized butter, however, is much less digestible for the average stomach than milk or cream.

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Swill-Milk.— The Chicago newspapers have recently disclosed the fact that a considerable amount of the milk furnished to that city, is from swill-fed cows. We quote the following paragraph from the description of a sample of this milk which was submitted to a chemist for analysis: —

"We find a large amount of excrement. The milk was full of putrefying bacteria, such as have some connection with the formation of the so-called milk, cheese, and ice-cream poison, tyrotoxicon. Such milk will degenerate rapidly, and become foul. It will not turn sour, as good milk will, but will give out a most obnoxious odor. Such milk could not fail to be the cause of cholera infantum in children, and cholera morbus in adults. This sample of milk was vile in everything. I do not know whence it came, but I do know that it was produced under conditions that are at variance with all rules of health."

A person living in Chicago will do well to take care that his milk supply is from a pure source.

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Indigestion and Immorality.— The possibility of a relation between dyspepsia and crime, is not a new conception. But the idea is one which is altogether too little considered in most of the work undertaken for the reformation of the criminal classes of our great cities. The good Calvin sent poor Servetus to the stake while having a fit of indigestion. Carlyle's misanthropy has been very correctly traced to his dyspepsia. Washington Irving tells of a certain emir ("Lives of the Caliphs"), named Al Hejagi, who had suffered for many years from abdominal pains due to dyspepsia, and who is distinguished as having been one of the most cruel rulers the world has ever produced. He left 50,000 persons in prison when he died, and during his life had caused the death of 120,000 persons, not counting those who fell in battles of his instigation.

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Important Discoveries Respecting Food Production.— A problem with which scientists have been wrestling for many years is that of the artificial production of food. The most sanguine experimenters have at last been brought to confess that there is no possible hope that man will ever be able to duplicate in the chemical laboratory the marvelous alchemy of the vegetable kingdom, by which inert, inorganic, lifeless matter is vitalized and rendered fit for transformation into human structures, or other animal forms. The little progress which has been made in constructive organic chemistry serves but to show the utter impotence of man when he undertakes to play the part of creator — to make something out of nothing, to produce life where there is no life. The little seed, even though microscopic in size, has within its tiny envelope a magazine of power by which it is able to accomplish that miraculous process known as organization, whereby dead matter is made alive, and which the chemist can never imitate.

In their efforts to pry into nature's secret in these wonderful transformations, the chemists have discovered some very remarkable facts, one of the most interesting of which relates to the pulses, or leguminous plants. To this class belong peas, beans, and lentils. It has been found that these plants possess the remarkable property of being able to draw nitrogen, the element most essential to organized life,

directly from the atmosphere, and thus to combine it in forms suitable for organization into food substances. This is doubtless the reason why this class of plants contains so large a store of nitrogenous material that it is almost proper to say a pound of beans contains more beefsteak than a pound of beefsteak, besides possessing a total nutritive value fully three times that of the best beefsteak. These food substances are possessed of a much higher value than is generally supposed, and might properly occupy a more important place in the ordinary bill of fare than is usually given them.

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RETURN TO NATURE.— Dr. Bilinger, in *Ueber Land und Meer*, in talking about the so-called "American disease," neurasthenia, or nervous prostration, suggests that the only remedy, and one which is applicable to the modern world as a whole, "is to return to ways of life more harmonious with nature and less vexing to body and soul. The way to do this is clearly pointed out in the teaching of modern hygiene. May society enter upon this way betimes, for its own good and the salvation of the future!" To the druggist, weary with his sixteen hours daily of nervous strain, this counsel is particularly applicable.

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HARD ON THE DOCTORS.— When on a visit some years ago to the Yuma Indians, one of the most primitive Indian tribes living on this continent, the writer was told that the tribe was without a "medicine man," the two medicine men who had formerly served the tribe having been compelled to fly for their lives. The occasion was this: An epidemic of malignant measles had broken out in the camp, and prevailed for some weeks with great fatality, most of those attacked, dying, until some Catholic sisters from a station near by, came to the rescue with the hygienic treatment prescribed in the "Home Hand-Book of Domestic Hygiene and Rational Medicine," a copy of which they happened to possess. The law regulating medical practice among the Yumas, requires that a doctor shall, in every case, predict whether his patient will die or recover. If his prediction proves false, the doctor gets a black mark; that is, if the doctor says the patient will recover, and he dies, or if he says he will die, and he recovers, in either case the event scores one against him, it being considered an evidence of his want of knowledge or skill. When the doctor gets three scores against him, he must, according to the laws of the Yumas, be put to death. The great number of cases of illness had resulted in nearly half a dozen marks against each of the two medicine men of the tribe, and preparations were made to execute them in Indian fashion. The good Catholic sisters secured a little delay, and assisted the unfortunate medicine men to escape.

This savage method of dealing with doctors, really seems quite impolitic. It must nevertheless have a good influence in limiting the number of persons who devote themselves to the medical profession. It might be well for the people, if some discouraging influence equally potent, if not equally barbarous, might be brought to bear to check the influx of raw recruits into the medical profession which has, in recent years, almost assumed the character of an epidemic. Savage as this method of dealing with the doctors may appear, it is not by any means unprecedented, even among nations much more civilized than the Yumas. History tells us, for example, that the queen of Burgundy, on her death bed, requested her husband to bury in the same tomb with herself, the two physicians then in attendance upon her. She was led to make this request by her belief that her approaching death was due to their lack of skill. The king pledged himself to carry out the request, and fulfilled his promise.

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TOBACCO PARALYSIS.— An exchange mentions the case of a man who has chewed tobacco on one side of his mouth for twenty years. He has now stopped, for the reason that the side of his face on which he chewed is completely paralyzed.

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AMERICAN LIBERTY.— The citizens of no other country are accorded such liberty of conduct as those of the United States. The American citizen can eat adulterated food, drink contaminated water, and breathe germ-laden air to his heart's content, while, as Dr. Benjamin Lee, the able Secretary of the State Board of Pennsylvania remarks, "The denizens of the cities of the Old World fairly groan under the iron heel of despotism, their rulers actually presuming to interfere with their meats and drinks, forbidding them to quench their thirst with water enriched by the sewage of cities, hallowed by the infusion of the remains of their dead ancestors, or tainted with the drainage of coal mines; or to refresh themselves with cocculus indicus and strychnine, or wine made from the juicy apple and turnip, or tea composed of rotten leaves and catechu and colored with verdigris. . . . They cannot eat the flesh of tuberculous cattle or trichinous swine, while we are freely allowed to feast on those articles which have undergone condemnation for their own markets. Even their little children are forbidden the delights

of making candy brilliant with arsenic, or munching buns beautified with chrome yellow. The very air which they breathe is deprived of the fragrance which we enjoy in ours, by the removal of manures and other decaying substances from the streets before they have had a chance to decompose."

Who is most to be pitied, these protected citizens of the Old World, or the American citizen whose ignorance subjects him to greater hardships than were ever bound upon a people by a tyrannical ruler?

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THE editor of the *Sacred Heart Review*, a Catholic periodical, courteously takes us to task for a remark in a recent number, relating to the influence of the Catholic Church upon Mexico. We have not had the pleasure of seeing Christian Read's Mexican story, published in the *Catholic World*, but have no doubt it is very interesting reading, and that it gives much accurate and valuable information concerning Mexico and the Mexicans. There are some things, however, which are matter of history, and which cannot be more familiar to us than to our critic, who, we are sure, would not approve, for a moment, of the conduct of Cortez and his comrades in their treatment of the poor Mexicans they subjugated, even though their cruelties were practiced in the name of religion. It must, in all fairness, be admitted, however, that whatever has been done in the direction of civilizing Mexico, has been done, not by Protestants, but by Catholics. It is scarcely a score of years since the first attempt was made by Protestants in the direction of helping the uncivilized and unchristianized heathen of Mexico, where there are several millions to whom an enlightened gospel has never been proclaimed, and we must frankly confess that we are not in a good position for criticising the work of those who have done much for a blighted country, while we have done nothing. We have no disposition to discount any good work which any man or woman on the face of the earth is undertaking to do for the uplifting of humanity.

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NEW FORMS OF INTOXICATION.— Most of the new methods of intoxication seem to have originated in this country. Intoxication by ether was practiced by inhaling the drug many years before it was used as an anæsthetic in surgery. The writer once received a very graphic account of an ether party given by a physician, who was one of the participants. Tea chewing to the extent of intoxication seems to have originated in Boston. Snuff dipping was invented by a woman of the Southern States. Tea cigarettes were, however, the ingenious invention of Parisian ladies who were tired of the ordinary forms of intoxication.

The *Medico*, a French periodical, gives a recent account of a new form of intoxication which is becoming fashionable with Parisian ladies, in which the desired exhilaration is obtained by inhaling the fumes of naphtha. The intoxication induced by naphtha is similar to that caused by ether drinking, as practiced in Ireland, or as inhaled for surgical anæsthesia, but lasts much longer and is very much more injurious. This mode of intoxication, it is claimed, was introduced into Paris by American ladies who had long practiced it at their homes in America.

There seems to be a mania at the present time for the discovery of some new nerve tickle, or some new means of fuddling the senses. It is time the medical profession raised its voice in solemn protest against the use of all felicity-producing drugs, every one of which is toxic and injurious in its nature.

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SLEEP.— The phenomenon of sleep, one of the most common and the simplest of the functions of the body, has, until recently, been one of the most difficult of explanation. It may not seem so difficult to understand why one becomes weary and desires sleep, although to the physiologist this is by no means a simple problem; but when one is sound asleep, why should not one remain in a state of repose? Herr Rosenbaum, according to the *Revue Scientifique*, has made a discovery which he believes unravels the mystery of sleep. According to his observations, weariness, or fatigue, is the result of changes in the nerve cells of the brain, by which their solid substance is in part removed, as the result of work, and water substituted. In other words, the brain acquires an undue proportion of water. The result of this accumulation of water is to lessen the natural activity of the nervous substances, so that the external stimuli, consisting chiefly of the sights and sounds by which we are surrounded, are insufficient to stimulate the brain to activity. When an extreme point is reached in the substitution of water for the solid substance of the brain, the individual falls asleep. During sleep, by the process of assimilation, the water is eliminated, and the solid particles obtained from the food deposited. Thus the brain is restored to its normal condition of excitability, and when this restoration is complete, the individual awakes. This explanation is certainly ingenious, seems to be plausible, and is perhaps as satisfactory as any which has yet been propounded.


## ADULTERATION OF FOODS.

*Preserves, Marmalade, etc.*— A large share of the preserves manufactured for the retail trade are adulterated more or less in one way or another. It is customary to make into preserves inferior fruit, or that which has spoiled by too long keeping, or is otherwise unfit for sale. In many cases, preserves are colored with fuchsin and aniline, as are some canned fruits. Marmalade often consists chiefly of apples flavored with orange essence. Copper is also sometimes found, as in canned fruits, usually being accidental, however. Its presence is due to the fact that preserves are generally made in copper kettles, and some of the copper is dissolved by the juice of the fruits, the solution of the copper being facilitated by the heat and the stirring. A compound of sugar with copper is also formed when the two are long in contact. On this account, preserves should never be made in copper kettles. The presence of copper and coloring matter may be determined in the manner described for detecting these adulterants in canned foods. (See articles in previous numbers.)

*Jellies.*— It is rare to find in the market such a thing as pure fruit jelly. If found, it will be held at a nigh price. The ordinary jellies sold are largely made up of gelatine colored with aniline and other dye-stuffs, and flavored with various essences. Many of them contain not a particle of the fruit after which they are named. A less harmful, but no less fraudulent, form of adulteration is the use of apple jelly flavored to suit the different varieties for which it is sold. The coloring matters may be detected by the methods described in previous articles; but so few are pure, it is best to avoid them altogether.

*Fruit Extracts.*— The science of chemistry has lent its aid to the art of adulteration so effectually that almost, if not quite, every one of the fruit flavors is so closely imitated by chemical compounds that the difference cannot be detected by the taste, though undoubtedly the difference is readily noticed by the stomach. The following description of the composition of some of the principal flavoring extracts, we condense from a report on the subject in the Annual Report of the Massachusetts Board of Health for 1873: —

Pine-apple essence is a solution in alcohol of butyric ether, which is made by distilling butyric acid with alcohol and oil of vitriol. The butyric acid is made from decayed cheese.

Quince essence is a solution in alcohol of an ether obtained by treating oil of rue with aqua fortis, and digesting with alcohol the acid thus obtained.

Pear essence is made by distilling a mixture composed of fusel-oil, acetate of potash, and a strong sulphuric acid, or oil of vitriol, and mixing the product with alcohol.

Apple essence is made from sulphuric acid, fusel-oil, and valerianic acid.

The flavor of currants, bananas, raspberries, strawberries, etc., is imitated by mixing the various ethers known to chemistry, and combining with them camphor, acetic acid, vanilla, and the various essential oils.

Not only are these essences sold at retail for domestic use, but they are largely, in fact almost exclusively, used by bakers and confectioners. Pastry, jellies, and ices are made still more atrocious by the addition of these abominable mixtures. Serious illness and even death have frequently been caused by the use of articles containing the poisonous substances above mentioned.

Syrups flavored with these essences are usually employed in the preparation of soda water, a fact

which certainly makes the use of this popular summer beverage exceedingly questionable on the ground of health. Candies also are flavored with the same vile compounds, together with jellies, as before mentioned.

*Canned and Potted Meats.*— Canned fish and other meats are often in a condition unfit for food when put up, and are further deteriorated by a peculiar kind of decomposition which it is scarcely possible to discover by examination, but which often produces most serious consequences when the meat is eaten. This condition of the contents of a can may be best determined before the can is opened, by observing whether the end bulges outward or is drawn in. If there is bulging, the meat is bad. Potted meats are often colored for the purpose of hiding dirt, or to give the cooked meat a more lively appearance. All such meats are particularly unwholesome.

It has been discovered, through the testimony of a manufacturer, that large quantities of horses' tongues and flanks are worked up into potted meats as beef.

*Vinegar and Pickles.*— Vinegar is very often adulterated with mineral acids, sulphuric acid being the one most commonly used. Many specimens of vinegar offered for sale as cider vinegar have not a drop of apple juice in them. Vinegar is itself an unwholesome article, but it becomes tenfold more injurious when adulterated with strong acids, injuring not only the stomach but the teeth. The presence of sulphuric acid, or oil of vitriol, may be detected by the test given for this acid in syrups. It is said that it may also be detected in the following manner: Add to the vinegar a small quantity of sugar. Then put a drop or two on a clean plate and evaporate at a low heat. If the acid is present, the spot will become black, through its action on the sugar.

The following is a recently devised, and probably the best test for mineral acids in vinegar: Pour into a test-tube or small vial two to four teaspoonfuls of the vinegar to be tested. Add twenty or thirty drops of a strong solution of salicylate of soda. If mineral acids are present, the salicylic acid will be separated from the soda and will appear in the form of curds. The sa'' ylate of soda may be obtained at any drugstore. dram will be sufficient to test several samples of vinegar. The chloride-of-barium test may also be used.

Pickles are, of course, liable to contamination with the same acid to be found in vinegar, and in addition are subject to a very dangerous form of adulteration, the addition of a salt of copper to deepen the color. Very green pickles are sure to have more or less copper in their composition. The copper is sometimes added, but is more often derived from the copper kettle in which the pickles are made, through the action of the acid of the vinegar upon the copper. It is customary to make pickles in copper kettles for the purpose of giving them a green color. Some cook books even recommend that a few copper pennies be boiled in the kettle with the pickles, for the purpose of "greening" them. The practice is not only a most absurd one, since it in no way adds to the flavor of the pickles, but it is very dangerous. Pickles are unwholesome and indigestible at the best; and when poisoned in this manner, they become about the worst articles which can be put into the stomach. Copper and brass kettles should never be used in any way in connection with cookery.

The presence of copper in pickles may be easily detected by putting a clean bright iron wire for a few hours into the kettle containing them. If copper is present, it will appear as a thin film upon the wire.

*Lemon and Lime Juice.*— These valuable acids, sometimes preserved in the form of the juices of the fruits from which they are obtained, are not infrequently adulterated with sulphuric acid, which is intensely sour, and is also an active chemical poison. Sulphuric acid is not infrequently used by those who sell cheap lemonade at stands in the cities, as it is a much cheaper acid than lemon. We have known of instances in which serious poisoning has occurred from drinking this kind of lemonade which had been made in a zinc water-cooler, the poisoning being occasioned by the zinc.

The solution of nitrate or chloride of barium is a good test for sulphuric acid in all cases.

*Cayenne Pepper.* — Though an unwholesome condiment, and not an article of food, cayenne is the subject of a dangerous form of adulteration. In order to add weight, ground rice and other substances are employed; and then, to produce the required intensity of color, red lead and vermilion or bi-sulphuret of mercury, both very poisonous substances, are used. We mention this fact as an additional inducement for abstaining from the use of cayenne as well as other condiments.

*Artificial Cider.*— In the West, large quantities of a mixture called cider are made by compounding sugar, tartaric acid, and yeast, and allowing fermentation to take place. It is a harmful beverage.

ORIGIN OF HOT-WATER DRINKING.— The famous Dr. Sangrado, of whom the original was Dr. Philip Hecquet, who was born in the latter part of the 17th century, seems to have been the originator of hot-water drinking. Dr. Hecquet was a great advocate of bleeding and copious hot-water drinking. He was also rigidly abstinent. For the last thirty years of his life, he neither ate meat nor drank wine.

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CASE OF MIND CURE.— The New York *Sun* relates the following dialogue between a Christian Scientist and an invalid : —

*Christian Scientist* —"Have you ever tried the faith-cure for your rheumatism?"

*Invalid* — "Yes; I am trying it now. I have got in my pocket the left hind foot of a grave-yard rabbit that was killed in the dark of the moon, and I declare, I think it is helping me."

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FOR SORE NIPPLES.— This painful affection, often so distressing to nursing mothers, is promptly relieved by an ointment consisting of the following ingredients : —

| | |
|---|---|
| Ichthyol | 1 dram. |
| Lanolin, glycerine, each | 75 grains. |
| Olive oil | 2½ ounces. |

This application causes the pain to disappear promptly, and acts as a protective which renders it unnecessary to wean the child, while quickly healing the fissures.

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EPIDEMIC FROM ICE.— The importance of collecting ice from pure sources is emphasized by a case recently reported in the New York *Medical Journal*, according to which an outbreak of forty-two cases of diphtheria, fifteen of which proved fatal, recently occurred in a small locality in Washington, D. C. The cause of the outbreak was found to be as follows : The body of a child that had died of diphtheria was packed in ice for two days, and when the body was transferred to the coffin, the undertaker threw the ice on the ground outside of his place of business. Three children were seen eating the ice; in eight days they presented acute symptoms of diphtheria, and died in a few hours. In all, thirty-two cases of disease, which occurred at that time, were ascribed to the use of this ice. It is not considered likely that such a circumstance could very often give rise to diphtheria or any other infectious disease, but the facts observed show conclusively that the freezing of water does not destroy the noxious germs, and that even ice may become a vehicle for conveying microbes into the human system.

CUTTING OFF SUPPLIES.— The eminent Dr. Tronchin, of Paris, considered abstinence from food as the best of all remedies for disease, probably because he regarded most disorders as the result of overfeeding, a conclusion to which we heartily agree, at least if bad feeding is included. "Good generals," said Dr Tronchin, "always attempt to cut off the enemy's supplies. I put my patients on spare diet at once, and bring the enemy to terms by famine." The great Napoleon seems to have had the same idea. "When I am not well," said Napoleon, "I fast, bathe, and rest. If I am taken sick while I am resting, I exercise. If taken ill while hard at work, I rest; but in all cases, I fast. I find that is all I need."

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DANGER IN COBWEBS.— The popular notion that cobwebs are an excellent application for a bleeding wound, gave rise, recently, to a fatal case of blood-poisoning from the use of cobwebs for such a purpose. It is true that the spider's web is possessed of styptic properties; that is, that it will check the flow of blood, but it should be remembered that the cobweb is also a collector of dust and germs, with which it is always loaded, when found, and consequently there is no possible method by which a wound can be more thoroughly infected than by the application of a cobweb to it. The simple application of a tightly folded napkin, or bit of cotton, or linen cloth, with firm pressure, will check any hemorrhage which could be checked by a cobweb, and much more effectively.

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FOR BURNS.— In case of extensive burns, death occurs, probably, not so much as the result of destruction of the skin, as from the absorption of poisonous matters formed by the germs developing on so large a denuded surface. The best means of preventing this, is the application, from the beginning, of antiseptics. It is important, however, to select an antiseptic substance which, while destructive of germs or capable of preventing their development, is, at the same time, not poisonous to the system in quantities in which it is likely to be absorbed. A very excellent remedy for this purpose is thymol. The following ointment possesses great value as a remedy for burns, on account of its emollient healing properties : —

| | |
|---|---|
| Bismuth sub-nitrate, | 20 parts. |
| Yellow vaseline, | 80 parts. |
| Thymol, | ½ part. |

A thick layer of this ointment should be applied to a piece of gutta-percha tissue, and laid over the burn. The application should be changed once or twice daily.

## ANSWERS TO CORRESPONDENTS.

BARYTES SULPHATE.— N. H. B., Minn., wishes to know if barytes sulphate is the same as barium sulphate.

*Ans.*— Yes.

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DAILY AMOUNT OF LIQUID FOOD REQUIRED.— B. C. N., Mass., writes: "A doctor told me that the system needs three pints of liquid every 24 hours. Is this true?"

*Ans.*— Yes.

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CANNING OF GRAPE JUICE — CANNING FRUIT WITHOUT COOKING.— D. J., Cal., asks: "1. May grape juice be canned the same as any fruit, after being boiled? 2. I have heard of fresh fruit being canned without cooking. How is it done?"

*Ans.*— 1. Yes. 2. By means of chemicals possessed of antiseptic properties. This is not a proper mode of preserving fruits.

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WORMS.— A., Ind., is greatly afflicted with worms. They are about an inch long, and flat. Within the last six months has passed from ten to thirty-five per day. Would be grateful for a remedy.

*Ans.*— The expulsion of intestinal parasites can be accomplished only by the use of poisonous drugs, which will weaken or kill the parasites, and consequently should not be undertaken except under the supervision of an intelligent physician. Our correspondent is advised to consult the best physician in his locality. If he does not succeed, a visit to the Sanitarium would be in order.

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EUROPEAN SANITARIUMS — CAN VOCAL CORDS BE RESTORED?— W. M. S., Penn., asks, "1. What institution in Europe comes nearest to being carried on like the Battle Creek Sanitarium? 2. If the vocal cords of a girl of thirteen years are thickened from catarrhal troubles, not of long standing, can they be restored to their natural condition?"

*Ans.*— 1. There are no institutions in Europe conducted upon the plan of the Battle Creek Sanitarium. There are numerous water-cures in which hydropathic remedies are employed in a more or less rational manner, in a few of which water is used in a thoroughly scientific manner. One of the best water-cures is that of Prof. Winternitz, near Vienna. 2. Doubtless a great improvement can be secured, and perhaps a nearly perfect cure may be effected.

STYES.— M. A. S., Mich., asks: "What is the cause of styes? and what can be done to prevent their frequent occurrence?"

*Ans.*— Styes are commonly due to some optical defect in the eye, which can be relieved by the use of glasses. Bathing the eyes with hot water frequently is of service, relieving the hyperæmia of the eye, but a radical cure can be effected only by the adjustment of proper glasses.

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WHITE SPOTS ON THE BODY.— J. M., Ind., writes concerning a friend who has had white spots coming on his body for about three years. They do not seem to affect his health, but he is anxious to know if they are likely to spread entirely over his body. What causes them? and is there any cure?

*Ans.*— The patient is probably suffering from a disease known as leucoderma. The disease sometimes extends to the entire body, although, usually, the spots increase in size so slowly that the entire surface of the body is never involved. There is no remedy for this disease.

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INFLAMED TONGUE IN A CHILD.— C. A. I., So. Dak., writes regarding his little daughter, a child of three years. Has been troubled from her birth with a sore tongue, a sort of ulcer, though not swollen or very painful, forming in rings or circles, with a whitish substance in the center and very red underneath. The doctors in the vicinity say that it is caused from a disordered stomach, and have treated her constantly for it, but with no success. Any suggestions in regard to her case will be thankfully received.

*Ans.*— Doubtless this child is suffering from a serious disorder of the stomach, very likely what is termed, technically, hyperpepsia. If this is the case, relief may probably be obtained by a careful regulation of the diet, and the use of sub-carbonate of bismuth in twenty-grain doses just before each meal. Only two meals should be taken daily. Care should be taken to avoid overeating. Coarse vegetables and meats should be avoided. The diet should consist of fruits, grains, and milk. The food should be well masticated. Ten grains of soda administered in a little water three hours after eating, may be required, if there is soreness in the region of the stomach. These cases are sometimes very difficult to cure, and will require skillful management.

# RELIEF DEPARTMENT.

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

1. Young orphan children.

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.

The following list contains the names and addresses of persons who have kindly consented to act as agents for us in this work, and who have been duly authorized to do so. Facts communicated to any of our local agents in person will be duly forwarded to us.

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, 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.]

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Thompson, J. H., Quincy.
Trotman, John, Traverse City.
Tyler, D. S., N. Muskegon.
Westfall, L. T., South, Allen.
Westphal, Mrs. G. C., Brighton.
Wheeler, F. A., Sherman.
Young, S., 218 N. Main St., Ionia.

### MISSOURI.

Beasley, W. H., Poplar Bluff.
Chapin, J. S., Bolivar.
Clarke, Joseph, Lowry City.
Dasher, C. J., Utica.
Davis, James W., Sedalia.
Duxbury, Robert, Pacific.
Evans, Wm., Hamilton.
Flower, A. E., 3211 Salisbury St., St. Louis.
Hancock, H. W. Orrsburgh.
Hobb, Josephus, Kingsville.
Hollingsworth, O. S., Antler.
Hoover, Eld. H. L., Quinn City.
Hoover, H. T., Memphis.
Hoover, T. A., Nevada.
Moore, J. Scott, Henderson.
Rice, F. J., Box 289, Appleton City.
Santee, C., Carthage.
Sellarck, T. J., Fredericktown.
Tovey, W. B., 1411 E. 16th St., Kansas City.
Willis, H. K., Pleasant Hill.

### NEW HAMPSHIRE.

Farnsworth, Elgen G., Washington.

### NEW YORK.

Baldwin, H. Frank, Alden.
Bowe, E. A., Batavia.
Caton, W. C., Jeddo.
Cobb, A. C., South Russell.
Dobbins, James, Jamestown.
Eaton, W. C., Jeddo.
Evans, David, Black Creek.
Gleason, Alex., 1201 Niagara St., Buffalo.
Hicks, F. H., Salamanca.
Jones, Ellen E., Frankfort.
Lindsay, C. W., Coomer Sta.
Pratt, Chas. N., Keene Center, Essex Co.
Raymond, J. W., Wheeler.
Raymond, N. S., Wheeler.
Simkin, Wm., Wellsville.
Taylor, C. O., Norfolk.
Thurston, S., 214 Winsor St., Jamestown.
Treadwell, Wm., Pennelville.
Tuttle, A. E., 11 Mechanic St., Watertown.
Tyrel, M. S., North Creek.
Van Duzer, A. F., 65 Henry Ave., Newburg.
Weston, Orom, Pierrepont.
Whitford, Irving, Adams Center.
Willson, J. V., 317 W. Bloomfield St., Rome.

### OHIO.

Peterson, John, Box 25, Astoria.
Van Horn, E. J., 74 Kinsman St., Cleveland.

### OREGON.

Bunch, J. C., Cognille.
Burden, Warren J., Montavil'a.
Hurlburt, E. D., St. Johns.
Johnson, C., Marquam.
Logan, L. A., Elk City.
Morrison, Isaac, Talent.
Tabor, B. C., 163 Winter St., Salem.
Wait, V. O., Albany.

### PENNSYLVANIA.

Barron, Wm., Montrose.
Bowersox, A. S., New Columbia.
Butzer, J. L., Spartansburg.
Howe, Mrs. L. A., Titusville.
Kagarise, J. S., Salemville, Bedford Co.
Matteson, Mrs. A. J., Mill Village.
Mulhollen, Louise, Flemington.
Owen, C. H., North Warren.
Parker, J. M., Mexico.
Rowe, Mrs. L. A., Titusville.
Spencer, Anthony, Canton.
Voorhees, L. W., Shinglehouse.
Ward, O. H., Lundys Lane.
Williams, I. N., Washington.
Williamson, C. H. Washington.
Zeidler, W. H., 23rd Ward, Pittsburg.

### PROVINCE OF QUEBEC.

Dingman, Darwin, So. Bolton.
Hammond, Mrs. J. H., So. Stukely.
Rickard, H. E., Fitch Bay.

### RHODE ISLAND.

Stillman, E. A., 91 Main St., Westerly.
Stone, Mrs. S. D., Apponaug.

### WASHINGTON.

Barber, O. W., Carrollton.
Barrett, T. H., Box 113, Wilkeson.
Boardman, A. D., Summer.
Nellis, S. W., 309 Poplar St., Seattle.
Wolfkill, W. S., Colby.

### WEST VIRGINIA.

Babcock, Mrs. Mina, Newark.
Bowen, Mrs. G. L., Newburg.
Johnson, Mrs. Maria, Carrier 5, Parkersburg.

### WYOMING.

Worth, Mrs. Prudie, Buffalo.
Angleberger, G. W., Cheyenne,

TEMPORARY HOMES.— It is often necessary to find temporary homes for children, while waiting for permanent homes. We are glad to announce that the following persons have volunteered to take such needy ones in case of emergency. We shall be glad to add to the list. All correspondence should be conducted through this office :—

Dr. J. D. Dennis, Michigan.
E. Van Essen, Michigan.
Wm. Kirk, Michigan.
Anthony Snyder, Michigan.
F. D. Snyder, Michigan.
Henry Snyder, Michigan.
John Wallace, Michigan.
J. Staines, Michigan.
Mrs. Anna, Haysmer, M'chigan.
James Dobbin, New York.
Chester Hastings, Michigan.
D. D. Montgomery, Michigan.
N. A. Slife, Michigan.
Mrs. Prudie Worth, Wyoming.

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PERMANENT HOMES FOR CHILDREN.—There are thousands of childless homes in the United States, where one or more children would be a blessing. It is the purpose of this department to find these homes, and also to find the little ones to fill them. There are thousands of such little ones within the territory in which this journal circulates, and we shall be glad to know about them, and to be instrumental in finding homes for them. The following persons are ready to receive children : —

Miss Corgan, of Michigan, offers a home to a little girl of eight years.

Mr. David Ferguson and wife, Illinois, offer a home to a little girl, whom they will treat as their own child. They will give her a Christian education and a good opportunity at school. They have no children of their own, and are in good circumstances.

Mr. Hough, of Pennsylvania, offers a home to two boys eleven and twelve years of age. He will teach them a trade.

Ellen C. Jessup, of Michigan, will give a home to a little girl.

Mrs. M. J. Modill, of Ontario, will give a home to a little girl.

Mr. Wilkin, of Michigan, offers a home to a girl of thirteen years.

Mr. Rooney, of Michigan, offers a home to a boy of fifteen. He will teach him the harness trade. The boy must be right-handed, bright, industrious, and reliable.

T. E. Bowen, of West Virginia, wishes to adopt a ten year-old girl.

Mrs. W. H. Parker, of Minnesota, will take a little girl three to five years of age.

Mrs. M. J. Post, of North Dakota, would take one of the boys already advertised, and also a little girl from seven to ten years old.

A gentleman in Colorado offers a home to a little girl about three years old.

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THE HOMELESS YOUNG GIRL (No. 105) mentioned in an earlier issue has found a home with a woman of culture and means, who has no children of her own. We trust she will prove a true mother to the worse than orphaned girl.

---

TWO BOYS WHO NEED A TEMPORARY HOME (NOS. 106 AND 107).— A widowed mother, living in Michigan, asks for homes for her two boys, Carlos, aged 12, and Willie, aged 9. They are strong, healthy boys, but are living where they have no school privileges. The mother has her aged parents to care for, and is willing to clothe her boys, but is very anxious for them to be where they can have religious training and the advantages of school.

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A FRIENDLESS BOY (No. 108).—A little boy, in Pennsylvania, about 8 years old, needs a home where he can have good Christian care and love. Left an orphan, he has no one in the wide world to look out for him, and is at present in the care of the town authorities, who have secured for him board and lodging, but not a *home*.

---

TURNED ADRIFT (No. 109).— Another little boy, aged 14, is left without a home because his stepfather refuses to support him. The one who writes of him says, "He is a very nice little fellow, with a good education for his years, and of good morals." Will not some one be willing to have their home made brighter by his presence?

---

TWO LITTLE SISTERS (NOS. 110 AND 111), in Pennsylvania, the older fifteen, are in need of a home or homes where they can be trained and educated for usefulness. The mother is a widow in needy circumstances, and will part with the girls rather than see them come up amid surroundings which may prove their ruin. They are bright, intelligent girls.

---

A HOME FOR TWO GERMAN BOYS. —Since the publication of a notice entitled, "Two Boys who Need A Home," we have received nearly a score of offers to furnish the boys a home. We will now be very much obliged if the friend who wrote us concerning these boys will give us further information, especially the address of the mother or some other responsible person to whom we can write or arrange for rescuing the boys from the hardships to which they are exposed. We will also be greatly obliged if other friends who are acquainted with this case will give us such information as they are able to communicate.

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A LITTLE BOY (No. 112), eleven years of age, is in need of a home. He is a bright, active boy, healthy, with a light skin, and dark hair, dark, keen eyes, and an open, free countenance.

# LITERARY NOTICES.

WHERE IS MY DOG? or The Future Life of Animals, in press by Fowler & Wells Co., New York, from the pen of Rev. Chas. J. Adams, a well-known Episcopal clergyman, is a work that is likely to attract a good deal of attention.

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WHITTIER: Notes of His Life and of His Friendships.— By Mrs. James T. Fields. Illustrated. 32mo, cloth, ornamental, 50 cents.

A chapter of reminiscences of a personal friendship which began early in Mr. Whittier's literary career, and ended only with his death. It gives charming glimpses of the poet in his home life, and presents from a new point of view some of those lovable qualities of character for which he was distinguished.

---

THE JAPANESE BRIDE.— By Naomi Tamura. Illustrated. 32mo, cloth, ornamental, 50 cents.

This very readable little book, written by a native of Japan, includes not only an interesting account of the marriage customs and ceremonies of the Japanese, but a vivid delineation of many of the peculiar features of the home life, of which foreigners have no means of obtaining any direct personal knowledge. The quaint style in which the book is written adds not a little to its intrinsic interest.

---

THE *Phrenological Journal and Science of Health* for March is crowded with articles relating to its specialty, and the number will be read with unusual interest. The Science of Health in an important department in the *Journal,* always presenting much that is valuable, and the Hygienic Treatment for Cholera, given in the March number, will be found especially worthy of attention. Published by the Fowler & Wells Co., at $1.50 a year or 15c. a number. Address 25 East 21st street, New York.

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A NEW EDITION OF THE FEBRUARY CENTURY.— A new edition of 5000 copies of the February *Century* is now printing. The demand for the magazine this season has been very great. The publishers were for a time entirely out of the January number; and they are now printing this new edition of February, which has been for some time out of print. The March edition, which had already been increased, proves still inadequate, and a yet larger supply is in preparation for April. Among the recent attractions in the *Century* have been Mrs. Burton Harrison's story, "Sweet Bells out of Tune," Mark Twain's "Million Pound Bank-Note," the reply of the Russian Secretary of Legation to George Kennan, Gen. Sherman's Correspondence with his brother, Senator Sherman, the remarkable Reminiscence of Napoleon at Elba, etc., etc.

The April number will contain an important article on the Trial of the Chicago Anarchists by the judge who presided.

---

THE April issue of the *Jenness Miller Illustrated Monthly* offers a fine feast of good reading. There are some good stories, poems, fashion news and gossip, finely illustrated, and also the story of a wonderful Hindu woman. Published at 927 Broadway, New York. Subscription price, $1 a year. Jenness Miller Co., 927 Broadway, N. Y. City.

---

*Our Little Men and Women* for April, fairly scintillates with bright, wholesome thoughts, artistically woven into apt story, clever verse, and merry rhyme. Its pictures, too, are full of suggestion and story, admirably adapted to educate and instruct, and the illustrations and texts combined make a charming spring number. "We Four," How Little Grandmother's Shoes Were Made, The Three Little Gold-Diggers, The House that was Made for Me, Bessie's Dream, The Little Peacemaker, My Neighbors on the Ganges, Lace-Making, Our Swan Visitors, The Birthday Present from Papa, Our Little Columbian Grandpapa, Do n'ts for the Dolls, and The Clock o' the Year, make up for the boys and girls a table of contents that will cheer older hearts as well as theirs. Price $1 a year; 10 cents a number. D. Lothrop Company, Publishers, Boston.

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THE *Pansy* for April would be a notable number had it only the American Literature paper to recommend it to the reader's notice. For the historians Parkman and Prescott will be read and admired so long as there are English-speaking students to read their gracefully written English. A fine picture of each accompanies the article. But there are stories, bits of narrative, and poems, as well as stirring pen pictures drawn by "Pansy" and Margaret Sidney, the young folks favorite writers. The Junior Society of Christian Endeavor has likewise been remembered in the P. S. Department, which is always an attractive feature of this highly commendable young folks' magazine. The publishers will send a sample back number free to those wishing to examine the magazine. Price $1 a year; 10 cents a number. D. Lothrop Company, Publishers, Boston.

# PUBLISHERS' DEPARTMENT.

A LECTURE ON KINDERGARTENING.— Mrs. L. W. Treat, eminent as a kindergartner, gave a lecture on Frœbel's methods and ideas illustrated by some very interesting incidents in her own experience. She is now of Grand Rapids, but has taught in Chicago, Cincinnati, and other places, especially among the children of the very poor. The idea of spiritual motherhood was specially emphasized, that being the sense in which Frœbel's talks to mothers must be understood. This is entirely without reference to age or sex, but includes any one who will through kindness and love bring happiness, joy, and sweetness into the life of another. As Sir Philip Sidney said, "Make a child happy at six, and he will be happy in the remembrance of it at sixty." She spoke also of the kindergarten way of always saying "do" instead of "don't," and "yes" instead of "no." She told about meeting a young lady who said that until she was ten years old she actually supposed that her name was "Lizzie Don't," from having heard it so much. It is a sad fact, however, that most children are brought up on the "don't" plan, and many and many a young life is warped and made bitter, instead of growing straight and beautiful and sweet, by the everlasting negatives which are hurled at them. Would that every young girl and every mother could have the benefit of thorough kindergarten training.

* *
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WORK FOR RELEASED PRISONERS.— Mrs. Agnes d'Arcambal gave an address recently upon her work for released prisoners. It is more than a quarter of a century since she began to interest herself in this class of unfortunates, and the good which she has accomplished by her self-sacrificing devotion to their cause, is above estimate. As Chaplain Mc Coy said when she had finished her story, "This is genuine Christian work. It reminds one of what the Saviour did when upon the earth."

Mrs. d'Arcambal struggled against mighty obstacles and discouragements at the outset to get the Home for Discharged Convicts started, but finally succeeded in providing a refuge for the men when they came from jails and prisons. Her next step is always to secure honest employment for them, and to put them on their feet with a chance to regain their lost manhood. Six hundred different men have already been befriended there by the noble "Mother" of the Home. Mrs. d'Arcambal's services are recognized abroad. She is a member of the National Prison Association and also of the National Association of Charities and Corrections, and she has visited penal institutions all over the United States.

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*

QUIDS VS. SHUCKS.— The Ways and Means Committee of the World's Fair recently granted a concession to Major Morgan to sell peanuts on the World's Fair grounds. The concessions particularly stipulated, however, that he should not sell less than 2½ ounces for a nickel, and that the nuts should be shelled. Evidently the purpose of this is to protect the public from imposition, and to avoid the unseemly sights and sounds necessarily connected with the sale of unshelled peanuts. However, we have been unable to learn that similar restrictions have been made respecting the sale of alcoholic liquors and tobacco. Emily A. Kellogg, of Chicago, suggests that the Ways and Means Committee ought to have insisted, in granting their concession for the sale of tobacco, that the spitting should be done beforehand for each customer, so that the floors of the great buildings, the ladies' dresses, and the walks and lagoons about the grounds, might be unpolluted with sickening tobacco juice. The suggestion is a good one, and we hope it may be brought to the attention of the Ways and Means Committee, or at any rate, that they may adopt some means by which the public may be protected from the filthy spittle and nauseating odors emitted by tobacco users, and the pestilential breath of drunkards on the World's Fair grounds. Many thousand good people who were not quite willing to concur in the request for Sunday closing as being a seeming interference on the part of the government with matters which pertain wholly to religion and the church, would have very earnestly petitioned for the addition to the act of appropriation, of a clause excluding tobacco and alcoholic liquors from the grounds of the Fair, and from its immediate vicinity.

* *
*

MISS REID AND FREE KINDERGARTEN EXTENSION IN DETROIT. — The solution of many a vexed problem in social ethics seems to lie in the free kindergarten work among the poor and degraded. The story of the Free Kindergarten Extension under the auspices of the Industrial School Association of Detroit, was told in a charming, yet very simple manner in the Sanitarium parlors one Saturday evening by Miss Maud A. Reid, who is superintendent of the Normal Training School for Kindergartners in that city. Miss Reid and her pupil teachers seek out the children of the poor from wretched lodgings, and instruct them in the happy manner devised by Frœbel; and when the day's lessons are over, they go back to their parents in many instances as veritable little missionaries of the cross.

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MRS. LUCY RIDER MEYER, of the Chicago Training School for Home and Foreign Missionaries, is at present a welcome guest at the Sanitarium. Her husband, the Rev. J. S. Meyer, D. D., accompanied her, but returned in a day or two. We are much interested in the Deaconess' work, of which she is the head. Mrs. Meyer is the editor of the *Message and Deaconess' World*, which has recently been made the national organ for the worthy Deaconess' movement.

On a recent Sabbath afternoon, Mrs. Meyer addressed the Sanitarium nurses on her work, which is wholly a work of faith and love, all connected with it working without salary, and without other assurance of support than a firm faith in Him who said, "Take no thought for the morrow."

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STEREOPTICON LECTURES.— Eld. Geo. C. Tenney, of Melbourne, Australia, favored the Sanitarium guests with two fine stereopticon lectures a week apart. The first was upon India, and the second upon Australia and Italy. He has resided in Australia for the past five years, and considers the land of his adoption a most desirable country, both as to climate and people. He says it is the most American of any country outside of America.

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WORK AMONG THE TELUGOOS.— Rev. D. H. Drake, of Madras, India, who has been for a number of years connected with the famous "Lone Star" mission in India, is a guest at the Sanitarium. On a recent Sunday evening he gave some interesting personal experiences and reminiscences regarding his work. Mrs. Drake died of cholera in Madras, something over a year ago, Mr. Drake being very ill at the same time. When able to travel, he came to this country to recuperate, and is so far recovered now that he expects to return to the mission field next August.

WORK FOR ERRING WOMEN.— Rev. Woodford D. Smock, who is at the head of a noble work in Chicago, for the rescue of erring women and girls, recently devoted two evenings to telling about it, for the benefit of the Sanitarium guests. His cousin, Miss Smock, who was formerly connected with the Anchorage Mission in Chicago, is one of his assistants. Mr. Smock is a man of intensely earnest purpose and thorough consecration, and he gave up a pleasant pulpit about four years ago for the purpose of engaging in his present philanthropic enterprise. He hopes to be able to put up buildings and establish a permanent Industrial Home the coming season. In his talks he specially emphasized the fact that God knew no dual standard of virtue as between men and women, and said that probably for every woman who has stepped aside from the path of virtue there are ten men.

***

TO OUR OLD SUBSCRIBERS. — We have formerly been in the habit of cutting off from our subscription list the names of those of our subscribers who did not promptly renew their subscription to this journal when their time had expired; but we have recently adopted the plan of sending GOOD HEALTH for a few months over time, believing, from the constant good words which are spoken of it on every side, that the journal has become too much of a household necessity in most cases, to be given up, and for that reason a renewal will be sent us sooner or later. Thus our subscribers will be spared the vexatious loss or delay of one or more numbers, and the office will be saved the trouble of cutting off and re-entering such names. In view of this, we would ask our subscribers each and all, kindly to examine the date upon their GOOD HEALTH address label, and ascertain whether their subscription has expired, and if so, to write us at once, sending a renewal.

***

## WHERE TO LOCATE NEW FACTORIES.

THIS is the title of a 150-page pamphlet recently published by the Passenger Department of the Illinois Central Railroad, and should be read by every mechanic, capitalist, and manufacturer. It describes in detail the manufacturing advantages of the principal cities and towns on the line of the Southern Division of the Illinois Central, and the Louisville, New Orleans, and Texas Railroads, and indicates the character and amount of substantial aid each city or town is willing to contribute. It furnishes conclusive proof that the South possesses advantages for the establishment of every kind of factory, working wool, cotton, wood, or clay. For a free copy of this illustrated pamphlet, address C. C. Power, Foreign Representative, 58 Michigan Ave., Chicago, Ill.


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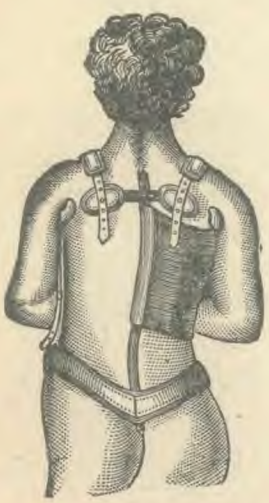

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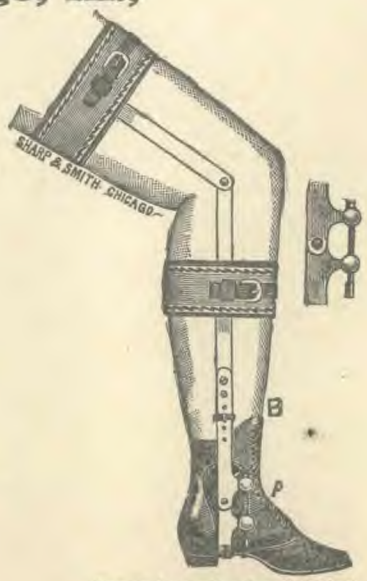


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# BOOKS THAT SELL.


THE sale of books by canvassing agents, looked upon a few years ago as a sort of peddling business, has almost reached the dignity of a profession, and at the present time quite a considerable portion of the reading public depend upon the traveling salesman for their supplies of recent choice literature. No publishing house thinks of presenting its most valuable works to the public in any other way. **There is no more pleasant, no more useful, and no more profitable business** in which a young man or woman of ability can engage, and **none which brings such large and quick returns** to the energetic worker, as the sale of a good book in good territory, prosecuted by a good agent employing good methods, and putting energy, enterprise, and industry into his work.

The man or woman who engages in the introduction of a good book, — one calculated to instruct, elevate, and materially benefit all who become acquainted with its contents, — is as genuine a missionary as the man or woman who engages in missionary work in the wilds of Africa or the distant islands of the sea. The good book as well as the good impression which a good agent leaves behind him in each of his successful efforts, is a permanent source of salutary influence to the household which receives it.

The undersigned have for many years been engaged in the publication of books for the million, and several hundred thousand copies of their bound volumes are to be found scattered among the households of the United States and other English-speaking countries, although comparatively little effort has been made to push the sale of their publications. They are now organizing a vigorous campaign for the introduction of their various works in all parts of the United States, Canada, and the West Indies. **Liberal commissions are offered agents, splendid territory, and books, the selling qualities of which are not excelled by any subscription books offered by any publishing house in the world,** as will be seen by the following reports of work done within the last few weeks in different parts of the United States: —

John P. Neff, a college student less than twenty-one years of age, now at work in a Western State to earn money to pay his expenses during the next college year, has sold of the two works advertised on this page, books to the following amounts, for seven successive weeks consecutively: —

| | | | |
|---|---|---|---|
| First week (4½ days) | $240 | | |
| Second week | $244 | Fifth week | $440 |
| Third " | 280 | Sixth " | 230 |
| Fourth " | 370 | | |

This same agent sold *$180 worth of books in one day.*

Another agent (C. C. Nicola) sold 65 books in one week; amount of sales, nearly $300.

F. A. Shaver, an agent working in Wisconsin, took orders for over 200 books, and delivered nearly all of them, in three weeks.

Another agent working in Vermont, when able to put in full time, has averaged nearly $100 per week.

A lady made 25 canvasses in one day and took 21 orders, amount, $95.

A young lady in Dakota reported Sept. 9, 1892, 83 calls, 52 orders, amount, over $200. *Good for 5 days' work.*

A young man took orders amounting to **$458 in 57 hours. In one day of 12 hours he sold 36 copies** of "Man, the Masterpiece" and "Ladies' Guide," **netting a profit of $99** at usual commission.


Scores of cases might be cited in which agents are making from $25 to $50 clear, weekly. No agent of average ability in average territory can fail to succeed with these works, and many who have failed with other works succeed with these. A wide-awake agent, with plenty of pluck and perseverance, is certain to make a success almost from the start, when he has had a proper preparation for the work. For terms and other information, address,

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## Chicago & Grand Trunk R. R.

Time Table, in Effect June 26, 1892.

| GOING WEST. | | | | | | STATIONS. | GOING EAST. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| p m | p m | a m | p m | ..... | ..... | Boston | ..... | a m | p m | | |
| 7.15 | 3.00 | 11.00 | 7.00 | | | | | 7.00 | 8.00 | 9.25 | ..... |
| a m | p m | p m | p m | ..... | ..... | New York | ..... | p m | a m | p m | ..... |
| 9.45 | 5.00 | 6.30 | 8.00 | | | | | 3.55 | 7.40 | 5.07 | |
| a m | a m | a m | p m | ..... | ..... | Buffalo | ..... | a m | p m | a m | ..... |
| 12.10 | 6.20 | 6.25 | 1.00 | | | | | 8.40 | 5.50 | 4.20 | |
| a m | a m | a m | p m | ..... | ..... | Niagara Falls | ..... | a m | p m | a m | ..... |
| 1.35 | 7.45 | 8.00 | 2.45 | | | | | 7.30 | 4.10 | 3.10 | |
| a m | | p m | noon | ..... | ..... | | ..... | | a m | p m | ..... |
| 8.30 | ..... | 3.00 | 12.00 | | | Boston | | 8.05 | 9.50 | | |
| a m | p m | | | ..... | ..... | | ..... | p m | a m | ..... | ..... |
| 9.30 | 8.40 | ... | ..... | | | Montreal | | 8.00 | 7.00 | | |
| p m | | | p m | ..... | ..... | | ..... | a m | p m | ..... | ..... |
| 11.30 | ..... | ..... | 1.00 | | | Toronto | | 8.35 | 5.25 | | |
| | | | p m | ..... | ..... | | ..... | | a m | ..... | ..... |
| ..... | ..... | ..... | 8.00 | | | Detroit | p m 9.25 | ..... | 7.45 | 9.25 | ..... |
| Day Exp. | B. C. Pass. | Lmtd Exp | Pacific Exp. | | Mail Exp. | | Mail. | Lmtd Exp. | Atlic Exp. | Day Exp. | Prt. H Pass. |
| am | pm | pm | pm | ..... | am | Dep. Arr. | pm | am | am | pm | am |
| ..... | 3.44 | ..... | ..... | ..... | 6.19 | ..... Port Huron ..... | 10.01 | ..... | ..... | ..... | 12.10 |
| 6.50 | 3.49 | 12.22 | 8.40 | ..... | 6.25 | Port Huron Tunnel | 9.56 | 12.35 | 7.30 | 8.50 | 12.05 |
| 8.05 | 5.10 | 1.27 | 10.07 | ..... | 7.49 | ..... Lapeer ..... | 8.15 | 11.20 | 6.15 | 7.35 | 10.45 |
| 8.35 | 5.47 | 1.55 | 10.47 | ..... | 8.35 | ..... Flint ..... | 7.30 | 10.47 | 5.40 | 7.05 | 10.05 |
| ..... | 4.05 | ..... | 8.00 | ..... | 6.50 | ..... Detroit ..... | 9.25 | ..... | 7.45 | 9.25 | 11.50 |
| 7.15 | 4.40 | ..... | 8.25 | ..... | 7.15 | ..... Bay City ..... | 8.37 | ..... | 7.15 | 8.37 | 11.30 |
| 7.50 | 5.17 | ..... | 9.00 | ..... | 7.50 | ..... Saginaw ..... | 8.00 | ..... | 6.40 | 8.00 | 10.43 |
| 9.05 | 6.50 | 2.22 | 11.20 | ..... | 9.35 | ..... Durand ..... | 6.50 | 10.20 | 5.03 | 6.35 | 9.30 |
| 10.02 | 7.55 | 3.07 | 12.20 | ..... | 10.40 | ..... Lansing ..... | 5.10 | 9.30 | 4.00 | 5.40 | 8.20 |
| 10.29 | 8.30 | 3.34 | 12.52 | ..... | 11.15 | ..... Charlotte ..... | 4.34 | 9 01 | 3.25 | 5.11 | 7.47 |
| 11.15 | 9.25 | 4.15 | 1.50 | ..... | 12.25 | .... BATTLE CREEK .... | 3.40 | 8.20 | 2.40 | 4.30 | 7.00 |
| 11.53 | pm | ..... | 2.35 | ..... | 1.08 | ..... Vicksburg ..... | 2.33 | 7.40 | 1.48 | ..... | am |
| ..... | ..... | ..... | ..... | ..... | 1.19 | .... Schoolcraft ..... | 2.21 | ..... | ..... | ..... | ..... |
| 12.40 | ..... | 5.45 | 3.30 | ..... | 2.06 | ..... Cassopolis ..... | 1 29 | 6 58 | 12.45 | 3.07 | ..... |
| 1.20 | ..... | 6.20 | 4.10 | ..... | 2.50 | ..... South Bend ..... | 12.45 | 6.20 | 12.00 | 2.35 | ..... |
| 2.45 | ..... | 7 35 | 5.45 | ..... | 4.30 | ..... Valparaiso ..... | 11.10 | 5.00 | 10.30 | 1.20 | ..... |
| 4.50 | ..... | 9.30 | 8.00 | ..... | 7.00 | ..... Chicago ..... | 8.40 | 3.00 | 8.15 | 11.25 | ..... |
| p m | ..... | pm | am | ..... | pm | Arr. Dep. | am | pm | pm | am | |

Where no time is given, train does not stop.
Trains run by Central Standard Time.
Valparaiso Accommodation, Battle Creek Passenger, Port Huron Passenger, and Mail trains, daily except Sunday.
Pacific, Limited, Day, and Atlantic Expresses, daily.
Meals served in C. & G. T. Dining Cars on all through trains.

W. E. DAVIS,
*Gen. Pass. and Ticket Agt. Chicago.*

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*Ticket Agt., Battle Creek.*

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## MICHIGAN CENTRAL

*"The Niagara Falls Route,"*

Corrected Nov. 20, 1892.

| EAST. | †Day Express. | *N. Shore Limited. | #N. Y. Express. | #N. Falls & Buffalo Special. | ‡Night Express. | †Detroit Accom'n | *Atl'ntic Express |
|---|---|---|---|---|---|---|---|
| STATIONS. | | | | | | | |
| Chicago | am 9.00 | pm 12.20 | pm 3.10 | pm 4.55 | pm 9.30 | | pm 11.45 |
| Michigan City | 10.58 | 2.05 | 4.56 | 6.39 | 11.25 | | am 1.42 |
| Niles | pm 12.40 | 2.57 | 5.48 | 7.31 | am 12.30 | | 2.50 |
| Kalamazoo | 2.05 | 4.00 | 7.04 | 8.57 | 1.57 | am 7.10 | 4.28 |
| Battle Creek | 2.45 | 4.30 | 7.37 | 9.28 | 2.35 | 7.52 | 5.20 |
| Jackson | 4.30 | 5.38 | 8.52 | 10.42 | 4.05 | 9.40 | 6.45 |
| Ann Arbor | 5.30 | 6.27 | 9.45 | 11.27 | 5.38 | 10.40 | 8.05 |
| Detroit | 6.45 | 7.25 | 10 45 | am 12.30 | 7.10 | 11.52 | 9.35 |
| Buffalo | | am 3.00 | am 6.25 | 7.35 | | pm 7.40 | pm 5.00 |
| Rochester | | 5.50 | 9.55 | 11.20 | | | 8.20 |
| Syracuse | | 7.50 | pm 12.15 | pm 2.10 | | | 10.20 |
| New York | | pm 3.45 | 8.50 | | | am 8.45 | am 7.00 |
| Boston | | 6.05 | 11.05 | am 6.15 | | | 10.50 |
| WEST. | †Mail. | † Day Express. | *N. Shore Limited. | *Chicago Express. | †Kal. Accom'n | *Pacific Express. | * Chic, Special. |
| STATIONS. | | | | | | | |
| Boston | | am 8.30 | pm 2.00 | pm 3.00 | | pm 6.45 | |
| New York | | 10.30 | 4.30 | 6.00 | pm 8.00 | 9.15 | am 8.30 |
| Syracuse | | pm 7.30 | 11.35 | am 2.10 | am 3.50 | am 7.20 | pm 2.20 |
| Rochester | | 9.35 | am 1.25 | 4.20 | 5.55 | 9.55 | 5.10 |
| Buffalo | | 11.00 | 2.20 | 5.30 | 9.00 | 11.50 | 7.45 |
| Detroit | am 8.20 | am 7.30 | 9.05 | pm 1.20 | pm 4.40 | pm 9.00 | am 2.15 |
| Ann Arbor | 9.37 | 8.27 | 9.59 | 2.19 | 5.48 | 10.27 | 3.08 |
| Jackson | 11.35 | 9.35 | 10.58 | 3.17 | 7.15 | am 12.01 | 4.10 |
| Battle Creek | pm 1.18 | 10 43 | pm 12.02 | 4.30 | 8.47 | 1.20 | 5.20 |
| Kalamazoo | 2.05 | 11.30 | 12.39 | 5.05 | 9.45 | 2.18 | 5.59 |
| Niles | 4.00 | pm 12.40 | 1.48 | 6.17 | | 4 15 | 7.15 |
| Michigan City | 5.20 | 2.00 | 2.45 | 7.20 | | 5.35 | 8.28 |
| Chicago | 7.35 | 3.55 | 4.30 | 9.00 | | 7.55 | 10.15 |

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

Accommodation Mail train goes East at 1.18 p. m. daily except Sunday. Night Express goes West at 12.05 a. m. daily except Monday.

Trains on Battle Creek Division depart at 8.03 a. m. and 4.35 p. m., and arrive at 11.40 a. m. and 6.45 p. m. daily except Sunday.

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

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

# SCRIBNER'S MAGAZINE for 1893.

## Partial Prospectus.

**Frances Hodgson Burnett** will contribute the first serial to appear in a magazine from her pen for many years, entitled "THE ONE I KNEW THE BEST OF ALL."

**H. C. Bunner** will furnish a series of six sketches, entitled "JERSEY STREET AND JERSEY LANE." Illustrated.

**Robert Grant** will relate the further experiences of Fred and Josephine in "A SEQUEL TO THE REFLECTIONS OF A MARRIED MAN." Illustrated.

**Harold Frederic** will contribute a political novel of great power, entitled "THE COPPERHEAD."

**By the Author of "Jerry."** Miss S. B. ELLIOTT, the author of "Jerry," will write a realistic story of life among the Tennessee mountaineers, "THE DURKET SPERRET."

**Personal Reminiscences, Men's Occupations, The World's Fair in Chicago, and Miscellaneous Articles**

Will furnish fresh and intensely interesting reading matter during the year.

**THE ILLUSTRATIONS** of the year will represent the work not only of the well-known illustrators, but many drawings will also appear by artists who are best known as painters.

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The same, with back numbers bound in cloth, - 6.00

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**743 BROADWAY. NEW YORK.**

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# LADIES' GUIDE IN HEALTH AND DISEASE.

***GIRLHOOD, MAIDENHOOD, WIFEHOOD, MOTHERHOOD.***

BY
J. H. KELLOGG, M. D.

This new work is intended to fill a want long recognized by all intelligent women. Having devoted many years to the special study of the conditions which relate to human health, and having enjoyed especially good opportunities for the study of the diseases of women, the author brings to the preparation of this volume a thorough education and a rich experience

It tells mothers *just what they ought to know*; and daughters who value their health, cannot afford NOT to know what this book teaches them. The work is appropriately illustrated by means of *28 chromo-lithographic plates, cuts, and colored plates* Complete in one volume of 672 octavo pages, printed on fine paper and beautifully and substantially bound. *We believe there has never been a book offered to canvassers which is so sure of a sale in every family.* AGENTS WANTED—either male or female—in every town and township, to solicit orders for this work. *LIBERAL TERMS.* The book is bound in the following styles:—

*Cloth, embossed in gold and jet, $3.50* *Half Morocco, gilt edges, - $4.50*
*Leather (Library Style), - 4.00* *Full Morocco, gilt edges, - - 6.00*

**MODERN MEDICINE PUB. CO., 65 Washington St., Battle Creek, Mich.**

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# SANITARY TOOTH POWDER.

Cleansing and Antiseptic. Will Remove Tartar and Yellowness. Will not Injure the Teeth.

**Price, Post-paid, 20 Cents.**

***SANITARY SUPPLY COMPANY,***
***BATTLE CREEK, MICH.***

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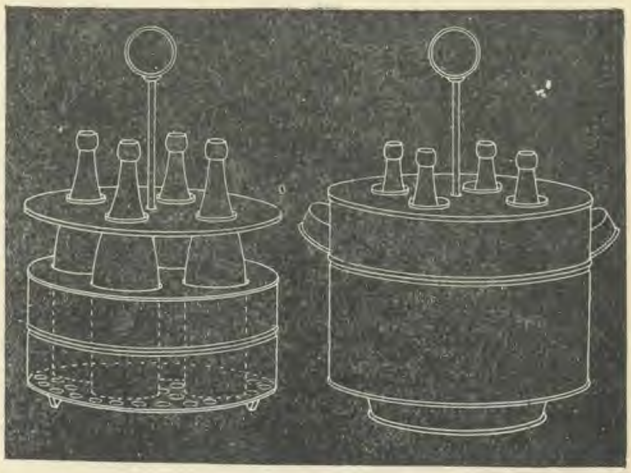
# *The Sanitarium Milk Sterilizer.*



With the above apparatus, milk can be sterilized so that it will keep for years, when tightly sealed in a bottle or can.

This apparatus complete, including one half dozen bottles, will be sent by express, on receipt of—

**$5.00.**

The ordinary methods employed for sterilizing milk will not preserve it against fermentation for more than three or four days. By this method

IT WILL KEEP INDEFINITELY.

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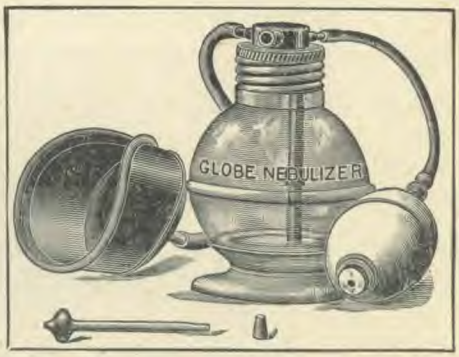


# THE GLOBE NEBULIZER

***A NEW AND VALUABLE INSTRUMENT FOR HOME TREATMENT. SHOULD BE IN EVERY HOUSEHOLD.***

Is especially adapted to the treatment of diseases of the nose, throat, ear, bronchial tubes, and lungs, both acute and chronic.

Many severe spells of sickness can be avoided by its early use. Is especially recommended in "La Grippe," when affecting the air passages, hay fever, and asthma. Full directions and formulæ with each instrument. PRICE $4.00. For Circulars Address,

**SANITARY SUPPLY CO., Battle Creek, Mich.**


# GRANOLA

## A HEALTHFUL FOOD

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 healthful foods to the

**SANITARIUM FOOD COMPANY, BATTLE CREEK, MICH.**

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**TWENTIETH THOUSAND just from the Press.**

A Marvel of Completeness, is the

# HOME HAND-BOOK.

RESPONSIBLE CANVASSERS of Either Sex Wanted, to whom a liberal salary will be paid.

## A Vast Cyclopedia of Domestic Hygiene and Rational Treatment.

By J. H. KELLOGG, M. D.

THE Home Hand-Book tells in plain, every-day language, how to preserve health, and if lost, how to regain it. It is by far, the most important medical work for domestic use that has yet appeared, and is rapidly making its way into the homes of the United States. It is written in the light of the most recent scientific investigation, by a physician of large experience and acknowledged ability, and contains the most approved methods for the treatment of more than 600 diseases. It contains nearly **1700 Pages,** over **500 Engravings,** about **30 Full-Page Colored Plates,** and an **Elegant Paper Manikin.**

**MODERN MEDICINE PUB. CO., 65 WASHINGTON ST., BATTLE CREEK, MICH.**

# THE QUESTION OF FOOD.

MODERN physiological and bacteriological discoveries have given to the question of food and diet an importance in the minds of progressive practitioners which it did not possess a quarter of a century ago, although at a more remote period some advanced teachers, as, for example, Dr. Willard Parker, of New York, taught that *materia alimentaria* was of far greater consequence than *materia medica*. This assertion, then considered almost a heresy, is at the present time echoed by almost every teacher of therapeutics; and the interest in medical dietetics has given rise to a great variety of food products of varying merits, a vast number of which might be termed "dietetic nostrums." Of the so-called "health foods," which, under various names and guises, have been placed before the public, the majority, notwithstanding the high prices charged for them, have possessed few if any of the merits claimed for them, being made to sell rather than to supply the profession the means of meeting any therapeutic indication. This fact has been clearly shown by the analyses published by the *Scientific American* and other scientific journals.

Being charged with the duty of providing suitable dietetic preparations of a special character for a large hospital (the Battle Creek Sanitarium and Hospital), the undersigned, some years ago, made a careful investigation of all the so-called "health foods" manufactured and sold in this country. The result was the discovery of the fact already stated, that these goods were made chiefly to sell, and not to cure sick people, the only virtue possessed by many being the magic influence of the word "health" connected with their titles, which doubtless, in some instances, does efficient service as a "mind cure." Only a very few really valuable preparations were found. In certain lines in which special preparations were called for, an almost absolute void existed.

To meet the evident necessities for ***GENUINE FOOD PRODUCTS,*** prepared in such a manner as to require the least possible labor on the part of the digestive organs, and to meet the most common and important therapeutic indications, and at a price in proper proportion to first cost, so as to be ***WITHIN THE REACH OF THE AVERAGE INVALID,*** was the problem which presented itself for solution. To solve this problem, or to attempt to do so, the undersigned made a series of experiments which have been continued for nearly seventeen years, and with the result of producing a great number of improvements in medical dietetics and methods of meeting the dietetic wants of the invalid. The means at service for this work have been an **Experimental Kitchen,** under able management; a **Laboratory of Hygiene,** with a full outfit of chemical, bacteriological, and physiological appliances; and a **Large Hospital and Sanitarium,** *feeding daily from 600 to 700 persons*, including every possible phase of digestive and nutritive disease. Many products and combinations have been discovered and formulated, which were at first exceedingly promising, but which proved by experiment to be not possessed of permanent value. A few have stood the test of many years' experience and trial, under all conditions and in all climates, and their production has gradually increased **from a few hundred pounds annually to hundreds of tons.** The following are a few of the most important of these preparations:—

## · · · · GRANOLA. · · · ·

This is a farinaceous product, composed of a combination of the most easily digested grains, and containing the largest possible amount of all the elements of nutrition in the proportion needed for complete nutrition. The manner of preparation is such as to secure to a large extent the advantages of those changes naturally effected by the digestive process, and without the development of those side products which are possessed of a disagreeable flavor and more or less toxic properties which are produced by the various enzymes found in the digestive fluids.

Granola is an exceedingly valuable and digestible product, much resembling in flavor and mode of preparation the renowned gofio, the staple food of the natives of the Canary Islands, which has attracted to that out-of-the-way place hundreds of invalids by its remarkable virtues as a curative agent in various forms of dyspepsia. Granola is just the thing for a patient who needs to gain in flesh. This food is put up in pound packages.

## · · · · WATER BISCUIT. · · · ·

The need of supplying certain classes of patients with the most nutritious foods in the simplest form, and at the same time without an excess of fluid, led to a series of experiments which resulted in the production of a biscuit as light, toothsome, and delicate in flavor as the most fastidious could desire, and without baking powder, yeast, or any other fermentative "raising substance." Any person who has in mind the tough, tooth-breaking water biscuit commonly known as sea biscuit, or hard tack, will be more than astonished to find an article possessed of all the virtues of a water biscuit, and also the palatable properties of an oyster cracker.

## · · · · GLUTEN. · · · ·

The necessity for a genuine and practical gluten preparation has long been appreciated by the medical profession. For a few years this want has been supplied in France by gluten biscuit containing from 40 to 50 per cent of gluten. These biscuit, while not very palatable, have been far superior to anything produced in this country, and at the same time have been all they were claimed to be, a real gluten biscuit; whereas the so-called "gluten breads" and other preparations of gluten

which have been sold under various names in this country, have been almost without exception most thoroughly fraudulent in character. This statement is well backed up by exposures made by the *Scientific American* and other authorities within the last few years.

A visit to Paris a few years ago gave us an opportunity to make a thorough investigation of the gluten preparations made in that country and their method of production, which has since been perfected by us, as the result of laborious experiments and researches. The following are our principal gluten preparations:—

1. **Pure gluten,** in the form of gluten biscuit, 72 to the pound, eatable and not unpalatable. The only successful attempt ever made in this or any other country to produce an absolutely pure gluten bread.

2. **60 per cent gluten,**—also in the form of biscuit, crisp and palatable.

3. **40 per cent gluten,**—a biscuit which any one could eat with relish, and just the thing for diabetic patients.

4. **25 per cent gluten,**—a really delicate, crisp, and toothsome product. It answers the requirements of all except the worst cases of diabetes, and is just the thing for atonic dyspeptics, neurasthenic and anæmic patients, subjects of Bright's disease, and all cases requiring a highly nitrogenous food. It is also excellent for use in cases of obesity. It is especially valuable in cases requiring intestinal asepsis.

---

*These food products are now offered to the public,* as they have been for many years made for and supplied to the great Medical and Surgical Sanitarium at Battle Creek, Michigan, the largest institution of the kind in the world, and are guaranteed to be exactly as represented.

We also manufacture many other valuable foods for invalids, of which we mention the following:—

**AVENOLA,**
**WHEATENA,**
**GOFIO,**

**FOOD FOR INFANTS,**
**GRAHAM GRITS,**

**Various grades of CRACKERS,**
**ZWIEBACK, etc.**

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## PRICES:

| | Cts. per lb. | | Cts. per lb. |
|---|---|---|---|
| **Granola,** in pound packages | 12 | **Pure Gluten (Biscuit)** | 50 |
| **Granola,** in bulk | 10 | **60 % Gluten** " | 45 |
| **Water Biscuit,** in pound packages, | 20 | **40 % Gluten** " | 40 |
| **Water Biscuit,** in bulk | 15 | **25 % Gluten** " | 30 |

Any of the above preparations of gluten can be furnished at the same prices in the form of meal. In addition, we make regularly a gluten meal suited to those who require an increase of the nitrogenous element without special restriction of the farinaceous element, which contains a larger proportion of gluten than is found in any natural grain production. This is known as No. 3 gluten meal.

---

## TESTIMONIALS.

"After a thorough investigation and trial of all the various health foods manufactured by other parties for the last seventeen years, myself and my colleagues have for years been prescribing and using exclusively in our practice in the Medical and Surgical Sanitarium, the special foods manufactured by the Sanitarium Food Co., these products being in our judgment superior to any others manufactured. I have made frequent chemical examinations of these products, and know them to be exactly as represented by the manufacturers. J. H. KELLOGG, M. D.,
"*Sup't of the Medical and Surgical Sanitarium, Battle Creek, Mich.*"

"I have personally tested your excellent food known as 'granola.' It is highly pleasing to the taste, easy of digestion, and the most nutritive cereal production with which I am acquainted. DR. R. W. BULA,
"*Indianapolis, Ind.*"

"We find the health food all that you claim for it, 'digestible and palatable.'
"W. A. WHIPPY, M. D., *Goshen, Ind.*"

"Having tested the properties of your 'granola,' I can safely recommend it as an article of food for all classes of invalids, especially those troubled with indigestion and constipation. R. DEPPELLER, M. D.,
"*Fort Wayne, Ind.*"

"The 'granola' gave very satisfactory results. I think it will form a valuable adjunct to the limited number of suitable food preparations for invalids which are supplied to the profession. W. R. BARTON, M. D.,
"*Ypsilanti, Mich.*"

"I have used your 'granola' in my family for three years, and we like it so much that we cannot get along without it.
"A. S. STORKE, M. D., *Oak Park, Ill.*"

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**SANITARIUM HEALTH FOOD CO., = Battle Creek, Mich.**

# THE SANITARIAN.

**1873.—Twenty-First Year.—1893.**

THE SANITARIAN is a monthly magazine devoted to the promotion of the art and science of sanitation, mentally and physically, in all their relations; by the investigation, presentation, and discussion of all subjects in this large domain, as related to personal and household hygiene, domicile soil and climate, food and drink, mental and physical culture, habit and exercise, occupation, vital statistics, sanitary organizations and laws,—in short, everything promotive of, or in conflict with, health, with the purpose of rendering sanitation a popular theme of study and universally practical.

THE SANITARIAN is filled with articles of scientific interest and practical value. It would be difficult to plan a better professional magazine than this, which is to the medical world what the *Scientific American* is to the artisan world. It deserves a greatly increased circulation. —*Baltimore Methodist.*

THE SANITARIAN is not only an interesting magazine to the specialist and the medical man, but it is of high value to thickly settled communities, to homes, to general readers, to city authorities—indeed, we would place the journal, for public good, in the hands of every adult, believing that misery and suffering would thereby be lessened and human happiness augmented by the knowledge the journal disseminates. —*Sacramento Record-Union.*

**TERMS:**

**$4.00 a year, in advance;** 35 cents a number; sample copies, 20 cents—ten two-cent postage stamps.

The SANITARIAN is published as hitherto, in New York. **THE AMERICAN NEWS COMPANY, General Agents.** Newsdealers will get their supplies from them.

☞All correspondence and exchanges with the SANITARIAN, and all publications for review, should be addressed to the editor,—

**Dr. A. N. BELL, Brooklyn, N. Y.**

# FOR GOOD HEALTH 1893

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

## EVERY NUMBER ILLUSTRATED.

EVERYBODY ought to be a subscriber to GOOD HEALTH for 1893. It is the oldest Scientific Health Journal in this country. It represents no sect, party, or institution; but is devoted to the advocacy of principles. It is eminently

# A Journal for the People,

And is free from technicalities and hobbies. It presents, each month, a large fund of useful and practical original information not attainable elsewhere.

No journal devoted to health or kindred topics has ever enjoyed so wide a popularity as this journal has earned by its devotion to the interests of the people in the development and popularization of knowledge on all sanitary topics. It has been introduced into NEARLY EVERY PART OF THE CIVILIZED WORLD, and enjoys a large circulation, not only in America, but in England, upon the Continent of Europe, in South Africa, and in Australia.

## SPECIAL ATTRACTIONS FOR 1893.

There is probably no way in which the public are more grossly imposed upon than by the innumerable patent nostrums, worthless medical appliances, and fraudulent pretensions to discoveries, which are so widely advertised in the newspapers, and so generously patronized by the public. The managers of this journal propose, during the year 1893, to continue the special department for the —

## EXPOSURE of MEDICAL FRAUDS and SECRET NOSTRUMS.

The public are continually being imposed upon in the most conspicuous manner, by charlatans and quacks of every description. New schemes for gulling the unwary are continually being concocted by those who devote themselves to this nefarious business. Within the last year GOOD HEALTH has had the pleasure of aiding materially, through its Detective Bureau, in breaking up the business of some of the worst of these charlatans. The same good work will be carried on during 1893.

## THE HOME GYMNASIUM.

The great interest shown in this department during the last year, has encouraged the managers to plan liberally for it for the coming volume. This department will present, among other attractions for 1893, a series of articles on the Physicial Training of Children, by the aid of which any mother will be able to secure for her children well developed and graceful figures. Articles showing how to correct various bodily deformities, such as round shoulders, flat chest, spinal curvature, etc., will appear in this department within the year. This department will be each month

PROFUSELY ILLUSTRATED,

And the instruction will be so practical that the exercises suggested can be carried out in any home.

## A DOCTOR'S CHATS WITH HIS PATIENTS,

Is the name of a new department in which the readers of GOOD HEALTH will receive the benefit of Dr. Kellogg's racy talks to his patients at the Battle Creek Sanitarium, in answer to the regular Monday morning "question box," which always brings out a large lecture-room full of listeners. Any reader of GOOD HEALTH, also, may put in a question whenever he feels so inclined.

## DR. FELIX L. OSWALD,

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

# GOOD HEALTH for 1893 will Contain the following Departments:

**General Articles,** Devoted to practical hygiene and popular medical papers.

**The Home Gymnasium.** This department will present, during the year, instruction which, if carefully followed, will in a few months give to any young man or woman a good figure, and a graceful and dignified bearing. Illustrations each month.

**Home Culture.** This department, under the charge of MRS. E. E. KELLOGG, A. M., is devoted to those interests of the home which relate especially to the mental, moral, and physical welfare of the younger members of the household. The following are some of the subjects which will be considered in this new department:—

Kindergarten methods for the home; manual training for children, adapted to the home; mothers in council; home government; new methods of dealing with child faults; character building; training of the faculties; the nursery; gymnastics for babies; and in addition, all the various interesting and practical subjects which have heretofore been considered in the departments devoted to Dress, Social Purity, and Household Science.

**Editorial.** The editor serves up, each month, a rich variety of hygienic tidbits, pithy, practical, and representing the latest scientific thought in this channel.

**A Doctor's Chats with His Patients.** This department will contain, each month, a racy discussion of live medical topics, new ideas in medical philosophy, simple remedies for disease, new theories of disease, etc.

# TO NEW SUBSCRIBERS.

The publishers of GOOD HEALTH have no faith in the customary plan of offering cheap chromos or similar inducements to subscribers, but in the interest of popular medical education have decided to offer to every new subscriber a copy of—

## "The Household Monitor of Health,"

A new work of 400 pages, bound in muslin, marbled edges, one of the most important and interesting works recently published. PRICE, $1.50. For full description, see next page.

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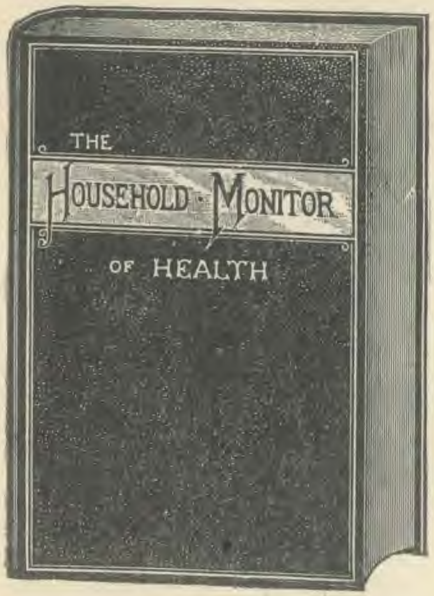


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