FEBRUARY. 1889

# GOOD HEALTH

CONDUCTED BY

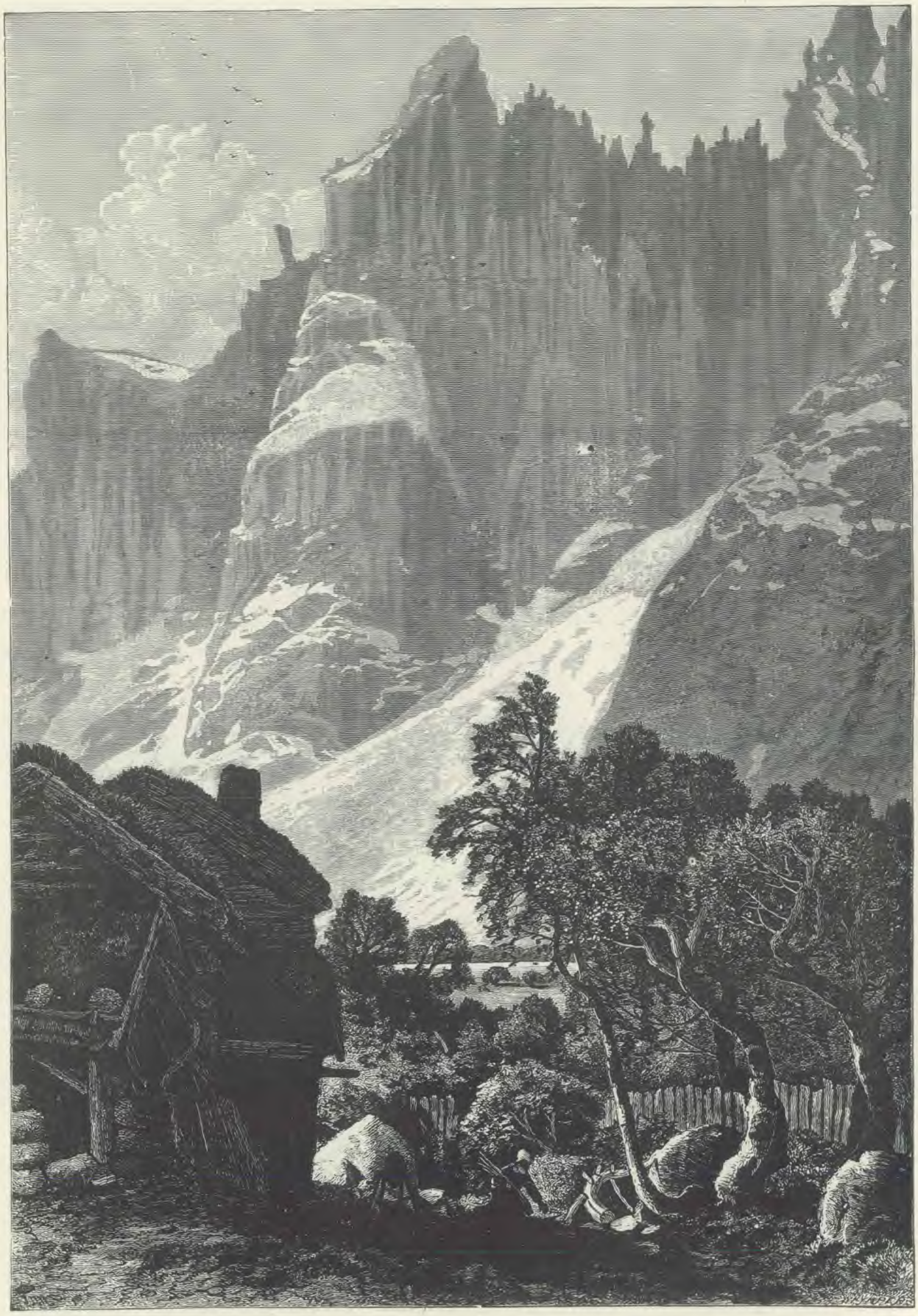
J. H. KELLOGG M.D.

Price 15 Cents

GOOD HEALTH, VOL. 24, NO. 2.

# CONTENTS.

BATTLE CREEK, MICH. February 1889.



TROLDTINDERNE (THE WIZARD PEAKS) IN ROMSDALEN, NORWAY.

See Happy Fireside.

GOOD HEALTH
A JOURNAL OF HYGIENE
MENS SANA IN CORPORE SANO
VOL. XXIV. NUMBER 2.
BATTLE CREEK, MICHIGAN, FEBRUARY, 1889.

# THE STIMULANT DELUSION.—FIFTH PAPER.

BY FELIX L. OSWALD, M. D.,
Author of "Physical Education," "Household Remedies," Etc.

## The Tobacco-Vice.

IN the course of his development from barbarism to civilization, man is supposed to have lost the protection of the monitory instincts which for his special purpose would seem to be often better guides than reason. It would be more correct to say that we have lost the key to the language of their monitions. A large number of warning instincts appeal to our senses as urgently as to the senses of our dumb fellow-creatures, but the bias of perverse educational influences has brought us to consider it unimportant, or even reprehensible, to heed such warnings.

That truth is most strikingly illustrated in the incipient phases of the tobacco-habit. The milder alcoholic beverages are often disguised by flavor that deceive the judgment of the palate, and thus help to smooth the way to the pitfalls of an insidious habit; while tobacco, in all its forms, is so shockingly nauseous to any but a *habitue* that the disgust of the first attempt is apt to impress itself indelibly upon the memory of its victims. But, "Whatever is natural is wrong," is the key-note of the incantations which for so many centuries have contrived to lure the human race from their allegiance to their all-mother earth. We have been urged to renounce the pursuit of earthly happiness. We have been taught to despise the body as an enemy of the soul. We have been admonished to repel the angel of joy, and welcome the night-hag of sorrow. We have been instructed to suspect the competence of our natural intuitions. Fresh tree-fruit, cold spring-water, and palatable food were for ages made the scape-goats of our manifold sins against nature, while the wholesomeness of virulent drugs was supposed to be proportioned to the degree of their nauseousness, and even in midsummer the foul fumes of an unventilated bedroom were considered preferable to the balm of the cool night-air.

The disciples of such doctrines found no difficulty in reconciling their physical conscience to the stench of tobacco-smoke. In the parks of any large city, infant vagabonds may be seen to fill their knee-breech pockets with old cigar-stumps, strike a match behind a convenient tree, and ten minutes after pay the penalty in a retching-fit that threatens to jerk their shoulders out of their sockets. Why should they heed that warning? Castor-oil and Glauber's-salt, they remember, are equally nauseous, and are said to be so wholesome. Fresh night-air is sweet, and so dangerous. Shocking things are salutary; so, never mind. Try another stump, and it will do you good, by and by. Those dandies and rich merchants must surely have a reason for liking tobacco. Learned professors, too, smoke it, and their judgment ought to be more reliable than the instinct of a poor boy. Light another stump!

The infatuation of the first European tobacco-smokers was regarded as a mania, if not something worse; for it is on record that the relatives of Catharine de' Medici ascribed her fondness for the fumes of the transatlantic weed to a *penchant* for magic and poison-mongery. Sultan Amurah IV. refused the terms of a speculator who offered an enormous sum for the privilege of selling tobacco in the harbors of

Asia Minor, and for half a century the Turkish officials enforced the law which sentenced a smoker to having his pipe thrust crosswise through his nose, probably as an emblematic punishment for his sins in offending the noses of his fellow-men. In Novgorod, Russia, as late as 1623, a party of smokers were caught *in flagranti*, and by order of the magistrate, were forced to *swallow* a bag-full of the weed, after having their pipes broken over their heads. Pope Innocent XI. refused to sanction the promotion of any priest who had acquired the filthy habit, which King James I., in his "Counterblast to Tobacco," describes as "a custom loathsome to the eye, hateful to the nose, harmful to the brain, dangerous to the lungs, and in its black, stinking fumes nearest resembling the horrible Stygian smoke of the pit that is bottomless." A Swedish chancellor did not hesitate to denounce tobacco-smoking as a "crime against nature."

But in an age of anti-naturalism, such arguments failed to answer their purpose, and before the end of the seventeenth century the epidemic had spread from Portugal and Ireland to the coast of Coromandel, and tobacco fumes filled the study of scholars and the banquet-halls of princes, as well as the cabins of the Spanish villagers, who seem to have been the first to devote their scant farm-lands to the culture of the noisome weed. The vice which forces innocent neighbors to share the burden of its penalty, spread even to the homes of Christian clergymen; nay, the courtiers, of that same queen who at first had incurred the suspicion of poison-mongery, soon vied in aping her mania, and tobacco was cultivated in aristocratic flower-gardens as the *herbe-de-la-Reine*—"the Queen's herb." In the course of the last two centuries, the total consumption of tobacco has increased from less than six million to considerably more than two hundred million pounds a year.

After the establishment of any wide-spread custom or dogma, there is never a lack of sophists to demonstrate its scientific propriety. As early as 1560, Nicolo Menardes published an elaborate treatise to prove the medicinal virtue of tobacco-smoking. French and German *savants* were at no loss to devise arguments in defence of a habit they found it inconvenient to renounce. Even Dr. Richardson, in his able pamphlet, "For and Against Tobacco," informs his readers that "tobacco-smoking may be conducive to the physical well-being of the individual, provided he cannot supply himself with sufficient nourishing food to supply the daily tear and wear of the muscular and nervous system!"

The objections to the acceptance of such sophisms have, however, gradually assumed the form of an emphatic protest, and time, as usual, has confirmed the first verdict of instinct. Centuries before chemistry demonstrated the agricultural value of moisture-laden forest-air, the instinctive love of green woods protested against the havoc of the land-blighting ax. After a millennium of sorrow-worship and denunciation of social pleasures, science has come to the conclusion that, morally and physically, the lack of cheerful recreations is the chief bane of modern life, and that, after all, our grim-visaged grandfathers might have learned a lesson from the instincts of their joy-loving children. Three centuries ago the least attention to the warnings of those instincts might have anticipated the verdict of our ablest physiologists, that the tobacco-habit, in all its forms, is a vice undermining the physical and mental health of its victims. James I. was not mistaken in describing the poison-weed-habit as "dangerous to the lungs." Consumption has enormously and unmistakably increased since the atmosphere of our dwelling houses began to be tainted with vapors saturated with the essence of such virulent poisons as nicotia, hydrocyanic acid, and that empyreumatic oil, of which a single ounce would suffice to kill twelve persons. The Osage Indians, who pass their lives on the open prairie and in wigwams constructed very much on the plan of the "mountain-cure tents," are nevertheless extremely subject to pulmonary affections, due chiefly, if not exclusively, to the circumstance that their tribe is especially addicted to tobacco-smoking, and that their families—squaws, babies, and all,—have often to pass their nights in dense clouds of nicotine fumes.

Tobacco is, perhaps, not a direct cause of cancer, but the germs of that dread disease are always apt to fasten upon open sores, and it is well known that the lovers of smoking-tobacco are very liable to the trouble known as "smoker's sore throat"—an irritated condition of the mucous membrane at the back of the throat. That condition favors the development of all sorts of respiratory disorders, and to the indirect results of the tobacco-habit Germany owes the loss of the noblest man who ever mounted a throne since the time of Marcus Aurelius—the loss of a prince whose survival would have transformed the moral and political destiny of his nation. Frederick III. was a philosopher, as well as a hero and a philanthropist, and his succession to the throne of Frederick the Great might have marked a new era in the social history of Europe, if his philosophy had included the rudiments of a science destined to form the key-stone of the hygiene of the future, viz., the art of interpreting the monitions of our natural instincts. No doubt, the first cigar af-

fected the young crown-prince as it would affect the youngster of the humblest peasant; his sore throat, the first symptoms of which were noticed as early as 1863, emphasized the protest of nature again and again, but the expediency of explaining the significance of those protests never dawned upon the minds of the sages who conducted the education of a boy embodying the hope of a great nation, though his princely prerogative did not save him from the text-books of some twenty-five abstruse sciences and doctrines. There is no taint of cancer in the family of the Hohenzollern, and it is a significant circumstance that the iron constitution of weather-hardened, but cigar-loving Ulysses Grant, did not protect him from an exactly analogous consequence of his habit.

But it would be a mistake to suppose that the baneful effects of the tobacco-vice are limited to the disorders of the respiratory organs. Dyspepsia and heart-disease are very frequent complications of a habit which in the young stunts the development of the organism so unmistakably as to have attracted the attention even of superficial observers. The examining surgeons of our army and navy rarely accept a youngster whose flaccid muscles and sallow complexion bespeak the effect of nicotine, and no experienced physician will question the wisdom of a by-law by which a French educator proposes to purge the public schools of his country from the curse of a life-blighting vice: "Private reprimand for the first offense; public reprimand and suspension of privileges for the second; *concilium abeundi* (marching orders) for the third." The weak eyes of German students are due to nicotine fumes considerably much more than to the fumes of the midnight lamp; and I can give any correspondent the address of a family of six boys, four of whom, in spite of paternal protest, have become slaves to nicotine, and have ruined their eyes "by a course of study" which has in nowise affected the bright eye-sight of the second and the sixth brother — the only two who have never ceased to loathe tobacco.

The alleged "philosophic tendency of tobacco smoke," is a fiction of its victims. Equanimity, to be sure, is the noblest fruit of wisdom, and the tobacco-smoker seems to preserve his stoicism under trying circumstances; but his calmness is that of lethargy rather than of moral strength. Tobacco and opium have unmanned the once heroic Moslem; tobacco has added laziness to the vices of the narrow-minded, but once anything but sluggish, Spaniards.

But a still more preposterous error, is the idea of learned, and evidently honest, Dr. Richardson, that tobacco is "conducive to the physical well-being" of a man who has to stint himself in his daily meals; in other words, that nicotine can compensate for deficiency of food. All it does is to torpify the system into a state of callousness to the appeals of the stomach, as well as to the monitions of other instinct; but the baneful effects of disregarding those appeals are none the less inevitable, and we might as well suppose that the perils of a conflagration could be lessened by stopping our ears against the din of the fire-bells; nay, it might be very much questioned if, in the long run, the lethargizing drug does not complicate and increase the afflictions of starvation. Alcohol-drinkers, too, claim that their tipple is a sort of negative food, and enables them to dispense with a series of meals; yet actual experiments have demonstrated the fact that a man deprived of solid food can subsist on water about four times longer than on beer or wine.

A robust constitution, of course, can resist the effects of the nicotine-habit for a number of years, just as it would resist the influence of the arsenic-habit; but that fact does not invalidate the conclusion of the late Dr. Isaac Jennings, who expresses a conviction that "every man is physically and intellectually, if not morally, somewhat the worse for every cigar he has smoked in his life."

By vitiating the saliva, tobacco-chewing, too, may become a cause of gastric disorders; but chewing, with all the nastiness of its concomitants, is from a hygienic, and certainly from a moral, stand-point, perhaps after all a less unpardonable form of the disgusting vice. The traveler Kohl mentions a town on the lower Danube where the local bullies thought it an excellent joke to seize a stranger and force him to down a glass of their vile intoxicants; but the brutality of that outrage is fully equalled by the insolence of cigar-smokers, who invade every pleasure-resort of our American cities, and oblige hundreds of ladies and children to swallow a dose of their gaseous poison.

(To be concluded.)

# HEALTH OBSERVATIONS AMONG AMERICAN ABORIGINES.

BY THE EDITOR.

A YUMA HOUSEHOLD.

Our purpose in wishing to study the movements of respiration in the Yuma women, was to be able to compare the movements of the chest in the process of breathing as observed in women who had never been subjected to the deforming and restraining influences of civilized dress, with those of the narrow-waisted civilized women, who are compelled, by the fetters placed upon them by fashionable dress, to breathe in a manner peculiar only to themselves. The physiologists all tell us that men breathe in one way, viz., with the lower part of the chest, while women breathe in a different manner, that is, with the upper part of the chest. Believing this to be wholly an artificial difference, and not we natural one, I had long determined to study the processes of breathing in women who had all their lives been permitted to breathe naturally. For the investigation of this, no better subjects could be found than the women of the Yuma tribe. Their dress, as we have mentioned elsewhere, ordinarily consists of nothing more than a slight apron made of narrow strips of bark, and a bustle made of the same material. Not a movement of the body is in the slightest degree restrained by this simple attire. The few who have been induced to wear dresses, wear simply a short skirt, as shown in the cut of the Yuma belle which accompanied our article, in the January number of the magazine, or a small wrapper made so loose that there is not the slightest constriction about the waist. As the consequence of wearing this dress, or undress, as it might be termed, the Yuma Indian woman knows nothing of the special afflictions with which the majority of civilized women suffer more or less. Her liver is not squeezed in two, nor her gall duct obstructed until the bile hardens into gall-stones. The Yuma girl has a waist as large, in proportion to her size, as that of her brother, and can compete with him in severe physical labor, or in the endurance of hardships.

We found, as we expected, that Yuma women breathe like Yuma men, and like civilized men, with the exception of those few brainless fops who wear corsets and part their hair in the middle. But, as many of our readers are familiar with the observations which we have made upon this subject through articles which have appeared in the previous numbers of this journal, we will not dwell at further length upon this point.

At the foot of the steep hill upon which the old fort is located, is spread out, as far as eye can reach,

a long stretch of low land, extending back a varying distance from the Colorado River, covered over with bushes and weeds and the shrubby trees which produce the mesquite bean. Over this low land, extending along the Colorado River, are the scattered encampments of the Yuma Indians, the principal one of which is located here at Yuma. Here the chief of the tribe resides. We were introduced to him, and although he spoke but little English, it did not take long to discover that he was a shrewd man, well disposed, and much interested in the advancement and improvement of his people. He wears the civilized dress, including a hat, and has much influence with this people, although far less, we were told, than the old chief that preceded him, and who died a few years ago at an advanced age. Pasqual, as he was called, is still held in great reverence by this people.

From the elevated situation of the fort, we could see scattered here and there among the mesquite groves of the bottom-land, the rude huts inhabited by the Yumas. Accompanied by Sister Alphonse, an Indian interpreter, and our stenographer, we loaded ourselves and our instruments into a primitive one-horse vehicle, and descended to the encampment.

We found no roads of any sort, as the Yumas have no vehicles, neither horses; in fact, no domestic animals but dogs. Our driver did not seem to be embarrassed on this account, however, but drove straight along, across gullies formed by the freshets of the rainy season, over hummocks and logs, through muddy pools, twisting around among the bushes, often with one wheel elevated on the top of a huge hummock, and the other depressed in a mud hole, giving us such shakings and joltings that it was only with very great difficulty that we were able to keep ourselves on board. We entreated our Indian driver to go a little slower, but he only urged his miserable pony the harder, and kept us bobbing from one side to the other in order to keep our balance, or to avoid the thorny branches of the mesquite trees, which every now and then threatened to brush us overboard.

Finally we reached the house of the old chief. A group soon formed in front of his dwelling, which is almost exactly represented by the accompanying cut. The younger wife of the chief — for he had two better-halves — was engaged in preparing the evening meal. The diet of the Yuma is exceedingly simple. He is, from force of circumstances, a vegetarian. The barren country in which he lives is dried up by the tropical sun for about ten months of the year. Rain rarely ever falls, excepting in August and September. Consequently there is no game, and the Indian subsists wholly upon the natural productions of the soil, eked out by the products of a scanty agriculture, consisting chiefly of the raising of a few potatoes, melons, squashes, and pumpkins. During the rainy season, the bottom-lands are inundated, whereby the soil becomes saturated sufficiently to produce a scanty crop. The Yuma Indian is nearly as much dependent on this annual overflow as are the Egyptian farmers upon the annual overflow of the Nile. The chief articles of food used by the Yuma Indian are corn, mesquite beans, the seed of certain weeds, and a few potatoes and pumpkins, and other vegetables which they are able to raise without the aid of plows, spades, or other agricultural implements.

VARIETIES OF THE METATE.

The corn is ground by the aid of the most primitive of mills, the *metate*, which is represented in the accompanying illustration. The *metate* consists of a rough stone slightly hollowed out, upon which the corn, after having been soaked over night in water, is rubbed to a paste by the aid of a stone roller. After a quantity of corn sufficient for a meal has been ground in this way, it is rolled up into small cakes about as large as tea-biscuits, each of which is afterward flattened between the hands, and by dexterous movements gradually formed into a thin cake nine or ten inches in diameter. This cake is then thrown upon a flat tin supported by stones and heated by hot coals placed underneath. To prevent its burning, the cake is lifted and reversed every few seconds, until it is slightly browned upon both sides, and is about half-cooked. Food prepared in this manner is called *tortillas*. It is the most common of all articles of diet among the Indians of Arizona and New Mexico, as well as the natives of Mexico and Central America.

Another favorite dish is parched corn, or the

parched seeds of a plant the name of which we were not able to learn. Corn or other seeds are placed in a vessel of some kind, held in both hands. A few live coals are then thrown in among the seeds, which are then quickly tossed into the air and caught again, and the operation repeated until the coals have cooled, when they are thrown out of the vessel and live ones added. Now and then the vessel is shaken so as to allow the parched seeds to come to the top, and they are brushed into another vessel, and the process of parching continued. The parched corn is sometimes ground before it is eaten.

As we drove on, picking our way among the trees and bushes, we constantly came upon family camps. For the most part, each camp was placed apart by itself, and partially hidden from other camps by hummocks or clumps of trees. At the different camps we saw different culinary operations in process, it being nearly the time for the preparation of the evening meal. The Yuma, by the way, eats but twice a day, his meals consisting of breakfast and dinner, the latter meal being eaten in the latter part of the afternoon. At one camp we noticed a small fire surrounded by a circular row of pumpkins, which were being roasted for the family dinner, and watched by an Indian girl, who carefully turned them from time to time, until they were roasted on all sides.

(To be continued.)

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

BY A DOCTOR.

### 2.—The Food Elements.

OUR foods are composed of several distinct substances which are mingled together in different proportions in the various articles used as food. These substances are called *food elements*. The food elements are five in number. In order to understand the process of digestion, we must know something of these several food elements and their relation to the various distinct organs.

If a portion of wheat dough is washed in a seive or coarse cloth under a stream of water, the water becomes milky in appearance, and if collected and allowed to stand for a few hours, there will be found at the bottom of the containing vessel a quantity of white substance commonly known as STARCH. This is the most abundant of all the food elements in vegetable foods, particularly in grains, and in such vegetables as the potato, and other most edible roots. Starch is one of the most essential of the food elements, and though incapable of sustaining life when taken by itself, is, mingled with the other food elements, a most important nutrient.

If the washing of the mass of dough is continued for some time, the starch will finally be wholly removed, and there will be left a somewhat tenacious rubber-like substance known as *gluten*. Commonly allied to gluten is the white of egg, ordinarily known as ALBUMEN. As familiary known to us, *albumen*, *caseine*, and *fibrine* are of animal origin, but the chemist finds these same substances in vegetable foods. For instance, albumen practically identical with that found in the egg, is also found abundantly in oatmeal, and to some extent in other grains, and in the juices of vegetables. Albumen is soluble in water, and readily coagulates by the application of heat. The scum which forms on the surface of boiling milk, is composed of albumen, which is contained in the milk in small quantity, and is coagulated by the heat. The caseine which forms the curd of coagulated or sour milk, is also found abundantly in peas, beans, and other leguminous seeds. The Chinaman makes very satisfactory varieties of cheese from peas and beans. Fibrine is also present in vegetable foods. Gluten differs from all the rest of the elements of this class in that it is capable of sustaining life when taken by itself, distinct from all other food elements. In this respect it differs from every other food element. The various elements of this class are so closely allied we may for convenience classify them all under the general name of albumen.

We have now become acquainted with two of the five food elements of which our food is composed. The third class — FATS — comprises the various forms of oils and fats, both vegetable and animal. In vegetable form, these are afforded abundantly in nuts, and in such seeds as peas and beans; in various grains, such as mace and oats; and in some fruits, as the olive. The most common forms of animal food are butter, lard, and tallow. Fats are notoriously hard to be digested, especially free fats, a reason for which we shall see in our further study of this subject. But this is chiefly due to the fact that, as taken in our foods, food elements of this class are usually so modified from their natural condition, or so accompanied with other food elements, as to counteract their di-

gestibility, and the digestibility of other foods which do not naturally exist. For example, butter is furnished by nature in the form of milk or cream. A drop of milk placed under the microscope is found to be largely made up of minute globules of transparent fat. Each of these is surrounded by a thin film of caseine, which prevents their combining. When the milk is allowed to stand, these drops of fat collect together at the top, forming cream. By the churning of cream, the thin covering of each drop is burst, and the contents cohere, forming butter. Fat in the form of fine drops as furnished in milk, is called an *emulsion*. It is in this state of fine subdivision that nature supplies these elements in grains, nuts, fruits, and other natural sources. It was probably never intended by nature that fats should be separated from other food elements and eaten in the manner in which we employ them, any more than that starch or gluten should be thus separated and used. Fats, eaten by themselves, are not capable of sustaining life, although, properly combined with other food elements, they play an important part in the nutrition of the body.

One of the most interesting of all the food elements is the fourth class — the SUGARS. We say sugars, because there are a variety of sugars. That most commonly known as sugar is properly termed *sugar-cane*, not because it is exclusively derived from the sugar-cane, but because this is one of its most common sources. This same kind of sugar is also furnished by a variety of corn-like plants, by the root, and by some fruits, such as the water-melon, and is found abundantly in the sap of the maple and several other varieties of forest trees. The most abundant of all sugars is found in grapes, and in most sweet fruits, and is known as *fruit-sugar or glucose*. It is much inferior to cane-sugar in sweetening properties, — one pound of cane-sugar equalling two and one half pounds of glucose in sweetness. The sweetness of milk is due to a peculiar variety of sugar which it contains, called *lactose* or *milk-sugar*.

Sugars are closely allied to starch in character. In the laboratory of nature, these substances are mutually convertible. The plant stores starch in its seeds, which in the process of germination is converted into sugar, by which the little plantlet is nourished until it has attained sufficient size to acquire food for itself from the earth and the air. The maple-tree stores away in its roots abundance of starch, which, in the spring, is converted into sugar, to be used in the formation of the first leaves, which then become the combined lungs and stomach of the plant for receiving and digesting food material. The chemist is able, by chemical means, to imitate to some extent the processes of nature. It has long been known that the prolonged boiling of starch with diluted sulphuric acid, effects a chemical change by which the starch is converted into glucose, a substance closely allied to it. It is by this means that the sugar commercially known as *glucose* or *corn-sugar*, is manufactured. Candies are chiefly composed of this variety of sugar, as are also most syrups and much of the honey offered for sale at the present time.

Honey is a mixture of the various kinds of sugars, but is chiefly composed of grape-sugar. It contains, in addition to sugars, a variety of other substances, chief among which are atmospheric dust, pollen from flowers, volatile essences from plants, and a small quantity of virus from the poison-bag of the bee. On account of the various foreign matters contained in it, honey cannot be regarded as of so high value as an article of food as the best specimens of purified cane-sugar. It is on account of these foreign substances, particularly the volatile oils from flowers and the virus from the poison-bag of the bee, that honey so greatly disagrees with some individuals. Many instances have been known in which honey gathered in certain localities, at certain seasons of the year, produced violent symptoms of poisoning when eaten. Some persons are so susceptible to the influence of these substances, that these symptoms appear whenever honey is eaten.

It is probable that sweets, as well as fats, were never intended by nature to be taken in an uncombined state, as their separation from the other food elements often leads to their excessive use, which, as we shall see at another time, is many times followed by most unpleasant results.

The fifth and last class of food elements is known as SALTS. By this is not meant common salt, but those elements which are represented in the ashes left from the burning of any food substance. These represent what are termed the inorganic elements of the food, although in reality it is probable that the inorganic substances found after the burning of a food substance, existed before the destruction of the food by burning, in an organized, or at least partially organized, form of the food, and not in a strictly inorganic condition.

(To be continued.)


## CLOTHING FOR THE LITTLE ONES.

As was remarked in the previous article, much care should be exercised concerning the foot-covering of the little ones. Children's shoes when purchased, if not already sufficiently loose, should have the buttons set forward until the finger can be easily inserted the entire length between the shoe and stocking. Nature has provided the ankle with sufficient support, in ordinary cases, and a tightly laced or buttoned shoe not only does not aid nature in supporting the ankle, but actually weakens the muscles and impedes the circulation, the same as does a tight ligature around any other portion of the body.

High heels on children's shoes should never be tolerated, and, indeed, raised heels of any hight are objectionable and wholly avoidable, since shoes with spring heels can be obtained in children's and misses' sizes, of nearly all dealers.

Another essential qualification of healthful clothing is equable warmth for all portions of the body. Although much has been written on this subject, and the number of sensible mothers who give this matter attention is far greater than formerly, nevertheless there are still many thousands of little ones who might be saved from early death if warmly and equably clad.

As has been often said, the material best fitted as a first covering for the body, is some fabric of wool, which should be worn throughout the year, being of lighter or heavier material, in accordance with the degree of external cold.

Many mothers provide their little ones with some form of flannel under-garments, and then consider that because the proper kind of material has been supplied, the child is healthfully clothed. The fact that a garment is of flannel, is no proof that it meets the just-quoted requirement of healthful dress. In perhaps the majority of cases, these garments are vest and drawers which overlap each other about the central portion of the body, making a double thickness of covering over that region which least needs it, because it contains the vital organs, and is thus much less liable to suffer from cold; while the limbs and arms, which need the warmest covering because of heat farthest away from the bodily source, have but the one thickness, and that often so abridged in length as to reach but little below the elbows and knees, leaving a space between it and the tops of the child's shoes only covered by the stocking, which if of ordinary merino or cashmere, is but little warmer than cotton, although it answers to the name of woolen.

The fierce winds of autumn and winter chill the little feet and limbs quite as quickly through this less-protected space as though the entire limbs were exposed; and mothers should give this matter careful attention to see that neither through misfit or shrinkage, the little one's under-garments are so short as to come above the ankle. The sleeves, too, should reach to the wrist. Any one who has experienced the chilling sensation occasioned by wearing even for a few hours, a garment the sleeves of which were shorter than those habitually worn, will at once realize that serious colds are likely to result from the wearing of under-garments with shrunken or outgrown sleeves. Seemingly little things, you say, and yet because they are so small they are the more often overlooked. There are few growing children that do not need their flannels lengthened once or more during a season, to make them serve the true purpose of healthful clothing. Let mothers also exercise great care in the washing of the children's flannel under-garments, to prevent unnecessary shrinkage; for who can doubt that many a croup and cold has resulted from the change from one garment to another shrunken through careless washing until it was several inches shorter than the one removed.

If children's garments are purchased in two pieces, they should be combined into one by cutting the vest off at the bottom and joining it to the drawers in some careful manner. This necessitates so much re-

modeling that we think it is far preferable, unless one can purchase suitable combination suits ready made, to buy the material and make the garments. Next month we hope to present to our readers some illustrations showing how this may be done in a neat and economical manner.

(To be continued.)

## FASHIONABLE DEFORMITY.

We believe that the deformity of the female form by tight-lacing, may be attributed, in part, at least, to the erroneous education the eye receives from the fashion plates of popular dress magazines; and in this way, fashion-plate designers become in a degree responsible for the miseries entailed by this reprehensible practice. Fashion magazines are profusely illustrated with all sorts of impossible female figures, and in order to conform to fashion, women think they must draw and pinch their waists almost within an inch of their lives, and certainly within very few inches of severing their bodies, to reduce them to the shapes portrayed, be they ever so wide of the mark set by good sense, good taste, and nature.

We present to our readers a *fac-simile* of the illustration used in the advertisement of one of the most popular of ladies' tailors. It is scarcely necessary to remark on its non-conformity to the natural female form or to the standard of symmetry. An observing eye will at once take in the fact that the waist dimensions of this "model" figure are hardly more than one third those of the chest, and the same observing eye will look a long while among the models of nature, to discover one designed with so little regard for proportion or the facilities for maintaining an existence, to say nothing of the comfort of that existence. *M.*

FASHIONABLE WAIST.

In replenishing the wardrobe, a working-girl should first consider what underwear is necessary for health and comfort, and provide these first. If there must be shortage anywhere, let it be in the feathers of her hat, or in the number of yards or the quality of her dress; only make sure that the under-clothing is all right. The ordinary working-girl usually chooses just the opposite in expending her wages. She begins with outside garments and cheap jewelry, and if there is anything left above these, she may buy warm underclothing. But if the outside looks passably well, she generally does not care what is worn beneath. Yet she deceives no one but herself by her flashy outside appearance. A working-girl, of all others, should dress comfortably, rather than elegantly, for health and strength are her only fortune.

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An Eminent Lady on the Dress Question.—Mrs. Ella Wheeler Wilcox, a lady whose name is familiar to most American readers, says of that article of dress which more than any other is characterized by the civilized woman: "I believe the corset is ruinous to the real beauty of the female figure, and to the health of women. All the long defences of it ever written, all the dissertations on the 'support' it gives the wearer, all the certificates of 'perfectly healthy and long-lived' women who have been brought up from the cradle in stays, will never convince any sensible human being. Anything which compresses the waist, anything which prevents deep respiration, anything which does not permit us to leap, run, fence, swim, or practice gymnastics, without extra fatigue, *must* be injurious. To be absolutely comfortably attired for walking, climbing stairs, and riding, the waist ought not to have even the restriction of a whalebone, there ought to be no awkward *tournure* to lean back against, and the skirt should reach only to the tops of the boots." And she naively adds: "Yet we would sooner venture alone into the jungles of Africa than walk down Broadway attired in this manner."


## A DEAR EXPERIENCE.

BY S. ISADORE MINER.

"We will surely find Dottie by noon," said George. "I have placards and hand-bills scattered everywhere, detectives at work, and if nothing is found out before, I shall offer a reward this afternoon. It's the strangest thing that the other party has n't put in any inquiries. Don't look so disheartened, dear, it will all come right soon."

Amy's pitiful, pleading look was indeed worse to witness than last night's tempest, of which George anticipated a renewal. But she had seemingly exhausted her tears, which were now succeeded by that stony, unnatural grief, sad to see in one so young, and which as the days wore on, bringing no trace of the missing child, gradually settled into a dull, life-sapping apathy, from which nothing could rouse her.

Yes, the days wore on; a week had dragged by on leaden feet, and yet nothing had been heard of Dottie. The little stranger still laughed and played in its usurped nursery, and did not seem at all shy of its new companions. It was well for the child that its sunny disposition made it possible for it to entertain itself, and that it did not demand constant attention; for, though Amy cared for it conscientiously, never intrusting it to the care of the servants, and even laying it in the little night-crib by her bedside, that she might better watch over it, her heart was so heavy and her mind so oppressed, that when she had performed the tasks that to her seemed set by duty, she could go no farther. Still the baby was a great comfort,— more than she realized. It took up a goodly share of the time that otherwise would have hung heavily on her hands, and employed her mind also, in a measure. She could not but admire and love it for its happiness and good cheer among strangers, so different from Dottie, who from her exclusive care, always evinced fear of a strange face. And this thought of the absent one worried her. What if she should pine away from home-sickness, and fall ill and perhaps die among strangers, and she would never know!

It was perceptible to all around her that Amy was fast losing hope and strength. Her nights were sleepless, or if she did drop into a doze, it was only to toss and mutter uneasily. George would have much rather she indulged in tears and complaints, than to be the witness of her silent grief. Even the old doctor sadly shook his head. But a relieving drop never stole from beneath her white, drawn lids. She never uttered a reproach, or alluded to George's share in the household tragedy. The nearest she came to showing any life or feeling, was when her mother-in-law called to express her condolence; and then she was not like the old Amy.

She was sitting in the nursery, when George, who rarely left her now, announced that his mother was awaiting her in the parlor. For a moment her eyes flashed fire, her bosom heaved, and her fingers closed convulsively. She seemed not to find words till her outward agitation subsided; but when she did they were decisive; she utterly refused to see her. In vain George pleaded with her. She was as cold and impassive as a block of marble, and equally as unyielding. In vain Mrs. Norton called, "Never mind coming down; I can just as well come up there." Amy fled to her own room and locked the door. Down deep in his very heart George did not blame her. By degrees Amy had discovered the extent of his mother's intrigue, and he, too, felt that she had been to the bottom of the whole business, as he expressed it, to himself in rather emphatic terms, to his mother as gently as he could; for although he wished to show her respect, he also wished her to understand why Amy refused to see her, and that he fully exonerated her.

Mrs. Norton went home a sadder but a wiser woman. She was not entirely an unfeeling woman, only

frivolous, and this sudden sorrow in her family, all the direct result of her pride, really found the heart that had been lying dormant for many years.

She thought deeper and to more purpose than ever before. She upbraided herself vigorously, and determined to inflict a self-imposed punishment — that of renouncing the society of Lady Elting, and writing a letter of confession to Amy. Whether she was influenced to the former by the fact revealed by some acquaintances just returning from Europe, that the cousinship existing between Mrs. Elting and her titled relatives was only of the seventh degree, and only by marriage, will never be known. But her letter to Amy was certainly genuine, and really pathetic; so much so that it accomplished its purpose, and she was received back into favor, where in daily intercourse during that unhappy time, she received such constant reminders of the wrong she had done, that her future life was influenced for good, and seeds of unselfish love sown, of which her own family reaped a bountiful harvest.

"Hope deferred maketh the heart sick," and Amy's was sick unto death when the second week passed and still no sign. A large reward had been offered, detectives had been busy, the daily papers had at first waxed eloquent over it, and then devoted their columns to newer and more startling events. Children's hospitals had been searched, every lost child closely scrutinized, and every nurse-maid and child put under surveillance. But the great storm on the eventful night had proved but a prelude to wet, threatening weather, so but few nurses and children appeared on the streets, and the park was entirely deserted. Ellen had been duly advertised for, and appealed to by numerous personals, but no clue of her whereabouts was ever obtained.

It was a strange, strange thing throughout. People wondered at it, and then forgot it, for strange things are of daily occurrence. And so the third week was ushered in.

On the other side of the public park from George Norton's, lived John Parkinson, the rich coal-dealer. He was a whole-souled, genial man, just in the prime of life, but one whose business cares and duties were so exacting that he had as yet never felt himself at liberty to cease from the busy toil and moil after an inexhaustible supply of duplicates of the one thing needful — the almighty dollar — long enough to get acquainted with his family. He had always meant to; he had promised himself that pleasure from time to time, always setting the happy period a little further on in the future. But one day he was rudely aroused from his money getting and pleasure-dreaming, to find that one member of his family had gone — gone, never to return. The wife and mother had slipped her thin hand from his, and death had led her away.

When it was too late, John Parkinson wondered that he had not recognized the ghostly presence that had been lurking round his hearth-side ever since a heavenly messenger had stooped to lay a sweet rose-bud, a tiny token of God's love, on the breast that now lay so pulseless and peaceful under the sods in Greenwood. Though the little bud had taken kindly to earth's atmosphere, the parent stem had gradually faded away.

But after "life's fitful fever" she "slept well," and only John Parkinson was left to solve the problem how he should now fill both mother's and father's place to his almost wholly orphaned daughters; for he did not try to conceal, even from himself, that he had hitherto fallen far short of his duty as a father. He bitterly realized his unremediable mistake — a mistake that had taken from his life a love that he neither hoped nor wished to replace by another. Henceforth his only aim should be to avoid similar ones regarding his children, and he solemnly consecrated himself thereafter to their best good.

He pondered the matter carefully, pro and con, and came to the conclusion that he could better carry out his designs by keeping the family and home intact. His wife's only near relatives were her aged parents, and an elder sister, whose house was already filled to overflowing with children. Hence it was impossible to expect anything from them. His house must have a head, a housekeeper, whose interest should not be wholly that inspired and absolved by the getting of hire. Gertrude, his eldest daughter, was just turning twelve, the very age when she most needed a loving, tender, yet firm hand to guide her. Bessie, the baby, had not yet seen a full set of seasons, yet he knew that the discipline of the first few months of a life were often but the initial pages of the whole volume. In this dilemma, his mind turned instantly to Helena Parkinson, his dear and only sister. To be sure, she was an old maid, as age determines, but her heart was young and fresh, and he felt certain that the love she had always borne him, would extend to the second generation, — so certain that he became fixed in his determination to secure her aid if possible, and thereupon sat down and wrote her a most appealing letter, — for a coal-merchant.

And Helena came. John's best anthracite couldn't have warmed her loyal heart to better purpose than that letter, and she fairly yearned to be with him, to comfort him in his affliction, and to clasp both his

darlings to her heart in a motherly embrace. Still it was with many misgivings that she prepared for the undertaking. "Of course," she said to her many friends, "I feel somewhat competent to take charge of Gertrude. She is quite a girl now, and a sensible one, too, I hear — so much like her dear dead mother. But there's the baby, I know I shall love it, but dear me! the idea of *my* taking care of a baby! Why, I always said I never could tell one baby from another, and I always shall say it. They all look alike to me. Never can see the least mite of difference, only as to color, till they are two or three years old. No more individuality about a baby, to *my* mind, than there is about a lump of dough; and then the idea of John's wanting *me*, of all persons in the world, to take care of his Bessie. Of course he keeps a nurse-girl, but — well — there's no one else to go, so I might as well make the best of it."

So a few days later saw Miss Helena Parkinson duly installed in her new position. She had but one of her future charges to look after at first, for Gertrude had accompanied her grandparents when they returned home from their daughter's funeral. For this poor Miss Helena felt grateful, as her first plunge into the household had disturbed the domestic waters of the kitchen and nursery considerably, and a reign of terror ensued for the first few days, which resulted in the abdication of cook, nurse-girl, and chamber-maid. These three worthies had been ruling their little kingdoms on plans entirely their own for the past few weeks, much to Mr. Parkinson's discomfort, and it was with a good deal of dissatisfaction, and a firm determination to still walk in the old paths, that they viewed the arrival of the new mistress. But their schemes came to naught; for dirt, waste, and carelessness were Miss Helena's pet aversions, and with Brother John to back her, she waged an immediate war on the enemy's camp, with the above results. A new force of servants were immediately drafted in, and as soon as the domestic machinery began to revolve smoothly again, Mr. Parkinson announced his intention of going on a double errand. His unaccustomed family cares had greatly interfered with his business, and now some urgent matters in the coal industry needed immediate attention, so much so that he decided to visit the coal regions himself, and then as it would lie in his route, bring Gertrude home on his return trip, rather than allow her to make the journey alone. He would be gone about two weeks.

The morning of Mr. Parkinson's departure found Miss Helena with a raging headache; but, not disposed to lay aside her well-earned laurels so quickly, she kept at her self-appointed tasks of "righting things," till late in the afternoon, when she was vanquished by her life-time enemy and compelled to retire.

The servants took this opportunity when their captain was off duty, to execute various enterprises of their own; and Kate, too, the latest acquisition, a nurse-maid, and one of the "knowing" kind, sallied forth, bound wherever chance might direct — to the slums or the public gardens — there to leave her little charge blinking in the sun, while she held high carnival with some straggler, or flirted with a policeman.

For several days, Miss Parkinson was confined to her room, and as the weather was dismal and lowery in the extreme, and no one in all that great city to exchange a friendly word with, she felt correspondingly low-spirited; indeed, an attack of home-sickness seemed almost inevitable. Baby, too, was unaccountably cross and restless. In the few days that she had been there, Miss Parkinson had been particularly taken with Bessie's loving, happy disposition; but now she was just the reverse. She cried when they looked at her, cried when they spoke to her, cried when they took her; in fact, she seemed to partake of the nature of the weather, and there was almost a constant downpour of tears without and within. She refused her bottle, till driven to it by sheerest hunger; to tell the truth, she ignored it as completely as if she had never before seen one,—as if she had not been reared on one for the nine months of her life. She was a veritable Chinese puzzle, a mystery, even to the physician who was finally summoned by Miss Helena, after a deliberate and discriminating search among the many strange names in the directory. She had come to the conclusion that something most serious was the matter, — something that baffled her limited experience with infants, — but concluded it would be wiser to call in a competent physician before telegraphing for John.

But not even the wise medicine-man could discover the cause of baby's peevishness, although he gave it as his learned opinion that it was nothing of a serious nature. Her pulse was quite normal, — but very little fever, and that probably the result of her fretting, rather than the cause of it. She was cutting teeth, but those had not yet arrived to such an advanced stage as to prove irritable. She was a child of remarkably sensitive nerve-organization, and it seemed to him to be something more of that nature. Had she been crossed in any way? or had she been deprived of any accustomed toy or amusement?

"Nothing, that we know of," Miss Helena, replied. "Both the nurse and myself are almost strangers to

her, as well as to each other; but she seemed to take to me well enough when her father was here."

"Oh, her father is away, and you are strangers? Well, that is just it, you can depend upon it. You can do nothing but be kind to her, and let her shyness wear off. But it is quite remarkable, really, for one so young to show such evident attachment to any person except the mother."

Then Miss Helena thought of the way that the baby always watched the door now, as if momentarily expecting some much-longed-for person to enter, and her many visible disappointments, following by a prolonged wail.

Much soothed in mind by the doctor's advice, Miss Parkinson ordered baby's crib in her own room, and seated before a cheerful blaze of John's open-grate coal, she divided her time between playing with the disconsolate infant, crocheting, and reading the papers.

In the latter, the careless exchange and unaccountable disappearance of a young babe about Bessie's age, strangely interested her; but then, she had spent so many hours lately in reading about babies, and the many complaints to which they are heir, in all the doctor-books she could muster from the library, striving in vain to solve the secret of her little niece's indisposition, that the word *baby* now caught her eye as if by magic.

But it really was a remarkable occurrence, she thought, and pity for the distressed young mother kept her quite agitated over the subject.

"And the strangest part of it all is," she soliloquized over her crocheting, "that the other party has n't made the least stir about it, or even paid any attention to the stir this Norton is making, — and a well-dressed child, too, they say. Well, I 've my opinion about such folks — the hard-hearted wretches! Let me see; this is the second week, and no clue yet. Dear me; that poor mother!"

Through Miss Helena searched diligently for further tidings from day to day, she found no more particulars; for New York daily papers have something of more interest than lost and exchanged babies to follow up, — such for instance as lost poodles and pugs, trotters exchanging owners, base-ball scores, pugilistic feats, and other matters of vital and national importance.

So Miss Parkinson filed away the papers for John's benefit, — for he might want to see how the coal markets stood during his absence — played with the baby, crocheted, and patiently awaited her brother's return.

(To be concluded.)

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EVERY person is responsible for all the good within the scope of his abilities, and no more; and none can tell whose scope is the largest. — *Gail Hamilton.*

THE elevation of humanity depends upon the elevation of woman, on the principle that a stream cannot rise higher than its source. — *Margaret Parker.*

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## WHILE WE MAY.

The hands are such dear hands;
They are so full; they turn at our demands
So often; they reach out,
With trifles scarcely thought about,
So many times; they do
So many things for me, for you;
If their fond wills mistake,
We may well bend, not break.

They are such fond, frail lips
That speak to us. Pray, if love strips
Them of discretion many times,
Or if they speak too slow or quick, such crimes
We may pass by; for we may see
Days not far off when those small words may be
Held not as slow, or quick, or out of place, but dear,
Because the lips are no more here.

They are such dear, familiar feet that go
Along the path with ours, — feet fast or slow,
And trying to keep pace; if they mistake,
Or tread upon some flower that we would take
Upon our breast, or bruise some reed,
Or crush poor Hope until it bleed,
We may be mute,
Not turning quickly to impute
Grave fault; for they and we
Have such a little way to go; can be
Together such a little while along the way,
We will be patient while we may.

So many little faults we find,
We see them; for not blind
Is Love. We see them; but if you and I
Perhaps remember them some by and by,
They will not be
Faults then — grave faults — to you and me,
But just odd ways — mistakes, or even less —
Remembrances to bless.
Days change so many things, — yes, hours, —
We see so differently in suns and showers;
Mistaken words to-night
May be so cherished by to-morrow's light.
We may be patient; for we know
There's such a little way to go. — *Selected.*

## SCANDINAVIAN MOUNTAINS.

(See Frontispiece.)

No mountains in Europe surpass those of Scandinavia in terrific and savage grandeur, "rock-ribbed, and ancient as the sun." The peaks of the Alps are fully one third higher, but their ascent is more gradual, and therefore their aspect is less striking and effective. The grand elevations of the North are intersected by deep, dark gorges and fearful chasms, roaring with impetuous torrents and enormous cataracts, and the valleys are but narrow passages between awful mountains. In some of these canons the gloom is oppressive, for during sixteen weeks of the year the sun does not reach into these depths, and it can never linger there.

The area of the ranges of Norway and Sweden (123,000 sq. mi.) is larger than that of the Alps, the Appenines, and the Pyrenees combined, and there is no other country so large a portion of which is covered with august mountains as Norway. The ratio of arable land in the latter country is one to ten; but undismayed by the preponderance of rock, the people utilize every available patch of land. In snug corners, sheltered from prevailing winds, are seen little clusters of rude log cabins, inhabited by a few lowly people who live in seeming content, notwithstanding almost incredible deprivations and climatic disadvantages. The thermometer often registers 60° below zero, and the snows on the peaks never melt. But where the warm sun does thaw, there the green grass springs, and there the hardy mountaineer sows, though it might be said that he could cut his hay with scissors and harvest his grain in a thimble. Even the roofs of their huts are utilized, and grass and grain, and sometimes quite large trees, may be seen growing in the transferred soil. In gathering their scant mountain crops, wires are fastened to the most precipitous hights, and on these the bundles of dried grass are lowered.

The physical structure of Norway has of course affected the character of the people. It has left them to a large degree isolated, and allowed their native virtues to flourish, and they are a simple, honest, hospitable and courteous people. But beyond this the stern mountains and dark valleys must have put their impress upon those who have lived for generations among them. This may be seen in the stories of their ancient faith. One cannot be surprised at the grandeur and sternness of the Norse mythology, who travels through the land in which it was conceived. This was no place for the light fancies of a sunnier clime. The somber and solid character of the land entered into the making of the people and the construction of their legends and faith. The stories of Norway should be read in Norway. The sagas need the mountains.

# TEMPERANCE NOTES.

In forty-eight out of the seventy-five counties of Arkansas, no licenses are granted, and prohibition is well enforced.

Miss Jessie Ackerman, of California, is soon to follow Mrs. Mary Clement Leavitts, in a round-the-world temperance tour.

A law, which is to take effect next April, has been passed by the Board of Education at Auckland, New Zealand, requiring the teaching of temperance in all the public schools.

The testimony of the secretary of the Liquor Dealers' Association in Nebraska, concerning high license, is, that "the one-thousand-dollar license has in no measure decreased the amount of liquor sold."

A test case is soon to be brought before the Supreme Court of Pennsylvania, as to the legality of the sale of cider, by unlicensed persons, as cider is, by many authorities, classed among intoxicating beverages.

The king of Italy is said to be a total abstainer from intoxicating beverages. Until recently, however, he has been an inveterate user of tobacco, which has resulted in greatly undermining his health. Some weeks ago his physicians told him the cause of his ill health, and King Humbert said: "From this day forth I will not smoke another cigar, or anything in the shape of tobacco." The result has been a most noticeable improvement in his health.

In the State archives of North Carolina has been discovered the following unique petition, sent by King Hagler, of the Catawbas, to Chief Justice Henley, on May 26, 1756, and which is doubtless the first prohibition petition issued in this country: "I desire a stop may be put to the selling of strong liquors by the white people, especially near the Indians. If the white people make strong drink, let them sell it to one another, or drink it in their own families. This will avoid a great deal of mischief which otherwise will happen from my people getting drunk and quarreling with the white people."

# POPULAR SCIENCE.

Talking Dolls and Clocks.—Children will doubtless be pleased to learn that Mr. Edison has devised a doll that can talk. Of course it is simply by means of a phonograph contained in the breast of the doll, and the turning of a handle produces the talking. He has also constructed a clock that announces the time by speaking, on the same principle.

The Pacific Cable.—The British cable across the Pacific seems to be a sure thing, even to the price, which is announced to be one dollar per word. The scheme is an important one to the English Government, in view of the growth of its Oceanic dependencies. The route as approved at present extends from Canada to Australia by way of Hawaii, Fanning Island, Samoa, Fiji, and New Zealand.

Glass Cloth.—Who would ever think that glass could be spun and woven into cloth? And yet the late invention of a French silk manufacturer makes this quite possible. The pattern is woven with threads of glass of marvelous fineness upon a warp of silk. It is quite a tedious process, however, as it requires twelve hours' labor to weave a single yard of the cloth; but the fabric is said to be a very beautiful one when completed, and inexpensive, too, strange as it may seem. It will no doubt be utilized for hangings and draperies.

Cellular Clothing.—The new cellular clothing now coming into use in England, is said to be a success. It is woven out of the same materials as the common weaves of cloth, being simply, as its name indicates, closely woven into cells, the network of which is covered over with a thin fluff. Its porous quality allows the slow passing of the outside and inside air, giving time for the outside air to become of the same temperature as the body, obviating all danger of catching colds, and allowing vapors constantly exhaled by the body to pass off, thus contributing toward health and cleanliness. The common objection to cotton clothing—that it is productive of chills and colds—is removed if woven in this manner, and the invention can certainly be said to be strictly in accordance with scientific and hygienic principles.


## BOOKS AS BAD EDUCATORS.

FEW factors in a child's education act so important a part as does what he reads, yet no other is considered of so little importance by most parents. Many parents pride themselves on the exertions, even sacrifices, they are daily making for the advancement of their children, and at the same time, by their indifference in this one respect, they may be fostering the ruin of the fair structure they are seeking to build. Indeed, they may be so fully awake to the evils that threaten their brave sons and fair daughters on the street — evils of sight and sound — evils of improper associations — that when they see them clustered around the fireside, absorbed in some enticing tale, such sense of security is wafted to the anxious spirit that their eyes are blinded to other evils.

But in this sense of security lies the danger. Good father, good mother, your work is not done. It is an old tale, but a true one, that there are no foes like those within. What book is that your boy is reading with flushed cheeks, tense nostrils, and dilated eyes? What witching fiction holds your daughter as by a spell, that she does not hear your thrice-repeated warning of bedtime, and when she does, lures her to take the book to her room, there to steal another taste of its sweets by the midnight lamp? You have carefully shielded your sons and daughters from dangerous companions, but others more dangerous entice them boldly from your table, and you do not see it. Words of subtle meaning, because of their delicate couchery, scorch down deep into their souls, when perhaps the coarse language of the streets would be dismissed instantly as too vulgar to be even heard.

Or perhaps if they are not bad books — no — all books are bad that are not good. Books are not harmful of themselves; they are good or bad just according to the impressions they make; and though it be a seemingly innocent book, if it gives a wrong impression, a false idea of life, an unnatural coloring to events, it is in just that degree a bad book and a vicious educator.

"What one sees, one believes;" at least it is true that if one reads a thing, he remembers it far better than if he merely heard it; it seems photographed on the mind. Reading, then, plays no unimportant part in education. Parents place their children in the very best schools they can afford, often denying themselves to do it. They make very free to criticise the teachers, text-books, and methods of these schools, and often are not careful lest this criticism become known to their children. Do their children turn out idle, dreamy, or incompetent; do they miss in their classes or fail in their examinations, — the schools are all at fault. They do not ask themselves, "What has been the effect of an unrestrained and indiscriminate love of reading on the mind and make-up of my child? and how much has this entered into the result?"

Would it not pay if fathers and mothers would "cease from their labors," at least long enough to know what their children were reading while they work? It is as natural for children to form bad habits in reading as in anything else; good habits come only by cultivation. Parents should take as much pains in cultivating a taste for good literature, as they would to cultivate the table manners of their children, the etiquette of the street and home, and the various other social details that go so far to mark one's claims to good breeding; — aye, even more; for where lapses in social etiquette might affect one's social standing, a taste for bad literature may make or mar the eternal interests of the soul.

While all may not be able to read every book before their children read it, they may be able to judge

of its quality. There are many they may know by the sentence already passed upon them by those whose judgment is excellent; and there are certain authors whom they *know* they can trust. But wishy-washy, distorted Sunday-school tales (and there are many church library shelves heaped high with them), stories of girls who are cruelly misunderstood and unappreciated by their parents, and of boys who have sought the wilds of the west rather than endure the restraints and discipline of home — anything of an unnatural, unlifelike, and overdrawn character — anything leaving wrong impressions and fostering willful and aggrieved spirits — is harmful, if not vicious, and as you value the happiness and welfare of your child, should be consigned to the flames as quickly as a dime novel or a bawdy leaflet.

## EDUCATING THE WHOLE MAN.

EDUCATION ought to be three-fold — intellectual, moral, and physical; training of the mind, the heart, and the hands; building up together, and building each with regard to its relations to the whole man, the three departments of man's triune nature, the three members of the human trinity. Any system of education is defective which neglects either of the three. A cultivated mind, associated with a dwarfed moral nature, and lodged in a frame whose powers have never been developed, is rarely useful to mankind, and often a curse to its possessor. When the moral sense is pushed to abnormal development without the accompanying and dominating influence of the intellect, the result is more likely to be an inmate of a lunatic asylum than a useful citizen. Physical training alone produces that thing in which the human family makes contact with the brute creation.

Society claims the right, based on the first law of nature, to insist that all children shall, to a certain extent, be educated. Society puts its hand into the strong-box of the childless millionaire, and takes his money to educate the ten or a dozen children of his pauper neighbor. It does this in order that crime and poverty may be diminished. It builds school-houses and employs teachers in order that it may not have to build so many prisons and hire so many keepers. On the theory that ignorance begets vice and conduces to poverty, society makes war on illiteracy through systems of public schools. There is no question of more general and absorbing interest than the education of the young, and there is no feature of American social life more dear to the people, more carefully watched, or more cheerfully supported than our free schools.

There is a good deal of complaint of a lack of moral teaching in our public schools. While it is decidedly not advisable to introduce sectarianism, even in its mildest shape, it would seem practicable to pay more attention to those great fundamental truths of religion in which all sects can agree. Love and truth, for truth's sake, can be taught without trenching on sectarian ground. The golden rule — that grand epitome of human philosophy — ought to be wrought into the very nature and give color to the life of every child. Children should be taught that it pays to be good, — pays in increased happiness, in that best of all sensations, the consciousness of having resisted temptation. No immoral man or woman, no person of impure life, should ever be employed to teach the young, for the unconscious and inevitable influence of such teaching is bad.

Physical training, the education of the hand, is just beginning to receive attention commensurate, in some degree, with its importance. It is entirely practicable to give all the boys in our public schools such instruction in some one of the mechanic arts that the boy thus taught will be able to get a living by it. While receiving such teaching, the boy's physical nature is being developed quite as well as it could be by plying the oar or the base-ball bat. All the girls, too, can be taught sewing and cooking, while learning to write neatly and spell correctly. And this instruction is vastly important, because the greater part of the girls in our free schools cannot be taught at their homes to sew neatly or make a good loaf of bread. While pupils of both sexes are receiving this industrial education, it is necessary that they should be taught that labor is honorable, that indolence is disgraceful, and that to grow up in ignorance of all arts or occupations by which they can earn a living is inexcusable. — *Washington Post.*

THERE is nothing a parent can give a child, which is of such inestimable value as a good education. As a medium of usefulness, as a source of happiness, as a means of support, pecuniary profit, and social and public advancement, there is no investment in which money can be better employed for a child, than in thus equipping him, morally, intellectually, and physically, for the battle of life.


## THE TRAVELER'S AID SOCIETY.

SCARCELY any one realizes to any degree the many dangers that beset young and inexperienced girls when traveling alone and unprotected, especially when their destination is some one of our large cities. The working class of girls are always *en route*, as will be seen by the large percentage of this class among the many thousands of emigrants yearly arriving in this country. And in the large cities of Europe, there is yearly a considerable influx of girls from the rural districts, seeking to better themselves by obtaining situations in town. Many of these come without the slightest knowledge of where they are going or what they are going to do, and still many more come in answer to advertisements of which they know nothing, perhaps of places of ill-repute, — all with probably only a few pence in their pockets. Ignorant and confiding, they are entirely at the mercy of the unprincipled and the vicious, who are constantly on the alert to secure just such recruits to carry on their nefarious business. Still another class of girls comes expecting to be met by friends; but plans miscarry, and by misrepresentations they are made to rely upon some well-dressed stranger, man or woman, as one authorized by their friends to meet them, and are enticed away, perhaps to ruin.

The Young Woman's Christian Association of England, becoming alive to the needs of the working-girl when traveling, and recognizing in this a broad field of usefulness, three years ago organized a branch society — the Traveler's Aid — with headquarters in nearly every large city in Europe. The "Aid," besides its regularly employed "station visitor" in each of these cities, has enlisted the services of porters, waiting-room attendants, ship stewardesses, and other railway and ship employees, who are constantly on the watch for unprotected and bewildered girl travelers, and for all suspicious-looking characters, and report all cases, ofttimes by telegram, to the "Aid" authorities. Warnings and placards of the society are posted in conspicuous places in every depot, accompanied by a list of names of ladies of influence in the different cities who will aid and advise every young woman in difficulty who will apply to them. They will also, if notified beforehand by friends or the parties themselves, meet the traveler at the depot, and see them safely to their destination, or assist in finding them proper employment or boarding places. Young women traveling for pleasure are looked after in the same way.

The work done by the Society is enormous, as may be seen from their published reports, and their scope is widening yearly. The "Aid" is proving an effectual means of protecting the inexperienced traveler from the clutches of vice, and all interested in the social-purity movement will wish it Godspeed. The Traveler's Aid is sustained solely *by* benevolence and *out of* benevolence. Its motto is: "By love serve one another." Those who may wish further information, or desire to contribute toward its maintenance, should address its secretary, Miss M. E. Dimock, 16a Old Cavendish St., London, W., Eng.

Something in the line of the European "Aid" should be established in this country, where so many young girls are daily arriving in our large cities, utterly without friends or employment. How many innocent but ignorant victims might have been saved from lives of shame by a few timely words of advice or warning, it is impossible to say; but it is certain that such a movement would cut off one of the very fountain-heads of the supply for evil traffic. The philanthropic could make no better disposal of their interest and means than in establishing such a society.

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A NOBLE work for the uplifting of manhood is being accomplished through the efforts of the Social Purity department of the W. C. T. U. This work claims the support of all Christian men and women.

THE world appears to be just waking up to the fact that in the blessing and upraising of the masses lies the fundamental interest of society. It is precisely this that will open the new era of light and virtue.

## ELEGANCE FOR THE DAUGHTER AND COMMONPLACE FOR THE MOTHER.

It is apparent to all thoughtful minds that love of dress is often the one great temptation that draws the young into the vortex of impurity, and there is doubtless many a mother, who, with never a thought of injury to her child, has started her on the downward track by fostering and gratifying this love of dress; by sacrificing her own comfort that the daughter might be clothed in elegant apparel.

All intelligent mothers must agree with a writer in the *Christian Union*, who, after assuming that a mother of moderate means has purchased her daughter a costly seal-skin garment, makes the following remarks: —

"No mother can wrap the form of her young daughter in seal-skin, while she herself wears wool, without jeopardizing interests that center around her child's future. As soon as the possession becomes really an established fact, you will doubtless find what many have found out before you: Seal-skin never walks alone, nor will it walk in mean company, if so it can help. Silk, velvet-trimmed, will be necessary for comfort, in place of the soft clinging cashmeres you are wearing, and which have heretofore satisfied the tastes of your young daughter. Work the problem as many times as you please, — add from the bottom up, and from the top down, — and you will find it coming out with nearly the same result every time.

"Again, dressed as your daughter will dress, now that her attention has been turned that way, — that is, if there are dollars forthcoming, — and beside you, who have doubtless retrenched as she increased expenses, she stands head and shoulders above you — overtops you completely; why, you are but a brown chip-bird by the side of the gay-plumaged bird of paradise.

"But she will not stand beside you long, but will soon pass on in front of you. Of your own free act she is first; why should she not walk first? She will soon receive recognition first, will talk first, and in a mere space of time *be* first. Then when, a trifle dismayed, you look around for the check-rein with which in former times you guided her so easily, and find that it is nowhere in existence, but that, for all her inexperience and light-headedness and lack of knowledge, she knows more than you can tell her, and that she is actually taking her own gait down through life, do not go far from your own door seeking the why and the wherefore. A mother who dresses in an inferior way to the daughter who is under her home control, lowers her dignity. If we cease to honor ourselves, we must not expect but that others will in a measure cease to render us honor. "But everywhere we see the daughters dressing as the mothers cannot?" Yes, and everywhere we find some daughters, in spite of all the aids and helps for character-rearing of the present age, developing into small-statured women.

## A WISE FORECAST OF THE FUTURE.

Miss Francis E. Willard, whose wise thinking has voiced the thoughts of many thousands of women in lines which must contribute to the well-being of multitudes yet unborn, gave utterance in a recent address to the following significant words, which we wish might be printed, in large type, in every magazine and newspaper in the land, and which ought to be emblazoned over the mantel-piece of every fireside: —

"A great world is looming into sight, like some splendid ship long-waited for — the world of heredity, of pre-natal influence, of infantile environment. The greatest right of which we can conceive, the right of every child to be well-born, is being slowly, surely recognized. Poor old humanity, so tugged by fortune and weary with disaster, turns to the cradle at last, and perceives it has been the Pandora's box of every ill and the Fortunata's casket of every joy that life has known. When woman learns the divine secrets of her power, when she selects in the partner of her life the father of her child, and for its sacred sake rejects the man of unclean lips because of the alcohol and the tobacco taint, and shuns as she would a leper the man who has been false to any other woman, no matter how depraved; when man seeks life's highest sanctities in the relationships of husband and father, shuns, as he would if thoughtful of his future son, the woman with wasp waist that renders motherhood a torture and dwarfs the possibilities of childhood, French heels that throw the vital organs out of their normal place, and sacred charms revealed by dresses *decollette*, insisting on a wife who has good health and strong physique as the only sure foundation of his home-hopes, then shall the blessed prophecy of the world's peace come true, — the conquered lion of lust shall lie down at the feet of the white lamb of purity, and a little child shall lead them."

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

## COLORADO AS A HEALTH RESORT.

We have not here the space to enter into a full consideration of the peculiarities of the climate of Colorado, or even of the particular characteristics upon which its claims as a resort for certain classes of invalids have been based. In fulfillment of our promise to say something upon this subject, we will, however, present in a brief way some of the results of personal observations during a couple of visits to the State, made ten years apart.

Our first visit to Colorado was in August, 1878. After spending a week of that exceedingly hot summer in attending the meeting of the American Association for the Advancement of Science, at St. Louis, Mo., we found the grateful coolness of the mountain air of Black Hawk and Middle Park a great relief, but were not quite prepared for a climatic change which required winter under-flannel, a heavy overcoat, and warm gloves. Neither did we quite enjoy the sudden change of sensations occasioned by passing into the shadow of a great rock when traveling along the sunny side of a mountain. The sudden alternations of heat and cold thus occasioned, made one desire some sort of an apparatus for putting on and taking off his overcoat automatically. In the absence of such a convenient appliance, one could hardly avoid taking cold, and the net result of three weeks among the mountains was three days in bed with a raging fever, after reaching home. During our short stay in the State, rain fell nearly every day, and there was no time when the sky was wholly free from clouds, or the air from fog or haze. We returned home with the opinion that Colorado was not what it had been represented to be, and feeling sure that the thousands of invalids who were at that time flocking to this place, were for the most part, at least, squandering their time and money. Since that time further observation and experience has led us to the following conclusions: —

1. That there is no spot on this poor earth with climatic conditions so perfect that there are not at least a few disadvantages.

2. That one cannot form a just opinion of the climatic merits or demerits of any locality by a short visit of two or three weeks.

3. That a climate may be very unfriendly as regards some diseases or bodily conditions, while for others it affords favorable advantages.

Shortly after the visit referred to, we received a letter from a former patient whom we had previously urged to go to Colorado for his health. The gentleman had suffered for two or three years from a grave form of consumption, and when he came under our care was apparently in the last stages of the disease. The greater portion of the left lung had been destroyed, although the right lung was yet intact. After remaining under treatment for a few months, this gentleman had improved so greatly in health that we advised him to change his residence to Colorado, with the hope that in that climate his life might be prolonged for a few years at least. Two years later, he wrote us, appending to his name the letters, E. C., which, a foot-note explained, meant, ex-consumptive. A year or two later the same gentleman wrote us that while his consumption was apparently cured, he had contracted a catarrh which he felt sure would end his life. Subsequently, several persons came under our professional care who had contracted a severe form of nasal catarrh during a few month's residence in Colorado.

Putting all these things together, we formed a rather unfavorable opinion of the climate of this State. We are very glad to say, however, that a careful study of the meteorological records made by officers of the U. S. Signal Service, and personal observations made on the occasion of a recent visit, have enabled us to form

a more favorable opinion of the State as a health resort. That the air of Colorado contains much less moisture than that of the States east of it, is an unquestioned fact. This doubtless results from two conditions,—its lower temperature, and the absence of any great bodies of water in its immediate vicinity. A natural result from the dryness of the atmosphere is the absence of clouds. There are few States in the Union which produce so large an amount of sunshine to the acre as Colorado. There is, of course, a rainy season in which clouds are frequent, but this does not last long, and the days are very rare in which there are not at least a few hours of sunshine.

Another very important condition which results from the dryness and comparatively low temperature of the air, is remarkable freedom from microbes. Such an atmosphere does not favor decay. Dead animals and vegetables, left to nature, dry up, instead of decomposing.

Such an atmosphere and such a climate must afford favorable conditions for persons suffering from pulmonary consumption. It is a well-known fact that one of the most important offices of the lungs is to remove from the body certain exceedingly poisonous substances which are carried off with the moisture of the expired breath. In order that the air which enters the lungs may take up any considerable portion of this poison, it must be comparatively dry. Air which is already saturated with watery vapor, and at a temperature near that of the body, will not absorb and carry off these poisonous substances. On this account, a dry atmosphere, like that of Colorado, Arizona, New Mexico, and some parts of California, is much to be preferred to that of Florida and the Gulf States or the West Indies, for curable cases of consumption. Another advantage afforded this class of patients by a dry climate is this: one lung or a portion of a lung having been destroyed by disease, the patient's ability to excrete through the lungs the poisonous substances referred to, is proportionately lessened. The favorable conditions afforded by a dry atmosphere, better enables, the patient to accomplish with his crippled lungs the work usually done by sound and healthy organs. That these considerations are not wholly theoretical, we have had ample opportunity to prove by personal observation. In September last, we met in Colorado three persons who had formerly been under our care for pulmonary ailments which we considered fatal in their tendencies. In each case the disease was so far advanced that a considerable portion of one lung was disabled. When these patients left our care for Colorado, two of them by our urgent advice, although considerably improved by treatment, they were suffering from the hectic fever, night sweats, cough, and expectoration which accompany pulmonary consumption, and the diagnosis was also confirmed by a physical examination. These persons have now been in Colorado from two to five years. We found them all enjoying very comfortable health, and looking well. An examination of the lungs, however, showed that the only change that had taken place was a cessation of activity in the disease. The pure, dry atmosphere in which they are living enables one healthy lung and the fraction of the other to do the work of both. Certainly, cases like these are worthy of consideration.

Other advantages for the sufferer offered by the Colorado climate, are the abundance of sunshine and inviting natural scenery, which afford favorable opportunity for out-of-door exercise, and tempt the invalid to avail himself of this most important hygienic means for cases of this sort.

We have already occupied more space with this article than we intended, though we are aware that we have done the subject treated very scant justice; but before concluding, we must not fail to remark that we do not wish our commendation of Colorado climate to be understood as implying that all portions of this great State are equally favorable as regards climatic conditions. Some localities are certainly greatly favored above others. The experience of the majority of invalids seems to indicate that the most favorable locations are those which are somewhat sheltered by the mountains, and which are of only moderate altitude. There are several resorts which have been rendered famous by the possession of these qualities, but none we think more deservedly so than Colorado Springs. We predict that this beautiful city will sometime be selected for the site of a sanitarium which, equipped with all the appliances furnished by modern medical science, will eclipse all previous records in the cure of tuberculous diseases of the lungs and allied affections. At some future time, we will tell our readers more about this delightful little city.

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DR. PRUDDEN, of New York, has showed that typhoid germs will survive freezing for at least three months, and that ice may be means of communicating the disease. Look out for this source of danger. The same precautions should be observed respecting the ice-supply as in relation to the water-supply.

## PURIFYING THE BLOOD.

It is a popular notion that the blood can be purified by swallowing some bitter stuff or nauseous medicine. Dr. Bacon, the modern substitute for Shakespeare, announced a theory many years ago, that everybody should be bled in the spring, and treated with purgatives, because the blood became so vile during the winter that it was necessary to purify it by emptying the blood-vessels. This was undoubtedly one way, and a robust person might suffer no real harm from the treatment; but it would be very difficult for a feeble person to overcome the debility, and furnish a new supply of blood. The idea was good, but in such a radical change the process of cure was so effective that it many times killed the patient. "Cured to death," might truthfully be written on a great many tombstones.

The modern idea that the blood is to be purified by antidotes, is wholly unphilosophical. It is absurd to think that you are going to make the blood pure by putting something impure into it. The blood may be purified, but it must be by getting something out of it. The best way is to set to work nature's five great purifiers, the lungs, skin, liver, kidneys, and bowels, — the five great excretory organs of the body. If a man's blood is impure, it is because he has been taking something impure into it, or because he has not been using the excretory organs sufficiently to keep the impurities worked out. The first step would be to stop putting impurites into the blood, if that is what is the matter. People who live grossly, eating flesh meats, pastry, etc., and perhaps swallowing such things as tea and coffee, wine and beer, and may be tobacco, are constantly overtaxing the excretory organs. Living a sedentary life is another way to encourage the deposit of impurities in the blood, there not being sufficient muscular exercise in such cases to assist in throwing off the waste particles of the body.

To make the skin more active, take a hot bath once, twice, or three times a week. If vigorous, one can stand a Turkish or vapor bath every day for a while. Do anything to get up a sweat; drink hot water, and wrap up in warm blankets. A good vapor bath can be taken in any ordinary bath-tub, by putting a slat bottom in the tub, or a board with holes in it, so as to allow a space at the bottom of the tub which will be free for a running stream of hot water. Lie down on this slat bottom, cover the tub with heavy blankets, and you will have as good a vapor bath as need be given. A Swedish shampoo, or a soap and water bath, or scouring the skin off with a brisk "salt glow," — any or all of these ways are good for getting up a healthy action of the skin.

Next, endeavor to make the lungs work so vigorously as to increase the supply of oxygen. A person walking at the rate of three miles an hour, breathes three times as much air as one who is sitting still; and one walking at the rate of four miles an hour, breathes five times as much as one sitting still. When sitting, one only breathes about twenty cubic inches — about two thirds of a pint — at each inhalation, the furnace door of the body being almost closed; but as just noted, even moderate walking triples the capacity for taking in air. With every breath we throw off a certain amount of impurities; at the four-miles-an-hour pace we may not throw off five times as much waste matter as when sitting still, but we will approximate that amount, perhaps about four times as much. Another advantage in deep breathing is that the oxygen taken into the lungs goes into every nook and cranny, and gets alongside every nerve and fiber of the body — everywhere this clogging material is lodged, and carries it out. It is a great house cleaner; it sweeps down the cobwebs, and shakes the curtains. That is why the skin looks clearer and fresher. Let a person whose skin is dingy, dirty, and sallow go out of doors and take regular and vigorous exercise. The fresh supply of oxygen thus gained will very soon tell upon the appearance of the skin.

The liver may be set to work, and by the same means the bowels and the kidneys can be made more active, and that is by simply drinking large quantities of hot water. The old German water-cure doctors found this out almost a hundred years ago. Old Dr. Pressnitz, of Graefenberg, used to recommend from twelve to twenty glasses of water a day, to be taken in connection with mountain climbing. There were beautiful springs along the mountain side, and walking and climbing, his patients would drink from six to twelve glasses before breakfast, and the dose could be repeated two or three times in the course of a day. Water is the best means of all for cleansing the stomach, liver, and kidneys. Every part of the body is permeated and cleansed. When we take water into the stomach, it is absorbed, and by the muscular action of the diaphragm this pure water is drawn into the body, and carries impurities out.

It is very interesting to notice how all these remedies co-operate; — warm baths to make the skin active; exercise to make the lungs more active, and hot-

water drinking to increase the activity of the kidneys, bowels, and liver. The warm baths take some of the fluids out of the blood. Persons may lose even two pounds — that means two pints of water — through the skin in a hot bath. This excretion carries with it a large quantity of impurities, and this makes a person thirsty, and increases the amount of water-drinking, which supplies the water taken from the blood, while the water-drinking promotes the sweating, — action and re-action, you see, constantly. By exercise the lungs are made to act more vigorously. This increases the action of the diaphragm, and that squeezes the liver and presses the old bile out of it; and this again, augments the water-drinking. Again, exercise induces perspiration, and that in turn also increases the water-drinking. Each means helps the others all the time, and in this way the blood is readily purified. But it cannot be done by a "tonic," or "blood-purifier." Every one of the nostrums advertised under these various names, contains from six to fifty per cent of bad whisky or alcohol, and yet the great majority of people depend upon them as purifying agencies, instead of upon the natural ones enumerated.

## THE MEDICAL MAN OF THE FUTURE.

EVERY person who is not wholly content with the conditions of the present, has a more or less perfect ideal of a bettered state of things in the "good time coming." The laborer looks forward to a time when he shall have less work and more pay; more frequent holidays, and less frequent visits from the tax-gatherer; when the hoarded wealth of land-barons and railway magnates shall be divided among the masses who till the soil and build the railroads; when King Monopoly shall be dead and Labor reign instead. The missionary sees a happy millenium ahead when the pioneer of civilization will not be in danger of serving as fuel for a bonfire to light the orgies of some African potentate. The physician, too, looks forward to a coming time, when his useful profession shall be based less upon empiricism and more upon science.

"The practical medical man of the future will hold different notions concerning disease and its proper management than the average physician of to-day. He will give much less attention to specific medication, and more to nature's methods. He will ascertain what nature is trying to do, and offer his services as a helper. Stimulants he will look upon as false props, and only useful in emergencies. Nervines and tonics will be regarded as 'nerve foolers,' useful for temporary relief, but not to be relied upon as means of permanent cure.

"In the good time coming, the treatment of the sick will largely consist of a scientific training of the whole body out of the ways of physical wrong-doing into the paths of physical uprightness. An invalid will be put through such a process of grooming, and dieting, and exertion, that he will verily be 'born again,' his maladies not antidoted, but left behind in the process of growth and vital progress which has been carried on.

"The medical man should occupy the position of the conservator of the health of his patrons. He should be a wise sentinel, whose duty it is to warn, advise, and admonish for health's sake, and should be paid, not for his services to the sick, but for keeping the well in health. When this golden era for the physician comes, it will be his duty to inspect the homes of his patrons, to look carefully into cellars and garrets, to inspect drains and water supplies, to see that proper laws are enacted relating to the sanitary contsruction of buildings, especially with reference to heating, ventilation, and dietaries, and suitable clothing, and remonstrate against the following of unhealthful fashions. He will follow the children to the school-room, and insist upon the training of the body as well as the mind.

"The medical sanitarian of the future will not be satisfied with human beings as they are, but will seek to make them better by insisting upon the application to the human race of some of the principles which the stock-breeder has long practiced with wonderful success in improving species. The marriage of consumptives, inebriates, and persons suffering from grave general defects, will be prohibited by law. Possibly this will extend to moral defects as well.

"If this picture of the medical man of the future, and of his work, is true, is it not the duty of the practitioner of the present to endeavor to enlarge his sphere in the directions indicated? Should he not seek to foster a public sentiment which will raise the profession to a higher plane of work, in order that he shall be more than a mere purveyor of pills or a medical mechanic? Then let him prepare himself to be a wise and ready counselor in all that makes for healthful, happy, noble manhood and womanhood. Then will our calling become the greatest and noblest of all professions, — a work beneficent, humanitarian, and uplifting, — and our influence upon our day and generation incalculable for good, and our reward a measure of respect and confidence such as is granted to no other class of men."

THE YELLOW-FEVER GERM DISCOVERED.—Dr. James E. Reeves of Chattanooga, Tenn., announces that he has discovered the germ which produces yellow-fever. He describes it it as having four forms, * * "The first a dark, round mass; the second, oval, with a dark point at each extremity; the third, an oblong disk, with dark points united by a film, and resembling a dumb-bell." The yellow-fever germ is said to resemble that of hog-cholera. This new aspirant for yellow-fever notoriety will be thoroughly investigated by scientists, and we shall doubtless soon know whether it is the real article or a counterfeit.

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STRANGE MEDICINES.— A list of Chinese medicines, printed for the use of the custom officers of the Treasury Department, reminds us of the strange pharmacy of the mediæval period in Europe. These medicines are imported chiefly for the use of the Chinese doctors of the Pacific Slope, and include such alleged substances as tigers' bones, rhinosceroses' horns, elephants' gall, asses' glue, snake-skins, fowls' gizzards, dried silk-worms, crabs' eyes, dragons' teeth, hedgehogs' skins, fossil crabs, fossil teeth, horse-tails, straw, glass, cow-hair, Job's-tears, "insects of nine smells," puff-balls, ground blood, cows' knees, tree-bugs, and centipedes.

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KEEP YOUR MOUTH SHUT.—This is the rather impolite way the editor of a religious journal has of calling attention to the very important fact that "many disease-germs enter through an *open mouth*. The mouth was not made for breathing, but for eating and speaking. The nose was made for breathing; and the air, passing through the long, moist nasal passages, is purified, and leaves behind dust, disease-germs, and various impurities, while the air is warmed and tempered for the lungs. But when the mouth is left open, dust, dirt, and disease rush down into the lungs, and there developing, may destroy the whole system."

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TEA CARRIAGES.—The latest novelty in fashionable tippling is the "tea carriage," which consists of a wagon with wheels about the size of those of a baby-carriage, which is used for serving tea to lawn-tennis players. Tea seems to have acquired a firm position as a fashionable tipple, and little seems to have been accomplished by the repeated warnings uttered by physicians and hygienists against the use of this intoxicating herb. We say intoxicating, since experiments have shown that the poisonous property of tea, known to scientists as theine, is a deadly narcotic, and that there is really more intoxication in a cup of strong tea than in an equal quantity of beer.

EVOLUTION OF THE PUDDING. — The theory of evolution is by no means so modern as many people imagine. It was made the mark for many satirical hits by Swift, and also by his contemporary, Arbuthnot, who traces the origin of that very palatable but often indigestible comestible, the pudding:

"The dumpling-eaters, we are told, were brought into England by Julius Cæsar, and finding it a land of plenty, wisely resolved never to go home again. The race grew by what they fed on, and increased so rapidly that the whole island was overrun with them.

"The dumpling was of foreign origin, but every generation growing wiser, this institution grew to be a pudding. One projector found milk better than water, another introduced butter, another sugar, thereby rising to eminence. The introduction of eggs was purely accidental. Two or three carelessly rolled from a shelf into a pudding which an estimable woman was makiug. Reduced to the necessity of throwing her pudding away or baking it with the eggs in, she decided upon the latter course.

"The effect, like that of all great discoveries, can be easily imagined. The pudding became the prince of its kind. The woman was sent to court to make puddings for King John, who then swayed the scepter."

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THE FARMER'S PET, THE HEATHEN'S DREAD. — It is a remarkable fact that the ancient Jewish regulations respecting articles of diet, seems to have descended in some manner to barbarous or half-civilized tribes and nations found in widely separated portions of the globe. For example, while the American farmer counts his riches by the number of his hogs, and fairly dotes upon his fattening pigs, the Hottentot despises the scavenger, and turns from the beast with loathing, to dine upon a monkey or an ant-eater. The Hindoo would as soon think of becoming a cannibal as of eating swine's flesh. It is stated that the Indian mutiny so frightful in its results, originated in a fear among the Sepoys that they were to be forced to eat pork. A lady had an amusing experience in India which illustrates the Hindoo sentiment on the subject of the pig. Arriving very late at a grand dinner party, she and her husband saw the first course being carried in as they went down the hall. A row of *kitmagars* were drawn up, waiting to follow the dish into the dining-room, and serve their respective employers; and as the dish of ham was carried by, each man gravely and deliberately spat upon it! Needless to say, Mrs. B—— and her lord waited for the second course."

A Good Suggestion. — The Ladies' Health Society, of New York City, is the means of distributing from house to house, circulars requesting that garbage shall be burned instead of being allowed to accumulate around the back door, or being deposited in boxes on the street. The suggestion is a valuable one, and although not new, the society is deserving of great credit for bringing this method of disposing of garbage directly to the attention of thousands who have never taken the trouble to inform themselves upon sanitary subjects. Garbage boxes and barrels, as well as all other receptacles for the accumulations of filth, are hot-beds for the propagation of germs. They have been called, and not inappropriately, "fever-nests." The microbes which are developed and thrown off in countless numbers from these receptacles, lodge everywhere and upon everything about the premises.

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Bed-Chamber Smothering. — At this time of year, in Northern latitudes, the average bed-chamber not infrequently becomes a vertitable death-trap. With windows, doors, and even every crack and key-hole tightly stopped, the occupants breathe over and over again for the hundredth and thousandth time, a vitiated atmosphere laden with noxious gases and poisonous excretions to an extent little short of deadly. Indeed, a bed-chamber atmosphere such as described, is veritably death-dealing in its influence. The only wonder is that it has so long survived, and is not more often immediately fatal in its effects. Not infrequently, the pernicious qualities of the atmosphere of an unventilated bed-chamber, are intensified by surrounding the bed with close curtains, so that the noxious inhalations from the bed of the sleeper are returned still more dense and potently active. A bed-chamber should always be ventilated. Cold air is better than poisoned air. If possible, furnish a good supply of warm, pure air for every sleeping-room. Every room in the house should be thus provided, but especially the sleeping-rooms, and the bed itself should be so placed that the sleeper will enjoy the freest possible circulation of air. Travelers on sleeping-cars, especially those occupying lower berths, are often half smothered in the little compartments in which they are confined by the partitions and heavy curtains. Some provision should be made for the ventilation of these compartments, to permit the escape of air made foul by many occupants. In the meantime, travelers would do well to secure the best air-supply the oft overheated car affords, by leaving the curtains open sufficiently to allow a circulation, be it ever so little.

Plants in Sleeping-Rooms. — An idea somehow prevails that plants draw vitality from people, and that certain plants, the "live-forever," for instance, are specially dangerous to a sick person. This notion belongs in the same category as does the one that one person will draw strength and vigor from another. These notions are wholly erroneous. There is no philosophy in them. A well person will lose no more vitality in rubbing an invalid than he would in rubbing a post. Vitality is carried through the blood and the nerves; through the blood in the form of nourishment, and through the nerves by means of living impulses. There is no channel by which either blood or nerve force can be conveyed from one person to another. If the connection is severed between the brain and the hand, as in cases of partial paralysis, no amount of will-power in the individual will suffice to control motion in the hand. Much less can this will-power be transferred to another.

Now, plants breathe through their leaves very much as human beings do through their lungs. A plant decomposes the carbonic acid it takes in, and uses the carbon in building up woody fiber, while the oxygen is given off in the air. This process of taking in carbon dioxide is equivalent to eating. We need air as well as food. The oxygen we breathe does not build up the tissues; but it is a purifier, — a vitalizing agent by means of which we are able to carry on all the processes of life. We need oxygen to utilize the food we eat, and the plant must breathe in oxygen for the purpose of building up woody fiber. It is a very curious thing that plants and animals grow mostly during the night. Invalids get well mostly during the night. During the day-time, the various activities of brain and muscle prevent opportunity for building up and growth. During the day, plants take in a store of carbon, and during the night, it is used in the processes of growth and repair. In the night, a plant breathes oxygen just as we do, and it does not purify the air as much as it does in the day-time. There are certain plants which throw off very strong odors, tuberoses, for example, and these are objectionable in a sleeping-room. Others, such as balsams, pine-trees, etc., throw off volatile perfumes which are very beneficial. These volatile odors have the power of converting oxygen into ozone, which destroys nearly all kinds of noxious vapors and germs.

As a rule, the presence of plants in a sleeping-room is a matter of no consequence, if the room is properly ventilated. A room needs more air with plants in it than otherwise. It is something like placing another animal in the room. And a plant in full bloom requires more oxygen than one simply in foliage.

# DOMESTIC MEDICINE

To relieve obstinate sneezing, place cotton in the nostrils.

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For fetid perspiration of the feet, rub the parts with dry carbonate of bismuth night and morning.

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For constipation in infants, Prof. Parvin suggests rubbing the abdomen with a little sweet-oil.

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A French physician recommends tar-water in cases of hemorrhage. Administer from forty to sixty grammes daily.

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*Smith.* — "What has become of Dr. Cure-all?"

*Jones.* — "The man who advertised to cure every complaint under the sun?"

*S.* — "Yes."

*J.* — "Oh, he died the other day from a complication of diseases!"

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Turpentine is one of the best germicides. It will destroy not only microbes, but their spores. It has the advantage over mercuric bi-chloride, that it is not likely to be the occasion of fatal poisoning, though it must be remembered that it is highly inflammable. Its unpleasant odor will doubtless prevent its coming into general use as a disinfectant.

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An exchange gives the following method of resisting colds: —

"Throw the shoulders well back, and hold the head well up. Inflate the lungs slowly (the garments being loose), the air entering entirely through the nose. When the lungs are completely filled, hold the breath for ten seconds or longer, and then expire it quickly through the mouth. It is important for all to practice this exercise many times each day, especially when in the open air. If this habit ever becomes universal, lung and many other diseases will rarely be heard of. A permanent expansion of the chest of one, two, and even three inches will eventually follow."

Cure for Corns. — Here is the latest suggestion: Soak a piece of bread in strong vinegar; apply to the corn as a poultice. The effect is, the corn is so softened that it can be easily removed.

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Cure for a Stye. — The following is recommended as an excellent remedy for styes: Dissolve one part of boracic acid in thirty parts of distilled water. Wet pieces of wadding in the solution, and place upon the eye several times a day. This is said not only to cure, but prevent a return of the trouble.

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Stammering. — An English medical journal gives the following as a remedy for stammering: "Do not speak or attempt to speak when inhaling the breath, but draw as much air into the lungs as they will hold, and then speak very slowly. Repeat this operation, and by patient perseverance the habit may be completely overcome."

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Nose Bleeding. — A correspondent of the *Scientific American* says: "The best remedy for bleeding at the nose, as given by Gleason in one of his lectures, is a vigorous motion of the jaws, as if in the act of mastication. In the case of a child, a wad of paper should be placed in its mouth, and the child instructed to chew it hard. It is the motion of the jaws that stops the flow of blood. This remedy is so very simple that many will feel inclined to laugh at it; but it has never been known to fail, even in very severe cases."

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Rapid and Simple Method of Reducing Dislocation of the Shoulder. — A foreign physician has suggested a simple method of reducing this common form of dislocation. "He makes the patient stand with a crutch in his axilla; he then holds the hand of the affected side, making slight traction downward; the patient is now to let himself down as if he was going to fall on his knees, and as he falls the head of the humerus glides into its normal position, and the patient is surprised at finding himself cured."

HEART-BURN. — A teaspoonful of wheat charcoal, taken immediately after a meal, is an excellent non-medicinal remedy for this uncomfortable derangement of digestion. A teaspoonful of glycerine, taken just before or just after a meal, is also useful.

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A SPECIFIC FOR HICCOUGH.—Moisten granulated sugar with good vinegar. Of this, take from a few grains to a teaspoonful. The effect is almost instantaneous, and the dose seldom needs to be repeated. It can be used for all ages—from infants of a few months old to those on the down-hill side of life. The remedy is certainly a very simple one, and although no theory is advanced to account for its wonderful action, it merits a trial.

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PROTECTION OF LEAD PIPES. — An English periodical, *The Iron Monger's Journal*, states that recent experiments of English chemists show that lead pipes are rapidly corroded by water containing quick-lime or blue clay, or by water and air mixed or alternated, while sand and carbonate of lime afford considerable protection, by forming an insoluble lining. The best protection of all is afforded by a mixture of limestone and sand. It is, hence, recommended that when water is circulated through lead pipes, protection from lead poisoning may be secured by allowing the water first to pass through a mixture of limestone and broken flints.

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TO STOP COUGHING.—The majority of coughs are unnecessary. Nature induces the cough for the purpose of getting rid of some foreign material in the throat, it may be mucus, the result of catarrh, or some foreign substance which has been inhaled. A cough is not necessary when not induced by the causes named. Not a few cases of chronic cough are simply the result of habit. The eminent Dr. Brown-Sequard once made the following suggestions about how to stop a cough: "Coughing can be stopped by pressing on the nerves of the lips in the neighborhood of the nose. A pressure there may prevent a cough when it is beginning. Sneezing may be stopped by the same mechanism. Pressing also in the neighborhood of the ear may stop coughing. Pressing very hard on the top of the mouth, inside, is also a means of stopping coughing. And, I may say, the will has immense power, too. There was a French surgeon who used to say whenever he entered the wards of the hospital, 'The first patient who coughs will be deprived of food to-day.' It was exceedingly rare that a patient coughed then."

THE COCHINEAL TEST FOR LEAD. — One of the most convenient and delicate tests for the presence of lead in drinking-water, is the following: Dissolve one part of cochineal in one hundred parts of proof-spirit. Place two tablespoonfuls of the water to be tested in a white porcelain dish. Add ten drops of the cochineal solution. If the water is free from lead, the color will simply be a dilution of the pink tint of the cochineal; but if it contains so small a proportion of lead as one part in 700,000, it will be of a purplish pink, and if there is one part in 70,000, it will be a purplish blue.

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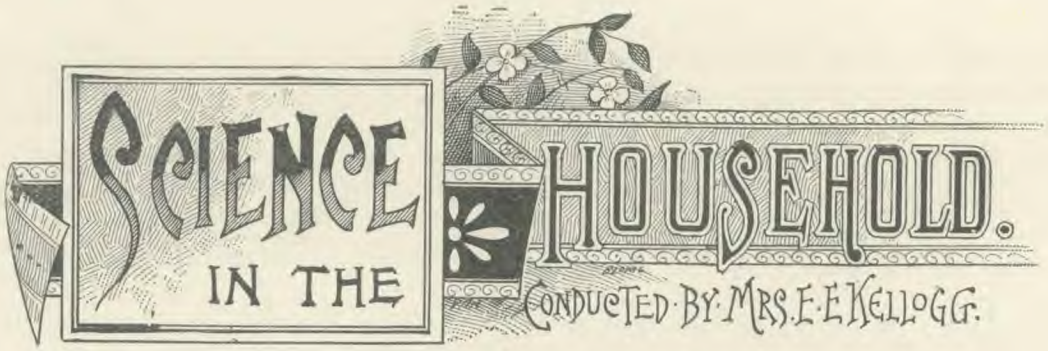
BOILS. — Some people think that boils are a special affliction of Providence, but we do not imagine that Providence has anything to do about it. They are the result of an obstruction in a small blood-vessel. May be the sufferer has been eating too much fat, greasy food, — fried foods, butter, rich cakes and pies, —and in consequence there has come to be too much fatty matter in the blood. Fat is carried through the veins in small globules, and if too plentiful, they get into the small blood-vessels, and block up the capillaries. In this way clots are formed, the blood stagnates, and for some distance around, the circulation is interfered with, and the tissues die, because they are not supplied with new, fresh blood. Nature wants to get rid of these dead tissues, and so she goes to work to separate the dead from the living. She fills in around the clot with pus or matter, and by and by it breaks open at the top, and the core is pushed out from the center. In this core is the clot which began the disturbance, though it may not be as large as the point of a pin.

Boils are due to a clogging of the system, and are generally produced by a gross diet. Abcesses in the liver, and other abcesses, originate in the same manner. As to the cure, we do not want to cure a boil, for the body is trying to throw off some effete matter, and what we should do is to render assistance in the effort. The foul matter is all contained in the core; and the great quantity of offensive matter which is formed around it, was blood corpuscles in the start. Nature makes a fester around a sliver for the same reason that she does around this tiny blood clot; the matter accumulates around the sliver, until by and by it is forced out. A felon is simply a deep-seated boil. A bruise will sometimes produce a boil underneath the thick tissues and tendons; suppuration takes place, and then we have a felon. The only proper thing to do is to encourage these processes by poultices. In that way we can sometimes abort a boil, and stimulate absorption so that the effete matter will be carried off without great suffering.




## SEASONABLE BILLS OF FARE.

DINNER NO I.

Vegetable Soup.
Mashed Sweet Potato. Baked Beans.
Rolled Wheat, with Cream.
Rye Bread. Whole Wheat Bread.
Boiled Chestnuts, Orange Dessert.

DINNER NO. 2.

Potato Soup.
Stewed Celery. Baked Parsnips. Baked Potato.
Corn Grits, with Cream.
Cream Rolls. Graham Bread.
Oranges. Apple and Tapioca Dessert.

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BOILED CHESTNUTS. — The large variety, known as the Italian chestnut, is best for this purpose. Put into boiling water and cook until tender; shell at once, and serve hot.

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BAKED PARSNIPS. — Wash thoroughly, but do not scrape the roots. Bake the same as potatoes. When tender, remove the skins, slice, and serve with egg sauce or cream. They are also very nice mashed and seasoned with cream. Baked and steamed parsnips are far sweeter than boiled.

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CREAM ROLLS. — Take a cupful of cold graham porridge, and beat into it three tablespoonfuls of thick cream; stir in graham flour enough to make a stiff dough. Mold, roll with the hand into long sticks, cut into the requisite lengths, and bake about twenty-five minutes in a quick oven.

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STEWED CELERY. — Cut the whitest part of four heads of celery into small pieces, blanch into boiling water, then put into cold water and drain dry. Heat a cupful and a half of milk in a stew-pan; add the celery and stew gently until tender. Remove the celery with a skimmer, and stir into the milk the beaten yolks of two eggs and one half cup of cream. Cook until thickened; pour over the celery, and serve.

VEGETABLE SOUP. — Simmer together slowly for three or four hours, a quart of split peas, one sliced carrot, one sliced turnip, one cup of canned tomatoes, and two stalks of celery cut into small bits, in five quarts of water. When done, rub through a colander, re-heat, season with cream and salt, if desired.

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APPLE AND TAPIOCA.—Soak a large cupful of tapioca in a quart of tepid water, for at least three hours. Prepare enough nice, tart apples to fill a two-quart pudding dish two-thirds full. Add one cup of sugar to the soaked tapioca, pour it over the apples, and bake one hour. Serve with whipped cream.

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ORANGE DESSERT. — Soak one third of a cup of gelatine in one third of a cup of cold water until soft; then pour over it one third of a cup of boiling water. Add a scant cup of sugar, the juice of one lemon, and a cupful of orange juice and pulp. Set the dish containing the mixture in a pan of ice-water until it begins to harden; have ready the whites of three eggs well whipped, add to the jelly, and beat all together until light and stiff enough to drop. Pour into molds wet in cold water and lined with sections of oranges, from which seeds and white fiber have been removed.

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RYE BREAD. — Excellent rye bread may be made the same as wheat bread, using half rye and half wheat flour. A well-known writer on cookery gives the following recipe: "One cup of yeast, if home-made, four or five boiled potatoes mashed hot and very smooth, three pints of rye flour, a heaped tablespoonful of sugar, and a quart of warm water. Beat all well together, and let it rise over night. In the morning, add a pint bowl of corn meal and sufficient rye flour to knead well. Let it rise once more very light, but be exceedingly careful that it does not sour in the least; then mold it into loaves, set the pans in a warm place, and let it rise again. Bake like wheat bread."

## THE EVOLUTION OF THE DINNER-PLATE.

FROM an article by Charles Barnard, in a recent issue of the *Christian Union*, we glean the following interesting thoughts as to the evolution of the useful cooking and eating utensils seemingly so necessary for our comfort at the present day: —

"No doubt the first men used caves and trees for houses, and ate such wild fruits as they could find in the woods, and the flesh of such wild animals as they could manage to kill with sticks and stones. They probably knew about the wild gourd, and used it for a drinking-cup, or, cut in two, for a dinner-plate. They also used it afterward for a pot in which to boil water and make the prehistoric soup."

"When these old cave-dwellers began to use gourds for soup-pots, they found that when the bottom of the gourd was smeared with clay, it lasted much longer. The gourd, unless very full of water, would crack and burn. The clay hardened in the fire, and protected the gourd. In time, some bright cook found that if the gourd burned out inside the clay, the clay itself would keep the shape of the gourd; and thus the first clay pot was born. Clam and oyster shells also furnished plates for the early eaters of fish dinners.

"Our word *porcelain* is from a Portuguese word, *porcellana*, which means a fine white shell; and while this does not prove that porcelain plates were copied from shells, it is curious, because the first plates were really sea-shells.

"Less than three hundred years ago, porcelain was hardly known in Europe, and was worth its weight in gold. Wooden dinner-plates were every-day ware, with perhaps a silver dish for best — if you could afford it. The first pots and plates were brick-red. A white dish cost years on years of search, study, trial, and experiment. Only a slow, patient people, like the Chinese, could or would spend the time and labor to find out how to make a porcelain dinner-plate. When, early in the fifteenth century, pieces of porcelain ware began to come from China, they attracted a great deal of attention, and many people tried to find out the secret of their manufacture. Men of science, artists, and earnest workers in many trades spent their lives in trying to make such a simple thing as a white china plate, and to make it cheap. Only within a very few years has it been manufactured on a large scale, and sold so cheap that the house-mother need not break her heart every time the cook breaks a dinner-plate.

"Clay is an earth. It came, as did the soil under our feet, and all the sand on the shore, from the rocks. Heat and cold, the rain, wind, and ice, ever wear the rocks away, breaking and grinding them up into small stones and gravel. These in turn are swept away by brooks and rivers, and rolled over and over until they are ground up into sand, or the fine soft silt or mud we call clay. Now, clay has two curious properties. When wet, it is plastic — that is, it is soft and sticky, and if bent or pressed into any shape, it will keep that shape for some time. Besides this, it is curiously affected by heat. In the heat of the sun it becomes quite hard. If broken up, it falls into dust, and when wet with water becomes plastic again, and can be molded into new shapes. In the heat of a strong fire, it becomes very hard indeed, and changes its color. If now it is broken up into pieces, it cannot be again made plastic. These facts have probably been known for tens of thousands of years, and, far back in the unknown past, some forgotten genius invented a tool that made it possible to make a dinner-plate out of clay. It is represented on some of the oldest Egyptian monuments, where one of the gods is shown as making the first man out of clay on a potter's wheel. To-day, the same flat, whirling table is used to make all our dinner-plates.

"A lump of soft, wet clay is placed on the wheel, and, as it turns swiftly round, it can be pressed by the hand into any circular shape. Having formed one side, it can be turned over, and the other side molded into shape with the hand, or by means of a tool that gently presses the clay into the right shape. Taken off the wheel, the soft dish is placed in a dry place till it becomes hard. It can then be put in a lathe, and turned down smooth and even. It is then placed in a kiln and burned. It comes out hard, strong, and pure white, or some very light shade of gray or yellow. The surface is, however, dull and slightly rough. It can be dipped in thin clay resembling cream, and baked, or "fired," again, and a smooth, white, hard, glassy surface, or "glaze," put on it. Another way is to dip the soft, unbaked plate in the glazing clay, and then fire it, the clay and the glassy surface being formed into china or porcelain at the same time.

"Another plan is to form the soft watery clay into a plastic mold. The water soaks away, leaving the clay in a thin mass in the mold. It soon hardens sufficiently to keep its shape when handled, and can then be dried, dipped in glaze, and fired."

# QUESTION BOX.

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

DYSPEPSIA. — D. W. R., Minnesota, writes us, giving the usual symptoms of dyspepsia, and wishes a prescription.

*Ans.* — A warm compress worn over the stomach at night, a saline sponge-bath taken two or three times a week, an abundance of out-door exercise, great care respecting diet, and avoidance of things known to disagree, and the use of simple foods which can be easily digested, are effective measures in cases of this sort. If to these simple measures are added hot-water drinking — one or two glasses before each meal — and fomentations in the region of the stomach, taken just before retiring for the night, signs of improvement should be visible in a few weeks.

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BRONCHIAL IRRITATION. — W. A. G., Michigan, inquires the cause of a stinging pain under the breast-bone, extending toward the throat.

*Ans.* — The pain is a usual accompaniment of bronchial catarrh. We recommend a chest-compress, to be worn at night (the chest being protected during the day by rubbing it with oil in the morning, and covering it with one or two layers of chamois skin), the inhalation of compound tincture of benzoine with a steam-inhaler (which may be obtained of the Sanitary Supply Company, Battle Creek, Mich.), and the adoption of all measures calculated to build up the health, such as careful diet, morning saline-sponges, judicious out-door exercise, etc.

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BIRTH-MARKS. — Mrs. M. K., Minnesota, gives an account of a reported case of birth-mark, and inquires whether we believe that children may be marked before birth.

*Ans.* — Certainly. No physiological fact is more clearly established than that pre-natal conditions influence a child to a very remarkable extent. There is, however, a great deal of superstition upon this subject. The so-called birth-marks are generally attributed to the sight of blood, longing for a raspberry, a strawberry, or something of this sort. There is, probably, no foundation whatever for this belief. These marks are simply defects due to an abnormal development of the blood-vessels of the skin. By far the great majority of stories relating to marking of children, or deformities resulting from fright, etc., are gross exaggerations.

WENS. — W. H. A. wishes instructions for the removal of wens without a knife; also wishes to know if it will be safe to apply tincture of iodine to a wen situated on the top of the head.

*Ans.* — The knife, or some equivalent agent, is the only proper remedy for a wen. By the aid of a hypodermic injection of cocaine, a wen may be removed without pain, and immediate union usually occurs.

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WINTER BATHING — CATARRH OF THE EUSTACHIAN TUBES, ETC. — M. A. W., Louisiana, inquires: 1. How should a person proceed when bathing in a cold room in winter? 2. How should one proceed in taking an oil rub? 3. What is the best treatment for catarrh of the Eustachian tubes? 4. What is the best means of correcting the protrusion of the shoulder-blades? 5. Where can I obtain a good work on etiquette? 6. I desire directions for making a nice dress for winter, which will be both healthful and stylish. 7. What is your opinion of Hood's Sarsaparilla?

*Ans.* — 1. Uncover but a portion of the body at one time. Bathe and dry this, then cover and proceed to another portion of the body, and so on until the bath is completed. 2. First take a warm bath in a warm room; dry the skin; then apply some oil — cocoanut-oil, or a good quantity of olive or cotton-seed oil — or fine vaseline. 3. Catarrh of the Eustachian tubes is usually due to nasal catarrh, and the nasal catarrh should first be treated. In the majority of cases the catarrh of the Eustachian tubes will disappear. If there is no improvement, a specialist in the treatment of the ear, should be consulted. 4. A person whose shoulder-blades protrude, usually has flatness of the chest. A development of the muscles which lie between the shoulder-blades and the spine, by the employment of such exercise as will draw the shoulders backward, will correct this deformity, and aid in the expansion of the chest. 5. A good work on etiquette may be obtained from any book-seller. 6. We do not much approve of a "stylish" dress, for, as a rule, this sort of dress is not healthful; but Mrs. Annie Jenness Miller provides patterns for dresses which ought to please the most fastidious. These patterns can be obtained from the Sanitary Supply Company, Battle Creek, Mich. 7. Our opinion of this, as well as of all other patent nostrums, is, the less one swallows of it the better. Much harm has been done by medicines of this sort.

# LITERARY NOTICES.

THE TEN SONNETS. W. E. A. A.—A little ten-page pamphlet of English poems—upon each page a poem—has come to our table. The verses are many of them devotional, and though not pretentious, are all of high moral tone.

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WE have received from J. C. Ayers & Co., Lowell, Mass., a bound volume of five hundred pages, including copies of their ubiquitous almanac in a score or more of different languages. The compilation is of interest, representing as it does the typography of so many nationalities.

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THE DETROIT JOURNAL YEAR BOOK FOR 1889.—This is the nattiest little specimen of Year Book we have seen for many a day. Its pages are crowded with just the facts and figures one wishes to know. A handy little book of reference for anybody and everybody. Get one. 164 pp. Price, twenty-five cents. By mail, thirty cents.

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SUNBEAMS OF HEALTH AND TEMPERANCE.—A new edition fresh from the press, of this already popular book. Among other improvements over former editions, the work concludes with "A Few Medical Suggestions," which alone are worth more than the price of the book. 222 pp. $2.50. Good Health Pub. Co.

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ST. NICHOLAS for February comes to our table overflowing with interesting things for the children. Among the articles of special mention are: "The White Pasha," with a portrait of Henry M. Stanley and a map of Central Africa; "Seeing the Real Mikado," illustrated from photographs; Chapter IV. of the interesting series entitled "The Routine of the Republic," together with many shorter articles and gems of poetry. The Century Co., Union Square, N. Y.

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PUBLIC HEALTH. DISINFECTION AND DISINFECTANTS. AMERICAN PUBLIC HEALTH ASSOCIATION. 1888.—This work is a carefully compiled result of the researches, investigations, and experiments for three years of the Committee on Disinfectants appointed by the American Public Health Association. The value and importance of this great and worthy work cannot be over-estimated. Society owes a heavy debt to the able men who have given us this most complete and exhaustive volume. The work is to be obtained by application to the Secretary of the Association, Irving A. Watson, Concord, N. H.

THERE is a very attractive timeliness in the contents of the February *Atlantic*. "The New Talking-Machines" is the subject of a practical article on the phonograph, by Philip G. Hubert, Jr. Charles Worcester Clark discusses "The Spirit of American Politics as Shown in the Late Elections." Henry C. Lea writes on "*Brianda de Bardaxi*," describing one of the fiendish devices of torture devised during the time of the Inquisition. Agnes Repplier, one of the brightest essay writers in America, contributes "A Plea for Humor;" Harriet Waters Preston, in an article entitled, "Under which King," paints in glowing colors certain passages in the life of Cicero; and Samuel H. Scudder finds a congenial topic in "Butterflies in Disguise." Houghton, Mifflin & Co., Boston.

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THE February issue of the *Chautauquan* is, as usual, filled with most excellent and readable articles. The series of biographical sketches is continued by an article on John B. Gough, by Prof. Charles J. Little, of Syracuse University. Rev. J. G. Wood, the eminent English naturalist, has a bright article on "Music Among Animals." Among other interesting themes discussed are: "Taxation," by Prof. Richard T. Ely; "Hospitals," by Susan Hayes Ward; "The Carlisle Indian School," by Frances E. Willard; "The Power-Loom," by Charles Carleton Coffin; and "A Summer Meeting in Oxford," by Herbert B. Adams. The Rev. Lyman Abbott, in an open letter to the editor, discusses the effect of reading "Robert Elsmere." Published by Rev. Theodore L. Flood, Meadville, Pa.

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THE installment of the "Lincoln History" in the *Century Magazine* for February, contains facts of peculiar interest to all lovers of history. The events leading up to the final removal of Gen. McClellan, the financial measures undertaken by Mr. Chase, and advocated by Mr. Lincoln, for carrying on the war; the relations between President Lincoln and Secretaries Seward and Chase, including the incident of the simultaneous resignation of the two Secretaries, and the manner in which Mr. Lincoln arrested a political catastrophe, are fully described in this issue of the magazine.

The Century Co. have recently published an enlarged reproduction of the map of Siberia, showing the route taken by Mr. George Kennan, which will be furnished upon application and receipt of ten cents in stamps by the Century Co., 33 East 17th St., New York, N. Y.

# PUBLISHER'S PAGE.

We are sure our readers will enjoy reading the able article in the present number on "The Tobacco Vice," by Dr. Felix L. Oswald, whose trenchant pen finds ample opportunity for incisive thrusts in exposing that most senseless and disgusting of popular vices, the tobacco-habit. Doubtless the Doctor would quite agree with the famous Dr. Clarke, who said, "If I were going to make an offering to the Devil, it should be a pig stuffed with tobacco."

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Binders for 1888. — Now is the time to get them cheap. We happen to have on hand a small quantity of binders which were made to fit the journal last year, but owing to the change of size are not of use for the present volume. These binders have been sold at 75 cents each; but we now offer them at the low price of 50 cents each, postage paid, to close out the stock on hand. No more binders will be made of this size, so now is the time to get your journals bound cheap. The binders are all ready for instant use, and it only requires a few moments' work to put all the numbers together, and you have a bound volume with an index, instead of being obliged to keep track of a dozen volumes. The large amount of valuable matter contained in a year's numbers of Good Health, is well worth preserving. Every one who has taken the pains to preserve the numbers of the journal till the present time, certainly ought to have a binder, so as to make of them a handsome volume which can be placed in the library, and so preserved for future reference. Only 50 cents, postage paid.

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Miss Frances E. Willard, a woman whose fame is world-wide as one of the leading reformers and philanthropists of the age, writes us in a private letter that she thinks "Good Health is the most elegant magazine of its kind on the list," and very kindly gives us permission to tell the public that this is her opinion of the journal, if we wish to do so, and of course we do, for there is no other person in this country whose name will influence so many persons as will Miss Willard's. So we will be much obliged to our friends if they will take a little pains to tell their neighbors what Miss Willard thinks of Good Health; and do not forget to add each a personal word for himself as to the merits of the journal and the need of such a periodical in every home.

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Binders for Good Health. — Any magazine which is worth receiving is worth preserving. There is always something of value in every number of a live magazine, which can be found nowhere else. The latest and best information on live and growing subjects is not to be found in books, however recent and authoritative they may be. In the present fast age, every month, every day, indeed, marks progress. The very time occupied in getting a book through the press, makes it to some degree out of date. The magazine literature of the present day, — the valuable part of it, — contains the most precious knowledge on many subjects. This renders it of the utmost importance to those who desire to be possessed of this information, and to have it ready at hand when it is necessary to refresh the memory on some point which has been forgotton wholly or in part. Who has not been annoyed in being obliged to spend an hour or two hunting for a missing number of a magazine which has been loaned or mislaid? Loose papers have a habit of being absent just when they are wanted most. The only remedy is to have a good binder, and to put each number into it as soon as it is received.

We have had made, for the convenience of our subscribers, a binder adapted to the new form of the journal, which will be furnished at a price very near actual cost, as we wish our readers to preserve the journal for future reference or to loan to friends. This binder is the most convenient of any we have ever seen. It is so made that a child can put the numbers in place as they are received, and not over one minute's time is required to do it. The binders will be furnished at the very low price of 75 cents each, postage paid. Now is the time to order, before some numbers have been lost and the volume broken.

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If we may judge from the numerous encomiums showered upon us by old friends and new ones, Good Health in its new dress has made a very good impression. No expense has been spared in our preparations to make this journal not only superior to itself, as well as to all other journals of its kind, but to make it the very best health journal possible. Plain, pithy, practical, are qualities constantly aimed at in the preparation of its table of contents by editors and contributors; and it is a source of gratification to us to know that our efforts are recognized and appreciated, and by those who are best qualified to judge in matters of this sort. Here are a few of the good things recently said about the journal, which we publish for the benefit of those who may not have recognized, or paused in the midst of a busy life to appreciate, how great a blessing a journal of this sort may be to a family, when conducted upon a high plane of clean and wholesome thought, practical common sense, and scientific accuracy: —

*Hammonton, N. J.*

To Good Health: Greeting. I like your monthly very much. Please continue its coming to Yours truly,

J. M. Peebles, M. D.

Editor Good Health: I received the January number of your magazine, and am very much pleased with it. I took Good Health during 1888, and to say that I was pleased with it would be expressing it mildly, — it is simply delightful. I would be glad to see it in every home. E.

*West Chehelem, Or., Dec. 29, '88.*

Good Health Pub. Co.: I renew my subscription for 1889. I have received your magazine from the first number ever printed, and would not now be without it. Niels Hanson.

*Erie, Colo., Dec. 29, '88.*

Good Health Pub. Co. *Gentlemen:* I herewith send my renewal for Good Health. Could not think of doing without it in my family. The last number was well worth the whole year's subscription. Please send it along, and oblige Cordelia Van Valkenburg.

*Hemingford, Neb., Dec. 24, '88.*

Editor Good Health: We have taken your journal for 1888, and are well pleased with it. Please continue it for the coming year,

Very respectfully,

Mrs. J. K. Green.

*Uniontown, Md.*

Good Health: Inclosed please find my renewal for Good Health. You may consider me a regular subscriber for your journal as long as I am able to read. You will discover by my writing that I am considerably nervous; however, seventy-seven years will have that effect on many persons.

Sincerely yours,

A. H. Senseney.

*Pomona, Cal., Jan. 10, '89.*

Good Health Pub. Co.: Allow me to say that the January number of Good Health is the *very best one* of that excellent journal I have ever seen. Each of the thirteen subscribers I obtained for it, are delighted with its excellence. Yours respectfully,

Mrs. Ira F. White.

*Petrolia, Cal., Dec. 21, '88.*

Editor Good Health.: Inclosed find money-order to renew my subscription for Good Health. I value the journal very highly. Have been a subscriber several years, and expect to be many more.

Yours truly,

D. J. Johnson.

*Council Bluffs, Iowa, Dec. 29, '88.*

Good Health Pub. Co. *Gentlemen:* Inclosed please find postal-note to apply on Good Health for 1889. Have been a subscriber for your magazine for seven years, and feel as if myself and family cannot well get along without it. W. C. Garman.

*Fairdale, N. Y., Dec. 28, '88.*

Good Health Pub. Co.: Last year was my first in taking Good Health. I like it very much, and herewith renew for 1889. S. Fitch.

*Toronto, Can., Dec. 24, '88.*

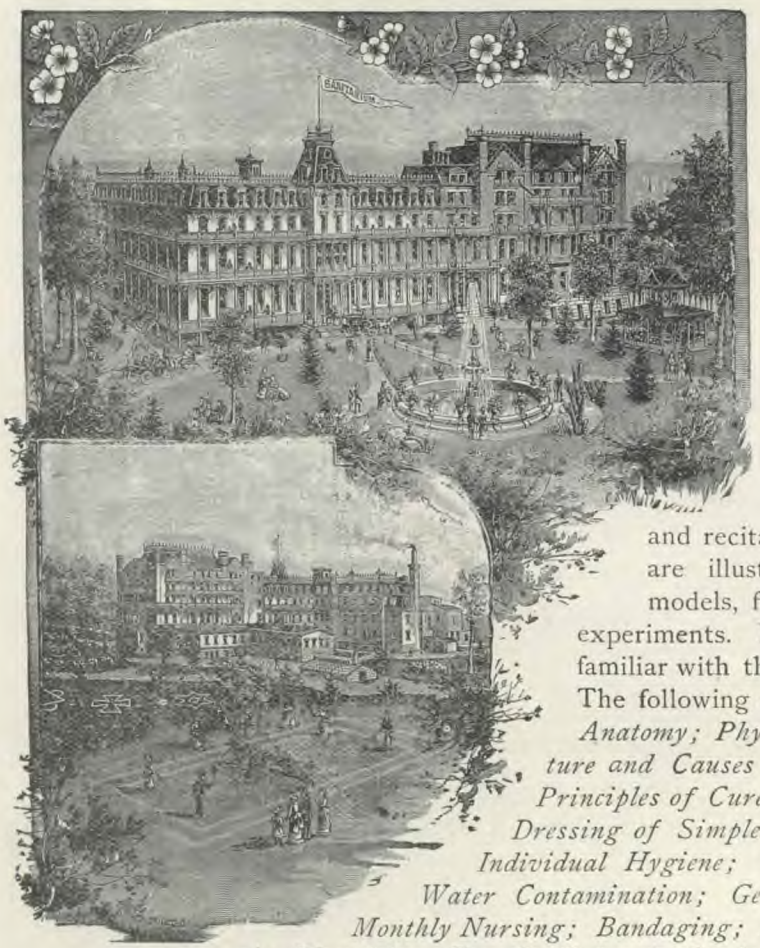
Good Health Pub. Co. *Dear Sirs:* I am very much pleased to renew my subscription for Good Health for the ensuing year. I am glad to state that its articles are exceedingly pleasing, useful, and instructive to all who read them. I have found the magazine very attractive, and will recommend it in preference to anything of its kind. I also inclose another subscription, from a gentleman who is also well pleased with the journal.

Yours respectfully,

C. Stokes.

# Sanitarium Training School FOR NURSES.

**Regular Terms begin Nov. 1. Students Received at Any Time.**



*This School has now been in operation for five years, with constantly increasing patronage and success.*

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SANITARIUM, Battle Creek, Mich.

# Good Health for 1889.

*For more than twenty years* GOOD HEALTH has been before the public as the leading American periodical devoted to the health interests of the individual and of the home. It is in the most thoroughly practical sense

**A Popular Family Magazine,**

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

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***A Number of New and Talented Writers have been Engaged for 1889, among whom are***

**DR. FELIX L. OSWALD,**

Well-known to the reading public as a leading contributor to the *Popular Science Monthly* and other popular magazines. Dr. Oswald is one of the most talented of American writers, and his extensive travels and acute observations have given him a fund of material with which he cannot fail to interest many thousands of readers in a series of articles which he has agreed to contribute to the columns of GOOD HEALTH during 1889, under the general title, "*International Health Studies.*" Dr. Oswald will also continue in the early numbers of the year his able and interesting series of papers on "*The Stimulant Delusion.*"

**DR. NORMAN KERR,**
*OF LONDON, ENG.,*

Will furnish a series of practical health papers which will be of great value and interest to all students of hygiene. Dr. Kerr is well known throughout the civilized world as a physician of high standing, and a pioneer in scientific studies of the problems of inebriety.

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**A NEW DEPARTMENT.**

With the new volume will appear in the journal a new department devoted to EDUCATION. In this department will be represented the most advanced thought on this important question, under such topics as "*True Education,*" "*Modern Educational Methods,*" "*Educational Reform,*" "*Results of Physical Culture Combined with Mental Training.*" Mrs. E. G. WHITE, Prof. W. W. PRESCOTT, A. M., and others will contribute to this department.

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**POPULAR MEDICAL PAPERS.**

The volume for 1889 will contain a series of popular medical papers of great value. The subjects treated will include the following: "*Popular Nostrums, What They Are, and the Mischief They Do,*" (including analyses of the principal nostrums and exposure of the fraudulent claims of their manufacturers.) "*Cancer and Cancer Quacks;*" "*Regimen for a Subject of Nasal Catarrh;*" "*The Terrible White Plague—Consumption;*" "*Rules of Life for a Consumptive;*" "*A Bad Heritage—How to Escape its Consequences;*" "*Studies in Physical Culture;*" "*The Plague of Leprosy in the House;*" "*Hygiene of the Eye and Ear,*"

# ADVERTISEMENTS.

# ADVERTISEMENTS.

# ADVERTISEMENTS.

## *Sanitarium School of Domestic Economy.*

THE necessity for scientific instruction in cookery and the various arts connected with housekeeping and and home-making, has long been recognized. In foreign countries, particularly in England and Sweden, successful efforts have been made in this direction, but there is yet a very evident and urgent demand for this kind of practical education. In this country, especially, very few attempts in this line have been made, and those have been but partially successful. In view of the great need of a school of this sort, the managers of the Sanitarium have opened a SCHOOL OF DOMESTIC ECONOMY. The attendance at this school is already very large, but more can be accommodated.

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The course of instruction continues through twenty-five weeks, and consists of daily LECTURES, RECITATIONS, DEMONSTRATION LESSONS, and PRACTICAL DRILLS in the following subjects:—

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*GENERAL HOUSEWORK, HOUSEHOLD HYGIENE,*
*PERSONAL HYGIENE, and* *MISCELLANEOUS SUBJECTS.*

Including Household Conveniences, Economical Housekeeping—the Keeping of Family Accounts, Selection of Carpets, Dress Goods, Etc. The study of these subjects will be pursued under competent teachers in each department. Instruction will be given chiefly in the form of lectures accompanied by practical training. The course is exactly what every young woman needs to make her an efficient and economical housekeeper, competent to make a home and its inmates comfortable and healthful, conditions which form a good foundation for happiness. **Diplomas** given those who pass a satisfactory examination at the end of the course.

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Speaks for itself. It places in constant reach the Indispensable Quill Pick and Dental Floss Silk, for use between the teeth after eating. 10 cents per case.

AT ALL DRUGGISTS OR MAILED.

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The price of GOOD HEALTH for 1889 is **$1.25**. The following list comprises some of the principal journals which we are able to furnish, thus :—

| NAME OF JOURNAL. | Price of Journal Alone. | Price with GOOD HEALTH. |
|---|---|---|
| AMERICAN INVENTOR | $ 1 00 | $ 2 00 |
| " Magazine | 3 00 | 3 50 |
| " Agriculturist | 1 50 | 2 25 |
| " Architect and Building News | 6 00 | 6 35 |
| " Teacher | 1 00 | 2 00 |
| " Journal of Education | 1 50 | 2 15 |
| " Poultry Journal | 1 00 | 1 75 |
| " Bee Journal | 1 00 | 2 15 |
| " Journal of Philology | 3 00 | 4 25 |
| " Traveler | 1 00 | 2 00 |
| " Rural Home | 85 | 1 90 |
| " Poultry Yard | 1 50 | 2 25 |
| Advance, The | 2 50 | 3 25 |
| Magazine of American History | 5 00 | 5 25 |
| " Art | 3 50 | 3 88 |
| Arthur's Home Magazine | 2 00 | 2 50 |
| Art Amateur | 4 00 | 4 50 |
| Art Age | 2 50 | 3 25 |
| Atlantic Monthly | 4 00 | 4 45 |
| Andover Review | 4 00 | 4 45 |
| Arkansaw Traveler | 2 00 | 2 75 |
| Boston Traveler | 2 00 | 2 75 |
| Ballou's Magazine | 1 50 | 2 35 |
| Babyhood | 1 50 | 2 25 |
| Boston Globe | 1 00 | 2 00 |
| Boston Weekly Advertiser | 1 00 | 1 75 |
| Babyland | 50 | 1 65 |
| Beekeeper's Magazine | 50 | 1 65 |
| Brain | 3 50 | 4 15 |
| Book Buyer | 1 00 | 2 05 |
| Cassell's Family Magazine | 1 50 | 2 45 |
| Country Gentleman | 2 50 | 3 00 |
| Cosmopolitan | 2 00 | 2 65 |
| Cottage Hearth | 1 00 | 1 75 |
| Christian at Work (new sub's only) | 3 00 | 3 25 |
| Century | 4 00 | 4 75 |
| Chicago Weekly Times | 1 00 | 2 00 |
| Chautauqua Young Folk's Journal | 1 00 | 2 05 |
| Chicago Herald (monthly) | 50 | 1 65 |
| City and Country | 1 00 | 1 75 |
| Demorest's Magazine | 2 00 | 2 75 |
| Domestic Monthly | 1 50 | 2 25 |
| English Illustrated Magazine | 1 75 | 2 60 |
| Field and Farm | 2 00 | 2 75 |
| Farm and Home | 50 | 1 55 |
| Farm and Fireside | 50 | 1 60 |
| Farm Journal | 25 | 1 40 |
| Good Housekeeping | 2 50 | 3 13 |
| Golden Argosy | 4 00 | 4 75 |
| Globe, The (Boston) | 1 00 | 2 00 |
| Golden Days | 3 00 | 3 50 |
| Household | 1 10 | 2 00 |
| Housekeeper | 1 00 | 1 85 |
| Harper's Magazine | 4 00 | 4 25 |
| " Weekly | 4 00 | 4 45 |
| " Bazaar | 4 00 | 4 45 |
| " Young People | 2 00 | 2 75 |
| Household Companion | 1 00 | 1 75 |
| Household Magazine | $1 00 | $2 00 |
| Hawkeye, Weekly | 1 00 | 2 00 |
| Independent | 3 00 | 3 75 |
| Inter Ocean | 1 00 | 2 10 |
| Journal of Education | 2 50 | 3 00 |
| Laws of Life | 1 00 | 2 00 |
| Lippincott's Monthly Magazine | 3 00 | 3 50 |
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| Ladies' Home Journal | 50 | 1 65 |
| L'Art | 12 00 | 10 85 |
| Mother's Magazine (new sub's only) | 1 50 | 2 25 |
| Macmillan's Magazine | 3 00 | 3 57 |
| Musical Herald | 1 00 | 2 05 |
| Nature | 6 00 | 6 40 |
| North American Review | 5 00 | 5 25 |
| New York Medical Journal | 5 00 | 6 25 |
| New York Ledger | 3 00 | 3 50 |
| New York Herald | 1 00 | 2 15 |
| Our Little Ones and the Nursery | 1 50 | 2 45 |
| Our Little Men and Women | 1 00 | 2 05 |
| Orchard and Garden | 50 | 1 65 |
| Poultry World | 1 25 | 2 00 |
| Popular Science News | 1 00 | 2 00 |
| " Gardening (new sub's only) | 1 00 | 1 90 |
| " Science Monthly | 5 00 | 5 25 |
| Practitioner, The | 3 50 | 4 15 |
| Pansy, The | 1 00 | 2 05 |
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| Peterson's Magazine | 2 00 | 2 75 |
| Quiver | 1 50 | 2 38 |
| Rural New Yorker | 2 00 | 2 75 |
| Scribner's Magazine | 3 00 | 3 65 |
| Sanitary Engineer | 4 00 | 5 25 |
| Speculative Philosophy (Journal) | 3 00 | 3 50 |
| Scientific American | 3 00 | 3 75 |
| " " Supplement | 5 00 | 5 25 |
| Toledo Blade | 1 00 | 2 10 |
| The Daily Tribune (Chicago) | 6 00 | 6 65 |
| Vick's Floral Guide | 1 25 | 2 05 |
| " Seedman | 1 25 | 2 05 |
| Wide Awake | 2 40 | 3 25 |
| Woman's Magazine, The | 1 00 | 1 85 |
| Weekly Enquirer | 1 15 | 2 15 |
| World Weekly, The | 1 00 | 2 05 |
| " Daily, The | 6 00 | 6 50 |
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## GOOD HEALTH PUBLISHING COMPANY,

BATTLE CREEK, MICH.

## CHICAGO & GRAND TRUNK R. R.

Time Table in effect December 9, 1888.

| GOING WEST. | | | | | STATIONS. | GOING EAST. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Chicago Pass. | Mail. | Day Exp. | Pacific Exp. | S. Crk Pass. | | Mail. | Limtd Exp. | Atlic Exp. | Sun. Pass. | Pitt'n Pass. |
| ..... | am | am | pm | pm | Dep. Arr. | pm | am | a m | | am |
| ..... | 5.55 | 7.15 | 7.55 | 4.00 | .....Port Huron..... | 10.20 | 1.15 | 7 35 | ..... | 10.50 |
| ..... | 7.28 | 8.31 | 9.31 | 5.40 | .....Lapeer..... | 8.40 | 11.58 | 6 17 | ..... | 9.17 |
| ..... | 8.08 | 9.10 | 10.10 | 6.20 | .....Flint..... | 7.55 | 11.27 | 5 40 | ..... | 8.38 |
| ..... | 8.48 | 9.35 | 10.58 | 7.15 | ..... Durand..... | 7.15 | 10.58 | 5 03 | ..... | 8.00 |
| ..... | 10.00 | 10.30 | 12.00 | 8.26 | .....Lansing..... | 5.20 | 10.07 | 4.00 | ..... | 6.35 |
| ..... | 10.37 | 11.00 | 12.10 | 9.03 | ..... Charlotte..... | 4.42 | 9.37 | 3.25 | ..... | 6.02 |
| a m | 11.30 | 11.45 | 1.15 | 10.05 | A / BATTLE CREEK \ D | 3.45 | 8.55 | 2.35 | ..... | 5.15 |
| 6.30 | am | 12.05 | 1.20 | pm | D \ / A | 3.40 | 8.50 | 2.30 | ..... | am |
| 7.15 | ..... | 12.50 | 2.21 | ——— | .....Vicksburg..... | 2.52 | 8.11 | 1.44 | ..... | ——— |
| 7.25 | ——— | 1.00 | †2.32 | Val. | .....Schoolcraft..... | 2.40 | .... | 1.33 | ..... | Val. |
| 8.13 | Sun. | 1.50 | 3.19 | Acc. | .....Cassopolis..... | 1.50 | 7.26 | 12.45 | ..... | Acc. |
| 8.55 | Pass. | 2.30 | 4.07 | ——— | ..... South Bend..... | 1.06 | 6.50 | 12.00 | ..... | ——— |
| 10.05 | am | 3.41 | 5.30 | am | ..... Haskell's..... | 11.54 | ..... | ..... | pm | pm |
| 10.20 | 7.20 | 4.00 | 5.50 | 6.55 | .....Valparaiso..... | 11.40 | 5.30 | 10.30 | 3.40 | 7.00 |
| 12.40 | 10.00 | 6.25 | 8.10 | 9.45 | .....Chicago..... | 9.05 | 3.25 | 8.15 | 1.15 | 4.25 |
| pm | am | pm | am | am | Arr. Dep. | am | pm | pm | pm | pm |

†Stops only on signal. Where no time is given, train does not stop.
Trains run by Central Standard Time.
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| TRAINS EAST. | Mail. | Day Exp's | N. Y. Exp's | Atl'c Exp's | Night Exp's | Kal. Acc'n | Local Pass. |
|---|---|---|---|---|---|---|---|
| STATIONS. | A. M. | A. M. | P. M. | P. M. | P. M. | P. M. | P. M. |
| Chicago.....* | 5.00 | 9.00 | d 3.10 | d10.10 | d 9.10 | 4.40 | ..... |
| Michigan City.....† | 7.23 | 11.03 | 4.54 | 12.23 | 11.27 | 6.57 | ..... |
| Niles .....‡ | 8.37 | 12.10 | 5.49 | 1.5 | 12.55 | 8.20 | ..... |
| Kalamazoo.....§ | 10.20 | 1.40 | 6.58 | 3.'5 | 2.27 | 10.00 / AM7.10 | 5.30 |
| Battle Creek..... | 11.15 | 2.18 | 7.33 | 4.25 | 3.15 | 7.5 | 6.25 |
| Jackson .....¶ | 1.20 | 4.15 | 8.49 | 6.15 | 4.45 | 9.35 | 8.20 |
| Ann Arbor.....** | 2.43 | 5.37 | 9.41 | 7.50 | 6.00 | 10.40 | ..... |
| Detroit .....†† | 4.10 | 6 45 | 10.45 | 9.20 | 7.30 | 11.50 | ..... |
| | P. M. | P. M. | P. M. | A. M. | A. M. | A. M. | P. M. |

| TRAINS WEST. | Mail. | Day Exp's | Ch'go Exp's | P'cific Exp's | Eve'g Exp's | Kal. Acc'n | Local Pass. |
|---|---|---|---|---|---|---|---|
| STATIONS. | A. M. | A. M. | P. M. | P. M. | P. M. | P. M | A. M. |
| Detroit .....†† | 7.30 | 9.1 | d 1.20 | d10.15 | d 8.00 | 4.00 | |
| Ann Arbor.....** | 8.5 | 10.40 | 2.24 | 11.35 | 9.15 | 5.40 | |
| Jackson .....¶ | 10.13 | 11.45 | 3.27 | 12.54 | 10.55 | 7.10 | 6.25 |
| Battle Creek..... | 12.09 | 1.16 | 4.38 | 2.15 | 12.27 | 8.52 | 7.55 |
| Kalamazoo .....§ | 12.50 | 1.55 | 5.15 | 3.07 | 1.20 | PM9.45 / AM4.45 | 8.40 |
| Niles .....‡ | 2.27 | 3.20 | 6.27 | 4.32 | 3.07 | 6.40 | |
| Michigan City.....† | 3.48 | 4.5 | 7.32 | 5.43 | 4.32 | 8.03 | ..... |
| Chicago.....* | 6.10 | 6.40 | 9.30 | 7.45 | 7.00 | 10.20 | ..... |
| | P. M. | P. M. | P. M. | A. M. | A. M. | A. M. | A. M. |

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