

SEPTEMBER, 1889

GOOD



DEEDS

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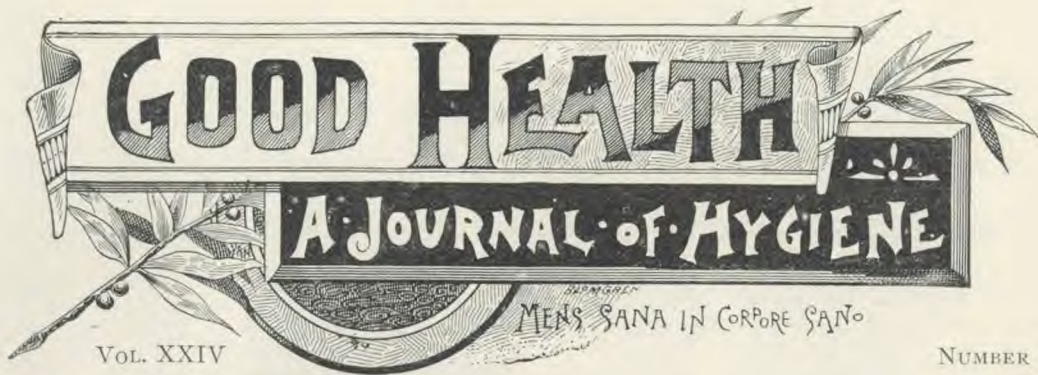
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[See Happy Fireside.]

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INTERNATIONAL HEALTH STUDIES.

BY FELIX L. OSWALD, M. D.

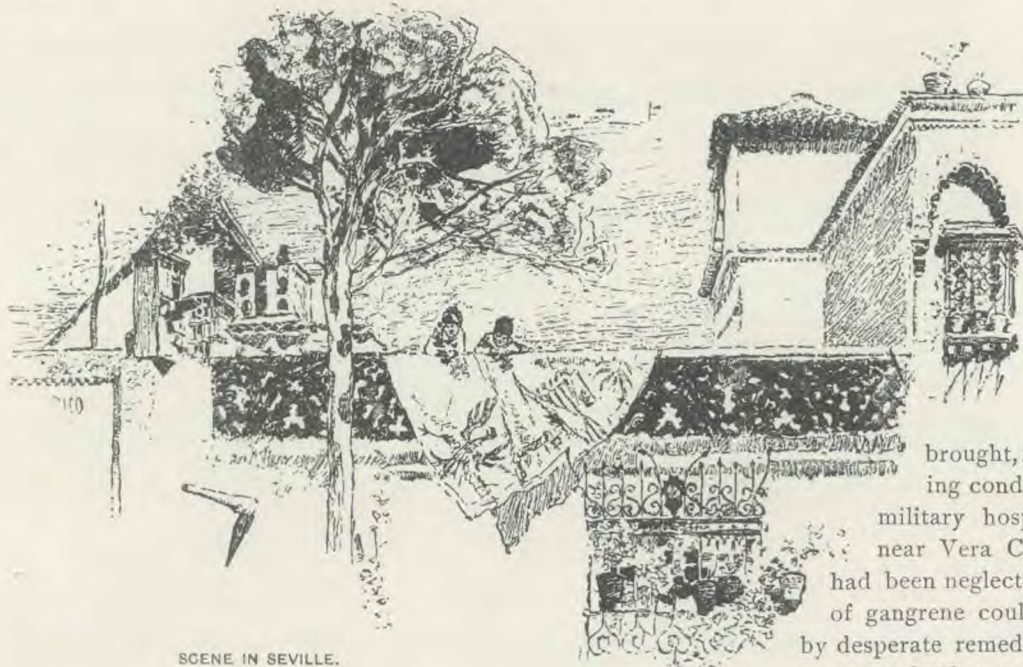
Author of "Physical Education;" "The Bible of Nature," Etc.

5. — Spain.

THE first Napoleon used to say that "Africa begins beyond the Pyrenees;" and his remark, intended as a sneer at the intellectual shortcomings of the Spanish nation, holds good in regard to many of their better physical and moral characteristics. Like Northern Africa, Spain abounds with plains exhausted of their productiveness, — arid sand wastes where chronic droughts baffle the toil of the husbandman, — but like the natives of the Great Desert, the natives of Spain have preserved, to a surprising degree, the physical vigor of their heroic forefathers. The inhabitants of the Iberian Peninsula are of mixed origin, but their ancestors represented the very noblest tribes of the component nations. Of all the barbarous races of Western Europe, the Celtiberians opposed the most stubborn resistance to the arms of the world-conquering Romans. For nearly two hundred years their highlanders maintained their fight for independence, and many of the larger cities could be reduced only by the complete destruction of their ramparts, since even famine failed to tame the spirit of their defenders. The forty thousand citizens of Numantia subsisted on horse-flesh and grass till the battering-rams of Scipio made resistance hopeless, and in the night, before the final assault, found a way to freedom by the unparalleled expedient of general suicide. The Roman colonists were composed chiefly of political Protestants, like the followers of the brave Sertorius, and the Visigoths had on a hundred battle-fields proved their superiority to all the warlike tribes of Eastern Europe, before they reached their chosen home in the summerland of the Southwest. The Spanish Arabs, too, rose su-

perior to their conservative kinsmen in a way which made the era of the Cordova Khalifs the golden age of the Semitic nations. Since the decline of Grecian civilization, Europe had never witnessed a prosperity equal to that of the Moorish garden lands, nor a degree of intellectual culture equal to that of the Moorish cities. While their Christian neighbors were haunted by the specters of mediæval darkness, the Spanish Moriscoes enjoyed the light of science, and guarded the sacred fire destined to rekindle the torch of mental freedom.

The descendants of such nations could never wholly lose the prestige of their origin. In the fastnesses of the Pyrenees there are communities whose thrift compares favorably with that of the Scotch highland farmers. "*Los Catalanes de piedras hacen panes*" (the Catalonians turn stones into bread), is a proverb which might be applied to all the hill countries, from Cape Finisterre to the eastern tributaries of the Ebro; and as usual, honesty and valor go hand in hand with self-denial. The Carlists may not have supported the best of political causes, but better troops have rarely stood firm to the standard of a luckless leader; and even the veterans of Robert Lee would have declined to serve a country that could repay their loyalty only with a diet of water and wild chestnuts, leaving every man to protect himself against the inclemencies of wind and weather, as best he could, and to dress his wounds with rags torn from the lining of a threadbare mantle. All that and more, the followers of Don Carlos endured for fifteen years, with the same resignation that supports them in years of



SCENE IN SEVILLE.

scarcity, and the manifold vicissitudes of their poor mountain homes.

In Cuba, Spanish despotism is considered a root of all evils, and patriots of the Cespedes type unhesitatingly predict the recovery of an earthly paradise on the day when the hated foreigners—"Peninsulares," as they call them—shall be expelled from the soil of the "vampire-ridden island"; but those same patriots would be obliged to admit that in the capacity of employers they continue to prefer the hated foreigners to the natives of their own country, experience having proved that one Navarrese or Catalan immigrant can do the work of half a dozen Creoles, besides being more frugal, more sober, and far more reliable. Military tests, too, have led to similar results. Insurgents, enjoying the sympathy of the rustic population and a superior knowledge of topographical details, can boast a considerable advantage in the guerilla warfare of a rugged mountain land; but against all those advantages the bravery and hardness of the North-Spanish troops have prevailed in almost every campaign, from the first revolt of the Cuban home-rulers to the last insurrection of their African allies in the highlands of Cienfuegos.

In the point of industry, the natives of Southern Spain have almost sunk to the level of the South-Italians, but the reproach of effeminacy would be an injustice to ninety-nine out of a hundred Spaniards. In the endurance of hardship and physical pain, the fanatics of the Mahdi can hardly go further than the peasants of a peninsula which in its general characteristics might not seem to differ very much from Italy or

Southern France. Malingering, in a regiment of Spanish troops, is held almost as infamous as cowardice, and the fortitude of the ancient stoics can hardly have surpassed that of a Spanish colonist who was one day

brought, in an apparently dying condition, to the French military hospital of Medellin, near Vera Cruz. His wounds had been neglected till the progress of gangrene could be arrested only by desperate remedies, but neither the surgeon's knife nor the tortures of cau-

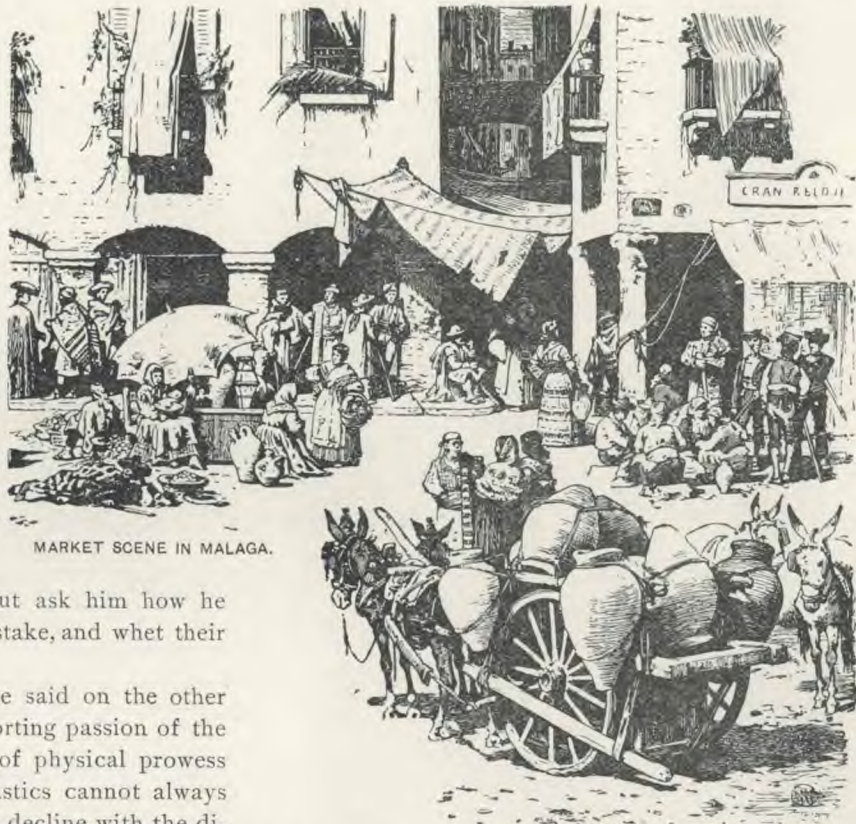
terization could induce our patient to consent to the use of anesthetics. "*Estoy hombre, caballeros*" (I'm a man, gentlemen), he repeated, as the only reply to such propositions, and kept up a miscellaneous conversation with a firm voice, and with no more symptoms of nervousness than if he were watching the *modus operandi* of a Turkish bath. At the time, his stoicism impressed me as something altogether phenomenal, but the testimony of several medical colleagues obliges me to believe that protracted laments are heard very rarely in a Spanish hospital.

Nor has the typical Spaniard much sympathy with the effeminate pastimes of his Italian contemporaries. He believes in rough and ready sports, trials of swiftness and strength, often carried to a length which our ethics would consider as exceeding the limits of humanity. Our squeamishness in regard to the rude combats of the arena would be almost incomprehensible to nine out of ten modern Spaniards. Only the scarcity of bears would prevent the dandies of Madrid from enjoying the bear-baits of our old Saxon ancestors, and this is the way a Mexican journal comments on the telegram from the Richburg ring: "The two champion athletes of the United States met in the State of Mississippi last week, to decide the wager of a fist-fight; but some grave crime or other seems to have been committed at the same time, for the governor of the State named has offered a reward of one thousand dollars for the arrest of the principal combatants." The heirs of Spanish ethics were evidently unable to realize how the "wager of a fist-fight" itself could be considered a crime!

"Are they really crazy, those Yankee bigots?" asked a Mexican lawyer of my acquaintance, "or is all that rant only a pretext for fastening a quarrel, and skinning us out of another strip of territory? What in the name of common sense can be their real objection to the pastime of witnessing a cocking-main or a bull-fight? Don't they know that a bull would a hundred times rather die fighting than to be helplessly chained and butchered in a slaughter-house? A man wounded in a rough-and-tumble fight hardly feels his injuries, in the excitement of the scuffle; but ask him how he feels if the Indians tie him to a stake, and whet their butcher-knives."

There is, of course, much to be said on the other side, but it is certain that the sporting passion of the Spaniards keeps alive their love of physical prowess—a virtue which machine gymnastics cannot always revive, and which is sadly apt to decline with the diminished chances for outdoor life, as in the eastern half of our own Republic, where the rapid growth of commercial cities turns the sons of millions of sturdy farmers into incurable dudes.

Outdoor sports have also fostered that love of outdoor life which, to a large degree, counteracts the unsanitary influences of the Spanish cities. Flat roofs, broad terraces, and spacious balconies invite the tenants of the gloomy old dwelling-houses to spend their evenings and *siestas* within reach of the cool breeze from hill and sea, and nearly every larger town of Spain and Spanish America, has its *alameda*, or public park, where a large portion of the population turn night into day, especially during the four warmest months of the year, when outdoor sports cease to be pleasant from nine in the morning till sunset. During the bake-oven heat of the afternoon hours, every house-dweller seeks the coolest nook of his basement rooms; but half an hour after sundown, the *alameda* fills with gaily-dressed promenaders; horsemen, singly or in cavalcades, gallop down the long avenues; ice-cream venders and pastry-cooks repeat their sing-song call; swarms of merry children disport themselves on the lawns, and continue their play far into the moonlight hours, heedless of dew and night-chills, and only avoiding the crowded pavilions, where clouds of tobacco-smoke mingle with the dust of a round dance. As



MARKET SCENE IN MALAGA.

late as eleven o'clock the laughter of race-running youngsters may be heard from the shrubbery of the South-Spanish city parks; but the next morning, those same little night-revelers are, nevertheless, apt to be up with the sun, though they may idemnify themselves with a protracted *siesta*.

Drunkenness is rarer in Spain than in any other country of Christian Europe; and in frugality, the average Spaniard could teach a useful lesson to many of our starvation-cure dupes who persist in reducing the quantity, instead of regulating the quality, of their food. Boiled chestnuts, dried figs, milk, barley-bread, and brown beans constitute the staple diet of a very large portion of the country population, and all through Southern Spain the olive supersedes that nastiest of all fat-producers, the filth-devouring hog. Olives and olive-oil form an ingredient of every liberal meal, and often constitute a separate dish, being eaten with salt and a slice of bread, by way of luncheon. To realize the magnitude of the olive-oil trade, the tourist must visit the markets of Cadiz or Malaga, and view the stacks of oil-barrels on the wharves, or the number of mule-carts loaded with enormous jars, often five or six per load, each jar containing half a hundred gallons of crude oil. Grapes, too, are consumed in quantities which somewhat modify the truth of the assertion that vineyards are the chief curse of

Southern Europe. Out of ten gallons of wine, especially of the heavier sorts, at least seven are sent abroad; and out of the remaining three a large percentage is sold to foreign residents, and the guests of the principal hotels. The home-beverage of the poor Spanish farmer is *agua dulce*—cold water sweetened with a spoonful of powdered brown sugar; landowners and well-to-do mechanics indulge in light wine, but by way of digestive tonic rather than for purposes of intoxication.

External cleanliness is a rare virtue among the lower classes of Spain, and even outside of the mendicant-slums there are families who rarely change the

linen of a child till its growth precludes the possibility of further delay; and it may be more than a joke that in several families of impoverished nobles an untorn shirt has to be lent from brother to brother, taking their turn at such luxuries of a gala-day. But—

“Our poverty, and not our will, consents,”—

and the well-to-do classes of the romantic old peninsula can still boast of cavaliers in the proudest sense of the word,—gentlemen in deed and word, in sentiment and appearance, respecting ancient tradition from a sort of patriotic piety, but ever ready to honor truth, even in the form of an unpopular revelation.

(To be continued.)

THE ABSOLUTE SIGNS AND PROOFS OF DEATH.

THE thought of being buried alive has haunted very many nervous patients the greater part of their lives, and the fact that this unfortunate accident has sometimes occurred, is sufficient proof of its possibility to render invaluable any means by which the absolute proof of death may be obtained.

In some European countries the custom prevails of keeping the dead, or those supposed to be dead, some days after death in a room of a proper temperature and with such arrangements that on the first occurrence of any active symptoms of life, a signal will be given which will call attention to the individual's condition. In one of the oldest of these establishments, however, more than a score of years have passed without the occurrence of a single instance of the recovery of a person supposed to be dead. Nevertheless, it is a small comfort to a person haunted by the fear of being buried alive, and the time for some years has been more or less occupied with experiments by means of which the fact of death may be ascertained with absolute certainty.

The French Government has offered a prize for the best information to this end. Dr. W. B. Richardson, in his journal, the *Asclepiad*, has recently summarized the existing knowledge upon this subject, an abstract of which is presented below:—

Change of Color.—Change of color from paleness or darkness to bright red of the face or some other part of the surface of the body, is the sign which calls for the fullest attention. A young woman in Dean Street, Soho, who had died of (supposed) suppressed scarlet fever, and whose features had been left very dark at the moment of death, became, a few hours later, of such life-like appearance that her friends thought she must be returning to life.

The explanation of this phenomenon is that the

change is due to the oxidation of blood surcharged with carbonic acid. The moist tissues are suffused with carbonized blood, and there is set up an osmotic interchange between the carbonic acid and the oxygen of the air, with oxidation of the blood, and modification of color from dark venous to arterial red. I have in other cases observed the same phenomenon.

Retention of Warmth.—Retention of warmth in the body after death is a second circumstance leading to the suspicion that death has not taken place. This is explainable by the fact that it happens as a rule in examples of sudden death from arrest of the circulation in the cerebral centers. Such arrest is followed by a rapid rise in temperature, due to resistance, and is commonly maintained so long that to the mind of the by-standers life cannot be considered as extinct.

Muscular Movements.—Muscular movements of the body after death form a third circumstance which of all others is most anxious and perplexing. The bodies of the dead are cold and the expressions of the features death-like, but the movements are those of natural life, the most common being that of flexing the right leg and drawing it up towards the body on the left leg; but in some cases a hand is moved, and in one or two cases a substance put into the hand has seemed to be grasped, as by a reflex excitement. These movements have sometimes continued for a period of an hour. They mostly occur in men of strong, muscular build who have died very rapidly, and as a consequence, the muscular irritability, or the nervous stimulus, or both, has not become exhausted at the moment of death. Fortunately, these astounding phenomena are almost exclusively confined to one kind of death, namely, death from Asiatic cholera.

Retention of Life-like Expression.—The retention

of life-like expression after death affords another circumstance under which the skill of the practitioner may have to be exercised in order to determine if life be present. These, in my experience, have all been cases of children.

Prolonged Preservation. — Prolonged preservation of the dead body from putrefactive decomposition is a fifth circumstance demanding the art of the practitioner on the question of life or death. Sometimes the signs of decomposition are present within four hours, and are rarely absent twenty-four hours; the ordinary limit however, in a mild climate, is from sixteen to twenty-eight hours, a good deal depending upon the state of the weather, the constitution of the deceased, and the nature of the fatal disease. Alcohol taken copiously into the system previous to death, has a strong preservative influence. It is recorded of the founder of the Brunonian system of medicine, that once, when he had dosed one of his patients, suffering from fever, to his heart's content with his single and great panacea, *alcohol*, and when the post-mortem was being made, the body was found to have undergone no putrefactive change. Whereupon the skillful advocate of this treatment called attention to the fact as a proof that if the grand remedy did not save the life, it did the next best thing, — preserved the body from decomposition; therefore if it had only been carried a little further, it might — but the inference is obvious.

Prolonged Narcotism. — Suspension of vital action under some forms of induced narcotism is a sixth circumstance that may lead to doubt whether or not life is extinct. This fact is as old as history itself, the *Morion*, or death-wine of Dioscorides and Pliny, being used to render persons about to suffer a surgical operation, or even death by lingering process, insensi-

ble, to cut short their agonies; the Jewish women of the grand Sanhedrim carrying out this art so effectively on those who were crucified under Roman rule, that in taking down the bodies from the cross, it became the custom of the Roman soldiers to break the legs of all their victims, in order that none might escape death. The narcotic agent here mentioned was the wine of Mandragora, a specimen of which for the first time, perhaps, has lately been placed before a society of medical men. Chloral, also, is a modern agent which produces so deep a narcotism that it might be impossible to tell whether the subject under its influence were alive or dead.

Cataleptic Trance. — The cataleptic state is the last which calls for medical skill to determine the fact of death. This state may be of two kinds, the *idiopathic* and the *traumatic*. Either is well fitted to try the skill, patience, and judgment of the practitioner, for there is but one sign which can be trusted to indicate life, and that is the sustainment of animal warmth. It was in a case of catalepsy, no doubt, that the renowned anatomist, Vesalius, made the fearful error of opening the body of a young man, to discover, when his scalpel divided the pericardium, that the heart was still pulsating; a discovery which sent the anatomist on a pilgrimage to the Holy Land, in returning from whence he met his own terrible death by starvation, on the island of Zante. Traumatic catalepsy has been witnessed in its most distinctive form after shock by lightning, and it may also have been met with after severe blows and contusions of the head. It may also be produced by shock from electric discharge at high tension.

In our next issue will be given, in practical form, all the tests of death now considered trustworthy by the best medical scientists.

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

BY A DOCTOR.

7. — Hygiene of Digestion.

To say that our bodies are composed of what we eat, is to express a fact too patent to require demonstration. It is evident that in order that our muscles, bones, nerves, and various organs and tissues may be able to do the work required of them in the best manner possible, they must be nourished by food of proper quality, eaten properly, and in proper quantities. It is also necessary that wholesome food properly eaten should be well digested. Poor food will make poor brains as well as poor bones and mus-

cles, and the brain, if badly nourished, is incapable of the same grade of mental action as a healthy and vigorous brain. It is thus apprehended that the hygiene of digestion has to do with the quality and quantity of food eaten, and the manner of eating it. When the stomach and other digestive organs are in a state of health, we are quite unconscious of their existence, except when hunger calls attention to the fact that we require food, or satiety warns us that we have eaten enough or too much. When a person experiences

uncomfortable sensations after eating, he should immediately take warning, and cease doing those things against which his stomach remonstrates.

Indications of Indigestion.—That we may know when to take warning that we are not treating our digestive organs well, it is important for us to know something of the signs of disease or disorder of which the following are the most important: Pains, soreness, heaviness, fullness, or other discomfort of the stomach after eating; eructations, or belching of gas, or rising of the food into the mouth; flatulency, sore stomach, heart burn; nausea, or sickness at the stomach; vomiting; bilious attacks, or sick headache; bad taste in the mouth; furred, or coated tongue; headache or drowsiness after eating; inactivity or irregularity of the bowels.

Errors in the Manner of Eating.—Neglect to observe the rules of health in relation to the manner of eating, may be mentioned as among the most common errors in dietetic habits, and most common of all, in this country, at least, is the habit of hasty eating, which among Americans is well nigh universal. The consequences of hasty eating are: (1.) Imperfect mastication of the food, as the result of which the food enter the stomach in coarse masses, and the entire digestive process is interfered with. (2.) The food is not properly mixed with saliva, and thereby softened and prepared for further digestion. (3.) One of the offices of the saliva is to begin the digestion of starch; if the food is swallowed without sufficient saliva, this element will be imperfectly digested. (4.) As the saliva is a natural stimulant to the stomach, if the quantity of saliva is deficient, the stomach will not produce a sufficient amount of gastric juice.

We thus see how each succeeding step in the digestive process depends upon the proper performance of the preceding. When soft foods are eaten, some dry or hard food should be eaten at the same time, to insure thorough chewing. Drinking freely at meals is harmful, as it not only encourages hasty eating, but unduly dilutes the gastric juice, and thus imposes extra labor upon the digestive organs. The food should never be rinsed down, but should be chewed until sufficiently moistened by the saliva to allow it to be swallowed. The Indians of Brazil carefully abstain from drinking when eating, and the same custom prevails among many other savage tribes.

When large quantities of food are taken into the stomach, the digestive process is not begun until a considerable portion has been absorbed. If exceedingly cold fluid is taken, as iced water, milk, or tea, the stomach is chilled, and according to Dr. Beau-

mont's observations upon the stomach of Alexis St. Martin, a long delay in the digestive process is occasioned. The temperature required for digestion is about 100° F. Dr. Beaumont observed that a half a glassful of water at 55° reduced the temperature of the stomach to 70° F., and that half an hour was required for the stomach to recover its natural temperature. Iced water has a temperature of 32°, and must of course produced a much more marked effect in lowering the temperature of the stomach and its contents, and a proportionately longer time must be required to restore the normal temperature.

Regularity in Eating.—The stomach, when supplied regularly with food, acquires the habit of being in readiness for the work of digestion at the regular hour for eating, and does its work more easily if this natural law of the vital economy is regarded. The habit of eating apples, nuts, and other fruits, confectionery, etc., between meals, is highly unhealthful, and certain to produce evil results. The stomach requires rest as well as do the muscles and other organs of the body.

The frequency with which meals should be taken varies with the age and occupation of the individual. Infants and younger children may take their food at very short intervals. Infants, when fed upon a diet adapted to their age, may take their food at comparatively short intervals without injury, and even to an advantage. Owing to its simple character, it is digested very quickly. The assimilative processes of infants are carried forward with greater activity than in adults. Older persons, however, should not take food more frequently than three times a day, and persons whose employments are sedentary may, in most cases, adopt to advantage the method of the ancient Greeks, and eat but twice a day. In fact, the plan of eating but twice a day is much more prevalent than is generally supposed. In France, Spain, and some other Continental countries, even the laboring classes, who are supposed to take a much larger amount of food than brain workers, — a popular error to which we do not give assent, — are accustomed to eating but twice a day. Soldiers of the French army are supplied with but two meals a day. Only two meals a day are served in the hospitals. A few years ago, when calling one morning upon an eminent French physician to the late Napoleon III, we found him at breakfast at twelve o'clock. He had been out working since early in the morning, seeing his patients at their homes and in the hospital, and had just finished his work. He had a cup of coffee on rising in the morning, and perhaps a bit of bread, but the French luncheon is so small it can hardly be called a meal.

The Italian boys employed in the macaroni factories of Naples, take a breakfast of boiled chestnuts at nine o'clock in the morning, and have nothing more until six o'clock in the evening, and that but a plate of macaroni *grottoes*. Many persons who have tried the experiment of eating but twice daily for several months, and, in fact, a number of persons of the writer's acquaintance engaged in severe manual labor, have adopted the plan of eating but twice daily, and have declared themselves able to perform a larger amount of severe muscular work when eating but two meals, than when taking the usual three meals. The natives of some parts of South America eat regularly but twice a day. This custom, indeed, prevails to a considerable extent throughout the interior of the Southern Continent.

We must admit, however, that the number of meals eaten in a day depends in a very large degree upon habit. The Englishman, it must be confessed, seems to be about as healthy, notwithstanding his four or five meals a day, as the native of the Andes, with his two meager meals; but the Englishman suffers with gout at the age of forty, and is more liable than most other men to die of apoplexy at fifty or sixty; while the native of the Andes is hale and vigorous at eighty or ninety.

(To be continued.)

THERE are many simple rules of health violated because it is considered inconvenient to obey them; but it is the violation of these same simple rules that burden life with that greater inconvenience—ill-health. The busy man will find that it takes far less time to comply with hygienic laws than it does to suffer the sickness resulting from their violation.—*Sanitary News*.

WHAT the mind and body need in outdoor exercise is the letting go of things, the leisurely walk, the sense of rightful and accepted indolence. There is no better preventive of nervous exhaustion than regular, unhurried, muscular exercise. If we could moderate our hurry, lessen our worry, and increase our open-air exercise, a large proportion of nervous diseases would be abolished. Many women whose nerves are constantly strained in their daily vocations have discovered this for themselves. Often when one thinks she is lacking in skill, she is simply lacking in sleep or outdoor exercise; often when one thinks she needs more patience and sweetness, more virtue of every kind, she only needs rest and change.

HYGIENE FOR THE YOUNG.—Children should be

Many of the habits which affect the physical health exhibit their pernicious influences much more prominently in the later than in the earlier years of life, and in many instances the evil effects of an unwholesome practice is seen in the shortening of life and the lessening of physical enjoyment in advanced years, rather than in serious interference with the vital functions during the early years of life.

Taking too many kinds of food at a meal is one of the most common faults in families whose dietary is not restricted by poverty, and is a great cause of disease of the digestive organs. Those nations are the most hearty and enduring whose dietary is the most simple. The Scotch peasantry live chiefly upon oatmeal, the British upon potatoes and milk, and the Italians upon macaroni and chestnuts, and they all are noted for remarkable health and endurance. The stomach cannot well digest a mixture of many different kinds of food at the same meal, though it might digest well any one or two of them if taken alone. The practice of supplementing a hearty dinner by a dessert of rich puddings and sauces is worthy of severe condemnation, as it not only adds to the more than ample variety of articles already eaten, but leads to the taking of an excess of food.

taught to stand straight, to hold up the head, with the chin down, to throw the shoulders back, to keep the stomach in, and to stand on both feet, not bear all the weight of the body on one. It is excellent practice for any one to walk with a good-sized book on the head, and children are benefited by practicing every day, gradually increasing the weight. Show them how to breathe. Tell them that, in order to get their lungs well filled, they must lift the chest, and lower it to send the air out, and that they cannot do so by breathing just below the throat, but must make use of the great muscle, the diaphragm, that is just below the lungs. Then show them how important it is that clothing should always be loose, and tell them what the results will be of compressing the organs. A teacher must wear her own clothing properly, however, before she can teach others to do so; and often her example will influence a pupil more than any amount of talking. If all these things are taught them, they will be healthier girls and boys and better women and men than if you allow them to sit and stand in a crooked position. Look among the men and women around you, and you will be surprised to find that not more than one out of every hundred will stand or sit as he should.—*Sel.*



SOME CURIOUS SHOES.

BY E. L. SHAW.

THE history of foot-wear is very nearly contemporaneous with that of our planet itself. The sandal, secured by thongs, and worn wholly out-of-doors, was its earliest form when the world was young, and man's needs few and simple; the shoe proper being the outgrowth of Eastern civilization and love of display. For a period extending probably over several hundred years, the use of foot-coverings must have been confined to the wealthier classes, though often they, as their pottery and sculpture attest, chose to go barefooted. The luxurious Egyptians elevated the manufacture of their foot-gear into a place alongside the fine arts. With her dainty sandal, shoe, and slipper, each and all fashioned of the most elegant fabric, starred with gems and incrustated with gold, resting upon an exquisitely chased sole of solid gold, an Egyptian queen no doubt found little difficulty, as an ancient historian has it, in "consuming the entire revenue of a town" in her shoe bills. That Greece and Rome in their pride and power kept pace with this luxury and extravagance we have ample proof, and we find that Homer's "golden-sandaled" heroine, as well as the "silver-footed Thetis" of his Iliad, were not myths born of the redundancy of a poet's fancy, wherein exist impossible conditions, but real beings resting *solely* upon fact.

But while the feet of lovely Egyptian queens went thus daintily shod, common mortals of that time, when they wore shoes at all, were content with those of the more solid and serviceable ox, sheepskin, and kid, often most elegantly made, much in the form of the present day, and dyed, either in various bright, solid colors, or in some harmonious color-combination. Curious slippers consisting only of a long, broad sole terminating at the toe in a long, sharp point turned over back, were worn by the royal family. These soles were extravagantly ornamented, and were confined to the foot by a band of pearls and precious stones passed over the instep, to which

the continuation at the toe was drawn back and fastened. Strips of papyrus, plaited together, forming a mat-like fabric, were also in ordinary use for both shoes and slippers.

Up to this period all foot-wear had more or less conformed to the shape of the foot, fitting it easily and giving a broad and serviceable sole; during the Middle Ages, however, European fashions elected that the shoe should assume most fantastic shapes and proportions. In the fourteenth century what was reckoned as the most elegant foot-gear was made as the continuation of an upper garment, and had a hideous long pointed toe, the style of which grew longer and longer, until during the reign of Edward IV., with the



FIFTEENTH CENTURY SHOES.

ultra-fashionables it at last reached the unparalleled length of two feet. This point was stuffed with hay or moss, and was then caught up to just below the knee, where it was fastened by a sort of garter-chain of gold, with heavy pendants. The "fad" of the day was to have this garter-chain as heavy and elaborate as the worldly circumstances of its owner would permit, fabulous sums being frequently spent upon its construction. This style gradually tapered off into a sort of beak-shaped toe, which was in turn succeeded by another extreme—soles of some twelve inches in breadth, a fashion so absurd, and probably so inconvenient also, that it was finally abolished by law.

In the fifteenth century we see a strange shoe with a straight, flat sole, exceedingly broad at the ball of the foot, terminating at the toe in a sharp point. It

has a low, broad heel, and though there is no covering for the instep and toe, there is a small "upper" rising from the heel and extending about half the way round to the front of the foot. Our artist has given us one variety of the prevailing mode at this time.

Large and extravagantly high heels first came in during the reign of Queen Elizabeth, and were accompanied with a grotesque peaked, turned-up toe. By the nobility and wealthier classes these shoes were covered with most exquisite embroidery. Subsequently the era of the lace "craze" came on, when top-boots were lambrequined with the costliest point-lace, and shoes and slippers were adorned with im-

lization, as we see these slippers—the American and the Chinese—side by side. Why! we might use them interchangeably, there is so little difference in the shape; if anything the Chinese slippers seeming *less* unnatural than ours!

Would that the gratuitous corns and bunions, the outcome of the twentieth century shoe, were the worst evil within its gift! But all around us are diseases of the organs of the pelvis and abdomen which are directly traceable to the congestion due to unequal, retarded, or disturbed circulation, occasioned by the same pressure that makes the corns and the bunions. There are serious derangements of the nervous system too from the same cause, and everywhere we see



FASHIONABLE SLIPPERS, CHINESE AND AMERICAN.

mense bows of it. But it is to the reign of Queen Anne that we are indebted for the short toes and high heels, some modification of which still renders us unhealthy and unhappy at the present day. And it seems to be the unfortunate mission of the women of this age to perpetuate a fashion which, without doubt, is responsible for a large share of the ailments which afflict their sex. Strange, in view of this, that we still wish to wear so harmful a shoe; but a cynic at our elbow suggests, "Will not that shoe in which her foot looks smallest always be woman's favorite?"

Now it cannot be reckoned the loftiest ambition in the world—this desire which we possess in common with the "heathen Chinese," to have an exceptionally small foot. And certainly it occasions some humiliating reflections upon our boasted superiority in civi-

these grave troubles complicated and made graver still by the Pandora's box of ills which is emptied upon the head of womankind in the "making-over" process, or rather the rearranging of the position of the internal organs, as nature tries to adapt herself to her new conditions—an effort made necessary by the taking of the body out of its own natural center of gravity, and propping it upon high heels.

Once woman decides to make the dominant shoe one which follows the natural contour of the foot, fitting it loosely, while covering it warmly, having (if any heels at all) a low, broad heel, and for out-door wear a sole sufficiently thick to keep out damp and cold, her first steps in this coming shoe will be upward steps, tending toward a new life of comfort and health.

A NOTED Russian physician, who is located in the French capital, has made a special study of the diseases of corset-wearing women, has examined thousands of them who came under his care in the hospitals, and his conclusion is that corsets are fatal to health. He asserts that the pulmonary capacity of all persons who wear corsets is much less than that of those who do not wear them, and that with most women the corset causes a notable diminution of the intensity of respiration. The body does not receive its full supply of oxygen, and as oxygen is necessary

to life, health suffers. All this is nothing new. Women have always known the evil results of corset-wearing; but they kept on at it, in the delusion that corsets made them beautiful, by making them appear smaller round the waist. For beauty's sake they were willing to be sacrificed. They did n't care for what any old man of science said about it, so long as they thought they could improve their appearance. Now they are beginning to find out that slim, compressed waists are as much of a deformity and as ugly as the dwarfed feet of the women of China.

THE HAPPY FIRESIDE

DEVOTED TO TEMPERANCE MENTAL AND MORAL CULTURE
HOME CULTURE NATURAL HISTORY AND
OTHER INTERESTING TOPICS
CONDUCTED BY MRS. E. E. KELLOGG A.M.

REVELATION WORKS REVOLUTION.

BY FANNIE BOLTON.

JENNIE lay a long time looking at the little face, and the little clinging fingers that held like the tendrils of a vine to her own. The tears were raining down her cheeks, and her heart was big with grief. When John came in from his work, he inquired into the cause of her sorrow.

"Ho John!" she sobbed, "we've never been to church much. We don't know scarcely hanything about Jesus, and he is the honly perfect pattern for mothers and fathers and children, Mrs. 'Ollister says. I want to know him now for baby's sake. 'Ow can we keep this little bud white in this black world unless we can 'ave him 'elp us? And ho John! you know 'ow quick I am to speak out roughly, and the hold words of slang come to my lips, and pop out before I know it; and just think of my teaching her all these things! John, let's take baby and go to church, after this, so that she will never feel the want that I do today. Let's get her used to going to those big, fine places that fairly frighten me to think of approaching, so she won't be so awkward as her mother."

John promised that he would do anything she should ask. At her request he brought the Bible, and read several chapters in the Gospel about Jesus. She listened eagerly, hoping to see something to help her as a mother. Poor child! she did not realize that her seeking was selfish, and that no selfish seeker can find. Already she had begun to set up her child as an idol in her soul. She wanted help to glorify her child instead of her Maker; but as John read, light began to break into his mind.

When Dr. Hollister called, John had a long private conversation with him. "I see my mistake," he afterward confessed to Jennie. "I've been trying to do things to be 'ealthful, to be heducated, to build up myself; but now I see that it must be for Christ's sake, or all this is honly selfishness. Religion means all these things though. It means 'ealth of mind and body. We are to present ourselves to do the will of

God, and that is to fulfill the 'ighest possibilities of our natures. That is what the Doctor says."

Jennie was very weary, and fell fast asleep while John still read the Bible. He looked lovingly at the two pretty faces on the pillow, and softly kissed them, and then kneeled down to make his first prayer to Heaven. John was a changed man. He devoted all to God, — wife, baby, business, and self; but Jennie was slower to learn the truth. She felt the change. She was compelled to a new love and respect for her husband, but still she did not understand.

It was a happy morning when they started for church the first time. Dr. Hollister beckoned them to come to his pew, and Eunice held the baby nearly all through the service.

Jennie was intensely interested in the sermon. It seemed as if every word was for her. The text was, "He shall see the travail of his soul, and shall be satisfied; by his knowledge shall my righteous servant justify many; for he shall bear their iniquities." The minister spoke of the tender and intimate relation existing between mother and child, but, he declared, there exists between the Saviour and his children a still more intimate relation. The Lord himself had said that a mother might forget her child, but he never could forget his children; for he had graven them on the palms of his hands. He pictured Calvary's cross of woe and shame, where the spotless Lamb of God had borne our iniquities, and through the throes of death had made those who believed on him the travail of his soul. He described him as our High Priest in heaven, still lifting up his wounded hands in intercession, and yearning with infinite yearning over the children of his love, longing to justify them freely by his grace, through faith in his name. He delineated the rapture of that day when Jesus would return to gather up his children, and take them to his heavenly courts, where he would see the travail of his soul, and be satisfied.

"The travail of his soul!" thought Jennie. "How is it possible that he has suffered so for me?" For his sake she would lay everything down, — no longer for her child's sake. She lifted up her heart in prayer for his sake, that he might be satisfied, and over her spirit, through faith in his love and merit, there fell the blissful rest of sins forgiven.

As they went home with the Doctor for dinner, the praises of God were on her lips. Mrs. Hollister was confined to her room, but her chamber was the center of attraction. Every one wanted to be there. Her face had an almost celestial look, as it lit up with smiles of love and welcome for them all. Jennie told them all her recent experience, and added, "I understand everything now. It was God's love that brought me to you; God's love that constrained you to do his will toward me. How can I ever be thankful enough! I am not afraid now; I will trust baby and all to him."

Mrs. Hollister lay for weeks gradually sinking. Her sweet life, that poured fragrance like a precious flower, was fading away. Eunice and Will and the Doctor, though their faces wore a calm and cheerful aspect when they were with the invalid, were often over-shadowed with their fast-approaching sorrow.

"I'll tell you what it is," said Jennie, "I am going to lock up the 'ouse, and go down to Dr. 'Ollister's to take care of my darling mistress! How my beloved friend, 'ow much I should miss you if you were to die! Baby will be a sort of relief to them all with her cute ways. You can come there for your meals, John, but I intend to stay day and night. I'll save her if there's enough power in good nursing to do it."

As Jennie declared, it was a happy thing to have the baby there. Eunice pressed its innocent head against her aching heart, and it seemed to bring a kind of comfort to look down into that happy little face, smiling up into her eyes, and hear her pleasant coo of love. How could she let it see her tears of grief?

Day and night Jennie watched and worked unceasingly. At times, through the power of disease, Mrs. Hollister's faith would waver, and it would seem so dark. Then Jennie's new-found hope brought cheer to the invalid. Her faith would bring comfort into the darkness. The bread that Mrs. Hollister had cast on the waters, came back to her after many days, when most she needed it. When she was almost overwhelmed with the failure of her life, Jennie laid her head on her mistress's bosom, and thanked God with tears of gratitude that she had lived. But, toward the last, a calm strong light broke over the dying woman's soul.

"As from a mountain's top the rainy mists of the morning
Roll away, and afar we behold the landscape below us,
Sun-illuminated, with shining rivers and cities and hamlets,
So fell the mists from her mind, and she saw the landscape below
her,
Dark no longer, but all illumined by love; and the pathway
Which she had climbed so far, lying smooth and fair in the distance."

"My whole broken life is all under the merit of Jesus's blood and righteousness," she said. "Call the children in."

There was no need to call; for they were all there. The Doctor's frame shook with anguish, and it was Jennie's voice that bade him hope and trust the All-wise love.

"I've touched the hem of Jesus's garment," whispered the dying woman. "He is right here beside me. Jennie, God bless you. I have learned good lessons in caring for you. Meet me. You will. Eunice, darling, don't weep. Don't mourn. Cast your care upon Him who careth for you. He loves you more than mother. Poor husband, we'll clasp hands again in eternal union. Be of good courage. Will, my son, be noble, be Christ-like. He is the only perfect pattern."

An hour passed, and she slept the sleep that knows no waking until Jesus comes.

"Oh where is mother?" cried Eunice, holding to Jennie's skirt. "Don't, don't tell me she is dead."

"No," said Jennie, "the Bible says she sleeps in Jesus." She took Eunice to her room, and made her lie down, and while she stroked her throbbing brow, she sang softly, —

"Asleep in Jesus, blessed sleep,
From which none ever wake to weep, —
A calm and undisturbed repose,
Unbroken by the last of foes."

As she sang, the comfort of tears was given, and Eunice wept out her bitterest grief on her friendly bosom.

All through the house the little woman passed, burying her own sorrow in her heart, — no in Jesus' heart, — for the sake of others. They reaped the health and comfort of her sympathy.

She robed the cold form for the grave, and wept out her full heart of sorrow in the silent chamber of the dead.

"How what shall I do?" she sobbed, kissing the cold hand. "My beloved mistress! How poor I am without you. Through you, God has made me all that I am. How! I would be desolate indeed, but that you have brought me to the perfect Pattern. How should I know what to do if you had died before? My loved and loving mistress, I will meet you, I will!"

The funeral day came. There were hundreds of mourners. That gentle life, that peaceful light, had not

been in vain. Many sobbed beside her coffin at the remembrance of some kindness that she had done, or some word of love that she had spoken, but there was no heart more grateful than Jennie's. Many words of sympathy were extended to the bereaved mourners, but none were more acceptable than the broken, loving words of her who had been their servant. They felt no condescension in honoring her, but rather gratified and humbled that she honored them with such abundant affection.

Jennie took the last look at the beautiful, still face. Her hands scattered the flowers on the new-made grave, and it was her presence that brightened the desolate home for months afterward. They could not spare her from them. Who says love does not pay?

Oh, love is power! 'Tis bloom and grace;
'Tis a reviving essence;
A flower will bud, a heart will sing,
Beneath its sunny presence;

And God is love, and love makes kings
And priests of boors and peasants.

"Oh, love is power! It operates
To make all things diviner;
It is the beauty of our God;
All graces are its minor;
It pours like fire and dew through hearts,
And is the soul's refiner."

Jennie is the faithful mother of several beautiful children. John no longer drives a cart. After beholding the perfect Pattern, he fashioned his life accordingly. He has become a laborer in the missionary field. Dr. Hollister and his son and daughter bear the blest tokens of the sorrow that chastens, and the love that heals. His son follows his father's steps in profession, ministering to the sick; and the daughter works the works of her mother who sleeps under the benediction, "Blessed are the dead that die in the Lord . . . yea, saith the Spirit, that they may rest from their labors; and their works do follow them."

THE END.

A BROKEN WING.

I WALKED in the woodland meadows,
When sweet the thrushes sing,
And I found on a bed of mosses
A bird with a broken wing.
I healed the wound, and each morning
It sang its old sweet strain;
But the bird with the broken pinion
Never soared as high again.
I found a youth, life-broken
By sin's seductive art,
And, touched with a Christ-like pity,
I took him to my heart.

He lived with a noble purpose,
And struggled not in vain;
But the soul with a broken pinion
Never soared as high again.
But the bird with the broken pinion
Kept another from the snare;
And the life that sin had stricken
Raised another from despair.
Each loss has its compensation;
There are healings for each pain;
But a bird with a broken pinion
Never soars as high again.

— *Christian Weekly.*

LAKE COMO.

(SEE FRONTISPIECE.)

Of all the beautiful sheets of water that mirror soft Italian skies, and ripple under the fresh breezes that blow from the Alps, Lake Como stands unrivaled in its bewitching loveliness. It is situated in Lombardy, in Northern Italy, at the foot of the Lepontine and Rhetian Alps, and is formed by the expansion and tributaries of the river Adda. Because of its beauty of situation, and the salubrity of the climate, Lake Como has become a celebrated resort, not only for tourists, but for wealthy Italians, as a summer residence. Beautiful villas have been built all along its shores, until it seems a veritable paradise, guarded by the enduring mountains, and encircled by a perfect bower of trees and shrubbery that skirt the picturesque lawns and walks and drives. A glimpse of Lake Como by moonlight, with the mellow rays of a Southern moon falling upon peak and tower, softening every outline, and bringing out in wierd silhou-

ette the dense masses of foliage, is a peep into fairyland, and one needs must succumb to the spell of the enchantress.

And for thirty-five miles stretches this dream of beauty, — bays, and promontories, tiny islands here and there, snowy peaks contrasting with vivid green, all combining to form a panorama which if once seen is never to be forgotten, but to be remembered with regret, — regret that one cannot always be a spectator of its loveliness. The greatest width of the lake is three miles, but for the most part much less, so that one is not only privileged with the view of his own side, but is the possessor of the beauties of the opposite, enhanced by the enchantments of distance. Earth indeed has some Eden spots, where we may enjoy in nearer measure the glories of the inheritance lost, and catch a foretaste of the one to come.

S. I. M.



EXCAVATED STREET IN POMPEII.—ROMAN FORUM.

A GLIMPSE OF THE REAL LIFE OF THE ANCIENT POMPEIANS.

BY MYRTA B. CASTLE.

THERE is a spell connected with the past. Even our own past, although it may be entirely prosaic and natural, is nearly always the most charming period of our lives. Childhood, which seemed at the time to be dull and tame, and entirely unfruitful of attainment, to one in his prime is always what Owen Meredith calls "that lost land," "that soft clime."

If our own recent past can have such a charm for us, what a halo of mistiness, ideality, and conjecture surrounds the far-away! It seems incredible to us, used to all the conveniences and many of the luxuries of modern life, that great nations could live and thrive, excel in some of the finest of fine arts,—take the fore-front in literature, sculpture, architecture,—rear political structures that sometimes stood the test of centuries, study out at least the rudiments of astronomy and other sciences,—and yet be so woefully limited in all the appliances which for present advancement in art or research in science is deemed absolutely necessary.

What astronomer of to-day is satisfied with less than a Lick telescope to aid him in his heavenly research? And even that masterpiece does not fully satisfy. What aids to research had the ancients?—None at all,—at least what would be considered none at the present time.

To-day, for every ill in life, except, perhaps, love and leprosy, there is supposed to be a specific. Skilled nurses and skilled physicians abound, and yet they are always in demand. We would certainly think the race must die off the face of the earth if talented men and women of broad and liberal education were not continually working with brain and muscle, with tongue and pen, to rid disease of at least a part of its virulence. What did the ancients do?—Why, when sickness came, witches and wizards chanted incantations, sorcerers administered potions and philters, and—if the victim could stand it, he lived; otherwise he died. And yet the ancients usually lived to a good old age, if undisturbed by plagues and wars.

There have been many terrible pestilences and scourges, when nearly whole cities, sometimes nearly whole countries, have been depopulated. But we know very little about these wholesale plagues, except that they did occur, sometime, somewhere! But when it comes to the destruction of the three cities of Vesuvius, nearly everybody knows just when the awful eruption occurred, and the main details of it; and who has not often shuddered at the sickening horror of a living burial like that of the citizens of ancient Pompeii, Herculaneum, and Stabiae?

And yet it is from these very cities, buried in the haste of that eruption two thousand years ago, now exhumed and open to the public in all the quaintness of their Roman architecture,—it is from these lost cities, these sealed-up homes of long ago that we learn of the wonderful cleanliness which kept out a multitude of ills, and saved the ancient Italians from much that in our day is sighed over as visitations of Providence. It would certainly take a visitation of Providence to protect the Italy of to-day from the effects of its national uncleanness.

"You may say," says the *American Architect*, "that the dirt has all been taken away by the Italian Government. That is true; but it is quite evident that, in the old times, it never was there. Our modern homes were not made to be clean, as were the Pompeian residences. The walls, the floors, every corner of their homes, were finished with the most admirable workmanship. In their rooms no plaster ever fell; for it was of such excellent material and so well put on, that it soon became like marble. They had no wooden walls, no cracks where dust could penetrate. Water for cleansing was found in every part of the house, and ran off through perfect drains. All the tables and bedsteads were of marble or bronze; even the well-curbs and the borders of the flower-beds were of hewn stone. Hygiene must have come naturally to the old Pompeian. He evidently had no chance to get a typhoidal attack. The only class of diseases he could not provide against were the eruptive, and one of these carried him off at last."

Pompeii, in the days of its splendor, had about 35,000 inhabitants. It was one of the most wealthy and refined of the Roman cities. It was situated on the Mediterranean, at the mouth of a navigable river, thus giving it rare commercial advantages; it was a military station in that day when Rome made all the world prisoners; it was in one of the loveliest spots in Italy. "Its environs," says the "Museum of Antiquities," "even to the heights of Vesuvius, were covered with villas, and the coast, all the way to Naples, was so ornamented with gardens and villages that

the shores of the whole gulf appeared as one city. What an enchanting picture must have presented itself to one approaching Pompeii by sea! He beheld the bright, cheerful Grecian temples spreading out on the slopes before him; the pillared forum; the rounded marble theaters. He saw the grand palaces descending to the very edge of the blue waves, by noble flights of steps, surrounded with green pines, laurels, and cypresses, from amidst whose dark foliage marble statues of gods gleamed whitely."

Of the interior of these esthetic dwellings so long buried, the same magazine article before quoted from has the following:—

"One thing is difficult to conceive without seeing it, and that is the gorgeousness of the interiors of the private houses. The colors are now faded; the columns are broken; the mosaics of the floors are generally nearly destroyed; the fountains do not play; the flower-beds are destitute of flowers; yet even as it is, one is continually amazed by the brilliant effect of the interior vistas. In one house the view from a *triclinium* across two courts, both surrounded by gaily decorated Corinthian columns standing before walls painted from top to bottom in a variety of colors, is really dazing to the eyes. The old Pompeians lived in a rainbow atmosphere."

But what seems most to remind us of the universal kinship of the human race, and our consequent nearness to the people of the lost cities of Vesuvius, are a few paragraphs called "Dinner Waiting," which appeared some years ago in the *Youth's Companion*. The quotation cannot fail of touching every heart with sympathy for the housewife of ancient Pompeii,—so nearly like the housewife of to-day. The story somehow makes us forget the cruel sports in which the Pompeians indulged—everything, in fact, but that in the midst of life they were in death:—

"A house recently unearthed in the excavations at Pompeii, was evidently undergoing repair when the volcanic storm buried it. Painters' pots and brushes, and workmen's tools were scattered about. Spots of whitewash starred wall and floor. Pots and kettles had been bundled up in a corner all by themselves.

"Dinner, however, had not been forgotten. A solitary pot stood on the stove; and there was a brown sucking-pig all ready to be baked. But the oven was already engaged with its full complement of bread, so the sucking-pig had to wait. And it never entered the oven, and the loaves were never taken out until after a sojourn of seventeen hundred years. The pig and the bread had been there since Nov. 23, A. D. 79."

Truly dinner had waited; but where was the housewife who prepared it?

TEMPERANCE NOTES.

THE Scientific Temperance Instruction bill, lately passed by the Florida legislature, goes into effect this fall.

IN Auckland, New Zealand, the public schools are each required to give a half-hour temperance lesson, each week.

THE operation of the new Minnesota law making drunkenness a crime, and attaching the penalty of thirty days imprisonment for the third offence, will be watched with interest by all lovers of temperance.

IT is said that four gallons of whiskey, worth sixteen dollars, are produced from a bushel of corn, and out of this the farmer gets forty cents; the Government three dollars and sixty cents; the railroad one dollar; the manufacturer four dollars; and the saloon keeper gets the remaining seven dollars.

THE "World's Temperance Petition," addressed to the Governments of the world, asking for a total prohibition of the traffic in liquor and opium, has already

received some 150,000 signatures. A little over one half of these are from various foreign countries, and among them are the names of 22,000 Karen women.

DR. ALBERT DAY, of Boston, one of the most successful of temperance workers, recently said that, by reason of the odium attaching to the use of alcohol, many persons in high places had been led to secret tipping, and had resorted to the use of "outlandish, and sometimes deadly drugs" to secure the effect of inebriety. He declared he had known persons to become drunk upon Jamaica ginger, chloral, cocaine, quinine, various nerve tonics, and tea.

THERE is a great deal said about the prohibition that does not prohibit in the State of Kansas. But "facts are stubborn things," and when they, as in this case, mostly go to show that there is not a single brewery or distillery within its borders, and only an average of *one* pauper to every 1,358 of its population, while many of the city and county jails are entirely empty, we think the facts are of sufficient bulk and consistence to stop the mouths of the enemies of prohibition.

POPULAR SCIENCE.

ACCORDING to the *Engineer* there is no properly recorded instance of a locomotive attaining a greater speed than eighty miles an hour; back pressure and various resistances, including that of the air, will, it is asserted, prevent any higher speed than this being reached.

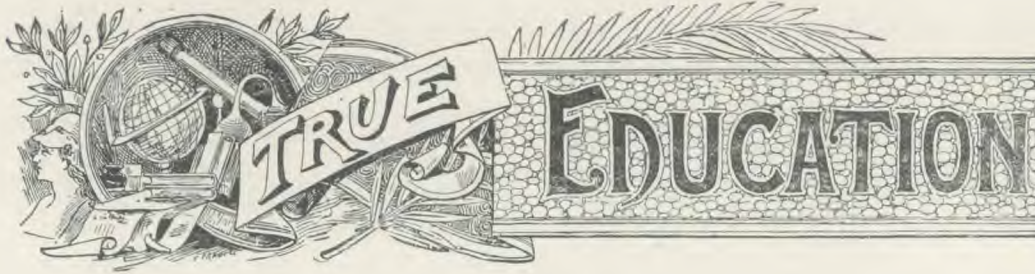
IT is said that a new silk, or a thread closely resembling it, has lately been obtained from cellulose, by a French chemist. The thread is strong and elastic, and is not affected by water, nor by acids and alkalies of moderate strength. It is, however, highly inflammable.

THE exceeding durability of certain kinds of wood can scarcely be estimated. It is said that there are in one of the cathedrals at Rome trusses of fir which have undergone the wear of nearly a thousand years, and are still sound; and a certain gate of cyprus leading to St. Peter's, has been in use for six hundred years.

A MINING company in Colorado has recently broken into a remarkable cave consisting of wonderful chambers whose ceilings and walls are hung with glit-

tering stalactites and covered with crystallized lime and lead, giving the appearance of diamonds shining through a net-work of lace. In one chamber several bodies were found in different attitudes. They were in a good state of preservation, but when disturbed they broke in pieces and crumbled. Several articles, such as a stone bowl, flint ax, etc., were found with them. The bodies do not seem to be those of Indians, but evidently belong to some prehistoric race.

THERE can no longer be any doubt of the value of the method of treating hydrophobia discovered by M. Pasteur. Up to the 31st of May, M. Pasteur had treated 6,950 patients. Of these 1,187 had been bitten by dogs suspected, but not positively known to be mad, and about one per cent. of which died. There were 4,686 who had been bitten by dogs pronounced mad by competent veterinarians, and of these less than one per cent. died. The remaining 1,077 were bitten by dogs about the madness of which there could be no doubt, as they were secured, and inoculation from their bodies to other animals proved fatal. Of these considerably less than one and one half per cent. died.



THE VALUE OF MANUAL TRAINING IN THE PUBLIC SCHOOLS.

WITH a view of ascertaining the estimated value of the department of Manual Training in connection with the public schools of the United States, Professor Hardy, of Wisconsin, lately prepared a series of questions covering the most important points, and sent them out to between one and two hundred of our largest cities. The responses received are, for the most part, exceedingly interesting and suggestive.

We notice as a rule in these responses that expressions of opinion unfavorable to manual training come almost entirely from those who have given it no actual trial. A certain proportion of these think the tendency is to overload the course of study in our public schools, and give this as a reason for not adopting it.

The cities which have given it the longest and most thorough trial are New York, Philadelphia, Boston, New Haven, Washington, and Toledo. The usual course of instruction for boys is drawing, carpentry, wood-turning, pattern-making, clay-modeling, and wood-carving. For girls, it is cooking, cutting, fitting, and making of garments, household decoration, millinery, etc. They, however, join the boys in drawing, carpentry, clay-modeling, and wood-carving. In Washington, 7,000 girls are receiving instruction in plain sewing, 2,000 in cooking, and 1,700 boys in shop-work. In Philadelphia, 35,000 girls are being taught to sew, while cooking is being taught to all girls of the high school, and has been introduced into the grammar grades of that city. The Committee on Manual Training in the New York public schools hold the opinion that "while wood-turning and some metal work are essential to complete elementary work-shop instruction, the principal benefits of such instruction may be obtained through carpenter-work and joinery alone," a fact of exceeding value to that class of schools whose efforts in this direction, by reason of lack in funds or accommodations, must necessarily be limited.

In the training for both boys and girls the cost of materials and accommodations is shown to be light

until it comes to the introduction of machinery and steam power, when it counts up very fast. Compared with this, the benefits resulting from this course of training being incorporated into the ordinary school work, are seen in many directions.

In its effect upon higher education and practical affairs, most favorable results are seen in those schools where the experiment has been tried any length of time. Our modern school education has been mostly based on theory, and it is here that manual training gives the student's life that practical turn which fits him for the coming duties and the coming burdens of citizenship. As a consequence of the non-incorporation of this practical element, the position and the dignity of labor has been in a great degree forgotten or ignored, and thus manual training again furnishes the corrective. To a certain class of scholars of a pushing, business turn, manual training has been of benefit in keeping them longer in school than they would otherwise have been induced to remain. It has also aroused an interest which has extended to other school work. Students always experience a certain satisfaction in bringing into the school life something of the atmosphere of the great world outside, and by success in this kind of work self-respect is cultivated or engendered, and thus discipline is more easily preserved. The change, too, from the routine of the school-room, which is afforded to both mind and body, stands in the stead of recreation to the scholar, and he returns to his books with an added zest and enjoyment, while it is said to be a real "means of grace" to those scholars who care little or nothing for books.

But of supreme significance in relation to this branch of work is the following paragraph from an Eastern educator. He says, "I think there is some danger that Manual Training be 'tacked on' to the traditional course of study, instead of being made an integral part of it. The present course of study must be radically changed, to make it possible for Manual Training to be properly incorporated into the work of the public schools." E. L. S.

TIDINESS.

It seems a very simple matter, yet how few people really are tidy, and fewer still understand the real import of tidiness, and its effect upon our lives as a governing principle. In the generally understood meaning of the word—care of one's person, surroundings, belongings—its wider significance is mostly lost. Regarding this, a late writer in the *Woman's World* says:—

“Untidy habits unfortunately too often lead to untidy modes of thought and expression. A careless method of reading certainly entails a slovenly way of thinking, and so the memory becomes unreliable; persons come to have a vague idea of having read something somewhere about a certain matter, but when asked to give details, the usual reply is, ‘Oh, I forget; but I’m certain I saw or heard something about the matter.’ It is this mental untidiness that makes the conversation of the majority of so-called clever women so unsatisfactory, and the writing of others so unreadable. They mix their metaphors, muddle their dates, and double up their participles in

a most amazing manner; and the result is that the readers of modern fiction speak in a way to make a lover of ‘English undefiled’ turn in his grave. Without accuracy of thought there can be no accuracy of expression, and therefore no sensible or profitable conversation. But indeed, as Tallyrand observed, ‘conversation is a lost art;’ every one chats, or gossips, or makes speeches, or epigrams, or puns, but people do not converse, for the simple reason that they are afraid of betraying the chaotic state of their minds. They meet to dance, to dine, drink tea, play tunes, read poetry, but not to converse—not to ‘speak often one with another,’ as the old Hebrew poet puts it; but if a Coleridge was to come again, would people care to listen to his conversation or monologue? Not even, perhaps, if the divine Teacher himself re-appeared, who caused the hearts of his followers to ‘burn within them as he talked with them by the way.’ So one of the greatest pleasures in life is lost by the mental untidiness that makes conversation impossible.”

A DOUBLE LESSON.

THERE is a mine of counsel in the following stray bit, found floating unclaimed upon the sea of journalism. And if parents and teachers will only stop to dig out the truth (it is not far below the surface, either), and then apply it in the training of children, they will find that this practical method of teaching the Golden Rule, or any other rule, for that matter, results in a far more fruitful impression than the mere enunciation of “Do unto others as you would have them do unto you,” be it a thousand times reiterated. It contains a lesson well worth learning by both parents and children:—

“A boy came home red, ruffled, bruised, and excited. ‘Come, my son,’ said his father, ‘what is the matter? You seem to have been fighting. Was the boy larger than you are?’

“The boy looked uneasy, and mumbled, ‘No; I don’t know that he was.’

“‘Really! And now what did you fight for?’

“A long delay, then he blurted out the truth, ‘Cause he would n’t give me half of his apple.’

“‘Indeed! Did n’t give you half of his apple! So you have set up as a highway robber, taking your

neighbor’s goods? And a bully and a coward, whipping a smaller boy! Go, now, and get washed and dressed.’

“‘He deserves a whipping,’ said his sister.

“‘Not at all. He has not lied; he told frankly the truth.’

“The boy, glad of getting off so well, soon returned to the tea-table, wearing a smiling face.

‘There is no place for you,’ said his father, calmly. ‘Such principles as you act upon are not popular at this table. You will find proper food for a boy who conducts himself as you have done, on a stand in the corner of the kitchen.’

“But breakfast and supper thus arranged proved unendurable to the boy.

“‘Can I ever come back?’ asked the poor child.

“‘Certainly, when you have made your affairs right.’

“‘But how can I do it?’

“‘Take your own money, buy the little boy an apple, and give it to him with an apology. Then you will be once more an honorable fellow, and we shall be glad of your company.’

“And so they settled it.”

SOCIAL PURITY.

A PROTECTIVE AGENCY FOR WOMEN AND CHILDREN.

THIS organization supplies a need in our social existence, which is, by the demand of the times, every day made more and more manifest. The bulk of women and children who constitute the working classes suffer for the protection and championship which, so terrible is the greed for wealth, and so unscrupulous the ways which are nowadays taken to obtain it, they will not find, save in isolated instances. All women and children mutely claim this protection from society; for if by a happy combination of circumstances any may not need it to-day, yet through the shifting fortunes of American life there is a chance that they may need it to-morrow.

The needs of ignorance are still more fateful than those of poverty, and the average working woman, knowing next to nothing of the crooks and turns of the law, is largely at the mercy of any sharper who has made a study of it to further his own ends; and when she is oppressed, as in matters pertaining to mortgage or usury, or sewing-machines, or furniture upon installments, or when servant girls are kept out of their wages, as is so widely practiced by dishonest hotel and boarding-house keepers, — this is the opportunity of the Protective Agency. It steps in here and furnishes legal advice and assistance free, and demands, in every instance, fair and impartial treatment. These demands cannot be ignored; for they emanate from a source which influences judges and juries, and secures protection in the courts for isolated cases, while banded together these Agencies may influence voters and legislatures, and insure the passage of laws necessary to the safety of the many.

It is this strong protective arm thrown about her which will make life more tolerable for the lone self-dependent woman, in securing her rights of property or labor; and not the least appreciated will be the share it will have in developing a public sentiment to the end that laws for the more effectual guardianship of womanly honor, where existing, may be enforced, or, if need be, amended, thus making ignominious all the enemies of her well-being.

The work of the Protective Agency, great as it is destined to be by reason of our social need, is as yet in its infancy. The organization in Chicago is the only one at present known to us, but this has done good and effectual work during its three years of existence. It has been a host in itself in protecting women from all forms of greed and extortion, and has delivered scores of children and young girls out of the clutches of brutal force and brutal passion.

Clearly, if the objects and aims of the Protective Agency were more widely known, and its workings better understood, both its numbers and its usefulness would be greatly multiplied. Organized by women, and carried forward by women, for the protection of women and children, the Protective Agency should have its representatives in every town throughout our country. In the words of one of its noble workers: "Thus slowly arises in the world the new chivalry, — the chivalry of strong, earnest, intelligent womanhood, — girding itself for the defense and protection of all classes and conditions of women, who need its aid in the maintenance of their honor and their sacred rights." E. L. S.

CONFIDENCE BETWEEN PARENTS AND CHILDREN.

FULL confidence between parents and their children is one of the strongest barriers that can be interposed as a safeguard against sin and impurity. With many mothers it has become a serious question as to how they can win and keep the confidence of their little ones. Such may find some help in the following answer to inquiries upon this point, by "Hope Ledyard," in the *Union Signal*: —

"A mother ought not to have to 'win' her children's confidence — a precious birthright. It is hers; the child gives it of its own accord. But most mothers lose this precious gift — treat it so carelessly, value it so lightly, that some even do not know when they have lost it!

"I would say to young mothers whose children are on or about their knees, Never break your word to

your child ; never refuse an honest answer to a child's question ; never deceive your little one. I say *never*—not even petty deceptions ! They are not safe, and the truth is so much more beautiful. Take the story of Santa Claus. Can it compare with the story of the heavenly Father's love, which puts into the heart of all dear friends to give to the children 'in His name' ?

"Never laugh to others about your children's ideas ; guard their childish secrets jealously. Let our children feel quite sure that unless they actually force us to do so, we will not reprove them or expose them before others. If you think your boy or girl is wrong, tell them so privately, and they will be far more apt to confide in you.

"But I know that there are many mothers who grieve over mistakes they have made, and long to retrieve those mistakes. 'Have you no word for us?' they cry. Yes, my friends, I think if your girls or boys are in their teens, and you have lost their confidence ; if they do not speak freely to you on any and every subject ; if they are prone to have secrets with those you cannot approve, I would do this : I would make love to such boys or girls, very much as your husband made love to you in the old days. I would sacrifice almost everything else, for a time, to winning their

hearts. I would cultivate their society, go out with them, be with them in the home, and when I had convinced them of my true mother-love, I would tell them how I felt as to the past, and ask them to give me the lost treasure of their confidence. I would not do this without very earnest prayer, very great carefulness ; but, so doing, I believe you will find that which was lost, and angels will rejoice with you.

"Let me say a few more words as to keeping promises with children, which is the ground-work of all confidence : Do not promise unconditionally, but when you make a promise, even at great self-sacrifice, keep it.

"One other word : Do not accustom yourself to leave your little ones. No one, *no one* can take a mother's place to a little child. If God sends them out into the world, he will 'temper the wind to the shorn lamb ;' but do n't shear your lamb and then expect the wind to be tempered ! Oh if mothers only knew the value of every day in a child's life up to ten years of age ! if mothers would be more jealous of their children's love and confidence ! Let your little girl chatter with the girl in the kitchen while you read or visit ?—No, no ! Throw aside your book, give up your visits ! Keep your children close by your side."

WE would not advise anybody to migrate to the State of Delaware under its present legislation ; for a State where there is no law which can reach the despoiler of little children, must be a poor place to live in. Instead, we should think that a State which deliberately keeps upon its statute books an enactment which places the age of protection at *seven years*, refusing the prayers of petitioners to change it, as has recently been the case, would be a good place to get away from, as speedily as possible.

SOME one says sententiously, "It is an empty house that gets all its windows broken." Yes, and it is the empty heads and the empty hands whose owner goes to the bad. It is the purposeless life which finally gets so tired of itself that it deliberately snuffs itself out. The poor empty head, with only its few weak thoughts traveling round in a circle, itself the center ; the poor empty hands, finding no work to do because all untrained to do it,—lo ! these are they who fill our jails, reformatories, State prisons, and who drift into the haunts of vice which blot our fair land. Boys and girls, I wish I could impress this fact upon your minds : no *idler* was ever very good or very happy. It is not in the nature of things. Boys, call to mind

the best and noblest man whom you know. He is a great worker. Did you ever think of it ? That is one reason why he is good ; he has no time to be bad. Girls, think of the sweetest and most womanly woman you know. She is busy as a bee, from morning till night, isn't she ?—Yes, we know she is. Fill your heads, then ; fill your hands. Read, study, and learn to work.

THE following list, clipped from an exchange, gives the age of protection for young girls in the different States. In Delaware it is *seven* years. In Alabama, California, Colorado, Florida, Georgia, Iowa, Minnesota, Mississippi, New Jersey, North Carolina, South Carolina, Texas, Maryland, Montana, and in Utah and New Mexico, ten years ; in Virginia, West Virginia, Missouri, Kentucky, Indiana, and Idaho, twelve years ; in Maine, New Hampshire, thirteen years ; in Illinois, Michigan, Oregon, Wisconsin, Vermont, Ohio, Connecticut, Massachusetts, Arizona, Dakota, and Wyoming, fourteen years ; in Nebraska, fifteen years ; in Pennsylvania, New York, Tennessee, Washington, and Washington, D. C., sixteen years ; in Kansas eighteen years ; in Rhode Island, Arkansas, and Louisiana, no age is fixed.

GOOD HEALTH

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NERVOUS DYSPEPSIA.

It has often been remarked that Americans are a nation of dyspeptics, and most physicians will readily assent to the assertion that fully half of the dyspeptics belong to the class commonly known as nervous dyspeptics. A chronic nervous dyspeptic is all but incurable, not because of the intrinsic obstinacy of his malady, but because the disease is more than half in his mind. We do not mean by this remark that he is an imaginary sufferer, but that the disease affects his mind in such a manner that the mental malady becomes the major part of the disease. He thinks of his stomach before he eats, while he eats, and after he eats. He will not let the poor organ escape from his mental vision for an instant, if possible to avoid it. He talks of his afflictions with every sympathetic friend who will listen. He considers his digestive machine the wickedest of stomachs, the very incarnation of cruelty, and in view of his daily martyrdom, wears a long face perpetually, and especially at home, where he entertains his wife and children with his groans and lamentations, and if possible makes nervous dyspeptics of them, so that they can the better appreciate his sufferings. If by any chance any of his symptoms disappear, straightway he goes to work to resurrect them again, and he invariably succeeds. He would not have one of those precious symptoms get away for anything. He feels sure that no one appreciates properly his agonies of mind and body, and it is probable that his view of the matter is quite correct. Fearing that his malady is not considered so grave a matter as it should be, he sometimes exaggerates a little, not with the slightest intention of telling a falsehood, but simply to add picturesqueness to the monotonous desert of his existence, to heighten the interest of his friends in his distressing case. Evidently the philanthropic purpose of his mendacity renders it almost excusable.

Thus the nervous dyspeptic goes on from year to year, until his disease veritably becomes grafted onto his constitution as truly as a wild thorn may be grafted upon a choice apple-tree. To take his malady away from him is like tearing a limb from a tree. He would feel quite lost without it. He would hardly recognize himself, or know how to live without his hot-water drenchings, his after-dinner pills or charcoal wafers, his hot-water bags, his dietetic fussiness. His perpetual introspectiveness keeps his stomach under constant and the most minute observation. The poor organ is not intended by nature to be paraded in public after such a fashion, and is actually paralyzed by stage fright, as it were. If by any chance such a patient is cured, he quickly flounders back into his old morbid rut from sheer force of habit, and summons back for the entertainment of his depraved taste the ghostly hob-goblins which some good genius had temporarily banished; and so, to use a very ancient simile, he "returns like a dog to his vomit."

Those who look upon nervous dyspepsia as a trifling malady are quite unacquainted with its horrible tenacity. It clings to its victim like some huge monster of the deep, a devil-fish or a sea-serpent, crushing him in its toils, never quite extinguishing his last breath, but always threatening to do so, thus keeping him upon the ragged edge of despair, and at the same time holding him by some mystic charm, some strange fascination, so that he makes no effort to escape even when the toils are so loosened that he might. The victims of the disease require treatment of mind as well as body. They afford a most admirable class of subjects for mind-cure and faith-cure doctors. Indeed, this class of patients afford them their most brilliant successes.

But if faith alone will achieve so much, how much more might faith and works accomplish, if they

could only be combined! This is the thing essential, in cases of nervous dyspepsia. Works alone do little or nothing; and if faith as well as works cannot be brought to bear upon a given case, better far throw diet and physic to the dogs, and turn the patient over

to the professor of metaphysics, with his mummeries and moonshine; for at least half those suffering from this disease are more benefited by mummeries than mush, and appreciate more relief from liberal doses of moonshine than from baths or peptones.

(To be continued.)

THE MIND-CURE DELUSION.

[Abstract of a Lecture by the Editor.]

"DISEASE is an impression," says Mrs. Glover Eddy, in her book, "originating in the unconscious mortal mind, and becoming at length a conscious belief that the body, or matter, suffers. This delusion is like the dream of sleep, wherein the suffering is wholly in mortal mind; yet the dreamer always thinks he has a body, although the body may be all the while sensationless, and at rest in sleep."

Can any one define for us an "unconscious mortal mind"? I can think of a mortal mind having an impression, but not so of an unconscious one. Do we not wish our diseases were "delusions like the dreams of sleep"? From the above absurd and illogical statements, she draws the following conclusions (?), which are very fair specimens of her mode of reasoning from premises to conclusions: "This goes to show that all suffering and disease are forms of thought, appearing upon the body by consent of the mind. If the dream of disease and suffering that goes on in sleep should continue long enough, the body would manifest disease and pain."

If a man dislocates his shoulder, the shoulder is not out of joint. He only thinks it is. She says "*all* suffering and *all* disease," making no exception whatever. Then if a man has his head cut off, it is only a delusion. Such a doctrine must be very comforting to the hangman and his victim on the gallows.

Here are some instructions given in regard to science healing and teaching: "If the case to be mentally treated is consumption, take up the leading points included (according to belief) in this disease. Show that it is not inherited; that inflammation, tubercles, hemorrhage, and decomposition are beliefs, images of mortal thoughts, superimposed upon the body; that they are not the truth of man; that they should be treated as error, and put out of mortal mind. Then these ills will disappear from the body."

How could a thing that is purely imaginary be inherited? If the blood is pouring in a stream from the patient's mouth, it is not a hemorrhage, "it is simply a figment of the mind, like a passing dream." You see that the statements I made to you last week are more than carried out by the claims put forth in

the published works of this school of fanatics, or rather humbugs. In the case I cited where the lady had hemorrhages, and who was under the treatment of the mind-cure doctor, who assured her that she had no hemorrhages, though they occurred very frequently, and who kept up this absurd claim till the woman was almost at the point of breathing her last, — what was it but homicide, since it prevented any rational means being undertaken for relief? There have been very many victims besides, and it is time that we should cry out against this enormous fraud that is being practiced in the name of Christianity. Hear again:—

"Our dietetic speculations admit that food sustains the life of man, and then discuss the certainty that food can kill him."

That food can kill, taken in immoderate quantities, even when proper food, is an acknowledged fact. There were two men hunting in Colorado who succeeded in killing a bear after they had become nearly famished with hunger. They cooked and ate such a quantity of the bear-meat that it brought on an inflammation of the stomach, from which one of them died. Mrs. Eddy has this to say further in regard to the matter:—

"This false reasoning Jesus rebuked in his metaphors of the fount and the stream, the tree and its fruit, and a kingdom divided against itself. If God institutes hygienic laws that food shall support human life, he will not annul these regulations by an opposite law that food shall be inimical to life."

It is not food that is inimical to life, but food abused.

"Man is never sick; for mind is not sick, and matter cannot be."

According to her view, man being made up of mind and matter, the mind is God, and God cannot be sick, and it would be absurd to suppose that "matter" could have any aches and ills. For instance, how much could a grain of sand suffer? Unfortunately, the experiences of most of you will not bear out this fine theory.

"Nothing hygienic can exceed the healing power

of mind. By mind alone I have prevented disease and restored health, healed chronic as well as acute ailments in their severest forms, elongated shortened limbs, relaxed rigid muscles, restored decaying bones to healthy conditions, brought back the lost substance of the lungs, and caused them to resume their proper functions."

These are stupendous claims, but it is by making such promises that they obtain the large part of their practice, just as the quack doctor and the patent medicine vender obtain a patronage through the claims of wonderful cures (?) which they have been able to perform, according to their advertisements.

In the opening chapter of the book, Mrs. Eddy says: "In the year 1866 I discovered metaphysical healing, and named it Christian science. The principle thereof is divine, apodictical, governing all. When apparently near the confines of mortal existence, standing already within the death valley, I learned certain truths, and there was present to me, as never before, the awful unreality of evil. This vision announced the equipollence of God, consecrated my affections anew, and revealed the glorious possibilities of the petition, 'Thy kingdom come on earth as it is in heaven.'"

How glad we would all be to find that evil was an "awful unreality!"

"The science of mind shows conclusively how matter seems to be, but is not."

This is a revival of the idea of a peculiar philosopher who lived about one hundred and fifty years ago, who taught that nothing existed except ideas—that there was no such thing as material existence. People are captured by the terms "mind cure," and "metaphysical healing," and "Christian science," whereas any scientific man will tell you there is no

(To be continued.)

science or metaphysics about any of them. Under these guises they prey upon the credulity of the public, and it is time that people learned the truth about these so-called "sciences." The professional "faith healers" who advertise, belong to the same category—the same medicine put up in different-colored bottles. They go about administering prayers at a dollar apiece, and yet they call this a revival of Christianity in its purity! I never heard that Christ ever charged one dollar, nor twenty-five cents, for healing the lame, or giving sight to the blind, or casting out a devil. If this doctrine is true, why do they not show it by their works? If one may disregard all the laws of health, if these laws as to eating and drinking and sleeping are positively baneful, and one is "better to disobey than to obey," why do they not demonstrate the fact in themselves? Why do they bow down to the law which requires us to keep sufficiently warm and comfortable, and why do they not live without food and without sleep?

If Mrs. Eddy believes that this is the doctrine of Christ, and that she has the power which she claims, why does she not go to work and cure everybody? Why does she not empty the hospitals and asylums about Boston, and so on in all the cities and towns in the country? She says it is not necessary for her patients to acquiesce in the treatment, or have any knowledge of her purpose; and so if the real spirit of Christianity actuates her, why does she not spend her time in philanthropic deeds? Or, suppose she should ask her fellow mind-healers to unite with her in curing all the invalids in America? Surely no one would object to their curing people if they can. But we do object to their claiming to make cures that they do not and cannot do. They are simply fanatics and extremists, and the majority of them get to be fraudulent, if they are honest at the start.

THOMPSONIANISM.

THE term *Thompsonianism* is doubtless familiar to most of our readers, as a synonym for cayenne-pepper sweats and lobelia emetics. The best days of Thompsonianism were long ago passed, but as this destructive phase of quackery is not quite dead yet, for the writer is personally acquainted with people who will stake their lives on cayenne pepper and lobelia, we think we may, with profit to some of our readers, and perhaps with interest to many, give place to the following account of this method of treatment and its results, which we quote from the *Popular Science News*, only adding that we have personally known of fatal

results following this barbarous mode of treatment:—

"The theory held by Thompson, the inventor of this mode of treatment, was that all disease was owing to 'canker in the stomach;' and, reasoning from this, it was evident that one kind of canker caused measles, another kind caused scarlet fever, or canker-rash, and so on through the long list. These various cankers he numbered 1, 2, 3, etc., and gave to each number a specific remedy of a corresponding number. Thus, canker No. 1 must be met by lobelia; but if the inside of the stomach was left cold, it must be warmed up by No. 2, cayenne pepper. If, during

this process, the patient becomes nervous, or had convulsions, he must be treated to No. 3, nerve-root, or skunk cabbage. Steaming was an adjunct in this process, and this consisted in subjecting the victim to the steam of vinegar and water. The apparatus was an open-bottomed chair, in which the patient was seated naked, but enveloped in a comforter. Underneath the chair an iron basin was placed, filled with water and vinegar, into which was plunged a red-hot stone. During this process, the poor wretch was treated to alternate doses of lobelia, cayenne pepper, and skunk-cabbage, according as he was hot, cold, or 'had fits.' This ordeal was repeated daily, or oftener, until the subject was either cured or killed.

"Thompson's fame soon spread all over New England, and he went from town to town, 'doctoring' all kinds of maladies, and attaining a notoriety for skill, without precedent in the realm of quackery. His methods, however, became so harsh, and the results so oftentimes fatal, that he was repeatedly prosecuted for malpractice. He was several times imprisoned, was tried eight times for manslaughter, poisoning, and murder, but was each time acquitted. The most remarkable case for which he was tried was that of Ezra Lovett, Jr., of Beverly, Mass., and as this is a fair sample of his heroic methods, it may be interesting to give the treatment adopted in this instance, which was followed by fatal results. Nothing seemed

to ail Lovett but an ordinary 'cold;' but Thompson took him in hand in true, heroic fashion. He first steamed him, according to rule, and while sweltering and suffocating under the blankets, he was made to swallow a teaspoonful of lobelia, which caused vomiting; but the dose was repeated thrice in half an hour, operating with great vehemence. Then a 'coffee' composed of marsh rosemary and bay-berry bark was given, and the victim, sweating profusely, was put into a warm bed. The treatment was continued daily, and on the third day the patient was made to walk out in the bleak air of January; then he was dosed with more lobelia and the 'coffee.' His debility increasing, he got six more powders of lobelia on the sixth day, when the poor fellow said he was dying, as 'the medicine had got down to his navel,' attended with great pain. Thompson said he would 'unscrew the navel,' and two strong men held Lovett while more doses of lobelia were forced down. As this process was followed by 'fits,' a dose of skunk-cabbage was given, when the exhausted wretch gave up the ghost. For this barbarous treatment, Thompson was tried for murder, but was acquitted.

"Thompsonianism was introduced into England by the Coffinites; but it met with a sterner fate there, no less than thirteen cases of manslaughter having been reported as the result of the lobelia process, modified by cayenne pepper."

TOBACCO AND KIDNEY DISEASE.

DR. AULD, of Glasgow, calls attention in a recent number of the London *Lancet*, to an important fact which seems to have been heretofore overlooked; viz, that tobacco may be a cause of organic disease of the kidneys. As is well known, the appearance of albumen in the urine is the leading symptom of Bright's disease of the kidneys. Dr. Auld finds that the use of tobacco is often accompanied by this symptom, and lays it down as one of the results of chronic nicotine poisoning.

This eminent physician has done the world a valuable service in calling attention to this important fact. He also states that according to his observations, tobacco is responsible for a very large number of functional disorders not commonly attributed to it. He finds that tobacco poisons both the nerve centers and the nerve ends, causing muscular twitching and various other nervous symptoms.

Dr. Auld makes the important observation that when these symptoms are found present, it is not necessary merely to moderate the use of the drug, but

it must be wholly discarded; otherwise a cure cannot be effected. This is contrary to the advice of most physicians, who commonly prohibit only what they term excess. We have for many years observed, however, that half-way measures will not do in these cases. Tobacco must be discarded wholly and forever.

The amount of nerve energy and vital force that is being squandered by the use of this drug, is beyond estimate. If the sum total of human life and strength sacrificed to tobacco could be represented in figures, the aggregate would be astounding. Tobacco is unquestionably one of the worst of all the curses of civilization. It certainly is equaled only by two vices — inebriety and immorality. The mischief done by opium, cocaine, and other vice-drugs is enormous, but incomparable beside the far-reaching evils justly attributable to the use of tobacco. Thousands of men are kept in a state of chronic lethargy by its narcotic influence. Millions of consciences are benumbed by its subtle spell. Countless multitudes

of children are born with weak nerves and feeble constitutions, as the result of the chronic nicotine poisoning of parents.

The use of the vile drug by civilized man is one of the enigmas of modern civilization. The old Greeks and Romans who shaped the foundations of our modern civilization, used neither tobacco, tea, nor coffee, nor strong liquor. If they had indulged in these stimulants as do men and women of the present day, it is safe to say that the human race would, by

the present time, have been deteriorated to the vanishing point, with the possible exception of those savage tribes who may have been preserved by their isolation from the influence of these destructive agents. Unless a radical change for the better can be effected within a few generations to come, the condition of the then existing race, at the present rate of deterioration, is fearful to contemplate. Extinction would come at last as a beneficent act of Nature, who desires only the survival of the fittest.

HOME SANITATION.

WE are glad to quote, with our most cordial indorsement, the following forcible words from the pen of the editor of the *Sanitary News*:—

“Not only the skilled sanitarian, health officer, man of science, or medical man can become a practical sanitarian, but each head of a family and each individual can become a health officer, providing, in a measure, proper sanitation for his immediate home and surroundings. The physical training and development of physical manhood of the Spartans did not depend more on laws and customs than on home influence and self-education. So to-day the healthfulness of the home and the consequent vigor of the family do not depend, or should not, more on the man of science and technical learning than on the care, education, habits, and the observance of the plain, simple rules of health of the individual whose observations every day cover his abode and realm of existence.

“No man is entitled to a home unless he can make that home happy and healthful. He has no right to be the means of bringing misery to others or to leave to posterity the legacy of ill-health or constitutional weakness. It is the duty of all to be healthy, and to so observe the laws of hygiene that he may contribute the full measure of his individual well-being to the public good. His indifference or neglect of health laws and the observance of the sanitation of his home is not only a crime against himself, but an infliction of a wrong on the public and a burden on posterity. In this country, with its plan of society and inter-

course, no family is isolated. Whatever conditions may produce disease in one family are often responsible for sickness in others. Cases are recorded where disease has had its origin traced to very remote causes both as to time and place, and these causes have been found to be the result of neglect in the proper care of the home. The fact that such cases are not always found in the homes of the destitute and ignorant, is evidence that in families of the well-to-do and cultured there is a want of the observance of the simplest sanitary precautions, which, we are constrained to believe, results more from neglect and indifference than from ignorance of the means to be employed.

“A mistaken idea obtains that an epidemic must prevail before there is need of any sanitary precautions, when the truth is, such epidemics are always evidence that these precautions have been fatally neglected. Moreover, the greatest mortality does not result from epidemics, but from deaths constantly occurring in the course of such diseases as are admitted to be wholly preventable, and result most frequently from the unsanitary conditions of neglected homes, and, in the absence of inspection and preventative means, extend throughout communities. Such diseases as diphtheria, scarlet fever, typhoid, and others of this class, are constantly carrying off victims, and, in the aggregate, far surpass the deaths in epidemics. These diseases, if they do not result directly from ill-kept homes, find in such homes a lodgment, and their virulence and extent is increased.”

WISE WORDS. — We are glad to quote the following wise words from the pen of one of the most sagacious women of the time, Miss Frances E. Willard:—

“God made and meant us to be well and not sick. His health decalogue is as binding as the ten commandments. When a human being is not well and strong, the only question in order is, “Who did sin,

this man, or his parents?” There is no more common sense in the invalidism of men and women than there would be in that of birds and buffaloes. The fact that domestic animals are ever sick results wholly from their keeping the bad company of man. We are a poisoned race,—poisoned by tobacco, and alcohol, and drugs; by bad air, bad food, bad raiment.

FOOD FOR BABIES.—The main cause of the diseased conditions of the digestive organs is to be sought for in improper food. Not even mother's milk will always agree with the baby; cow's milk cannot possibly take its place as a legitimate and satisfactory substitute. Much less reliance can be placed on manufactured or home-made mixtures of unequal composition and doubtful quality. Children of more advanced years resemble adults in this, that they are endowed with more resistance to damaging influences. But infants and young children are in constant danger of losing their physiological equilibrium by slight changes in feeding or the deterioration of foods. The readiness with which milk, which is indispensable as a food, will decompose, acidulate, and become indigestible, renders the greatest attention a necessity in the interest of prevention. That attention must be first directed to the differences between cow's and woman's milk, which ought to be obviated as much as possible. The former contains more caseine and fat, less sugar and chloride of sodium. Besides, the caseine of cow's and woman's milk differ both chemically and physiologically. That has always been so, and will be so, though a recent journal article declares the fact—or its assertion—a “bugbear.” The former is less digestible, and its amount in the food given an infant must not be larger than one per cent. A large percentage (11–12) of fat is contained in every normal defecation of an infant fed on breast-milk, thus great care must be taken not to exceed the quantity of fat contained in this normal food when artificial feeding is resorted to.—*Jacobi*.

WATER FOR INFANTS.—Infants suffer for want of water much more frequently than is generally supposed. Water is needed by young children in much larger quantities, in proportion to size, than by adults. It is necessary, to facilitate the absorption of food. It is also needed to aid in the work of the liver, and other secreting glands. Nearly all of the nutritive processes depend largely for their activity upon the presence of a sufficient quantity of water in the blood. Water is especially needed during the warm season of the year, when children as well as adults perspire more freely than at other seasons. When the child cries, it is usually given milk. This is a mistake. Food should only be given at regular intervals. It is rarely necessary to administer food more often than once in three or four hours, at least after the first few days of the infant's life; but water should be given much more frequently. The same mistake is often made with older children. When a child shows signs of uneasiness, a glass of milk or a bit of food of some

kind is given, instead of water, which is the thing for which nature is calling. Cow's milk should always be diluted by water or a quantity of oatmeal or barley gruel, as this prevents the formation of hard curds, which is one of the great causes of intestinal disturbance and irritation in small children. It may be set down as a very good rule, that a child two years of age should take, in some form, not less than one pint of water daily. Most grown people, as well as children, drink too little water, and this probably accounts for the fact that the need of water by children is so overlooked.

PIANOFORTE DISEASE.—DR. WILSON, of England, calls attention to the fact that an eminent German professor has recently “addressed a most serious warning to parents and guardians on one of the evils of the present system of teaching girls. It is on the subject of what Wagner has contemptuously called *Hammermusik*. The professor begins by pointing out that the terms *musician* and *pianoforte-player* are not at all convertible. Then he refers to the illogical conduct of so many parents, who, for the sake of their children's health, ask them to be excused certain subjects of the school course, while they encourage them in the most excessive exertions at the pianoforte. Now, there is no subject which, if taught seriously, makes such a demand upon the store of nervous energy of the body as instrumental music. The brain, the eye, and the hands are all exercised at once; hence the frequent injury to health in the case of girls who have not strong constitutions. The professor has collected some statistics which show that more than half the pupils are taught the pianoforte, and after their tenth year spend twice as much time daily at it as at their other home lessons.

“Many girls complain of feeling tired, absent-minded, fidgety, of headaches and sleeplessness; and these complaints grow worse as they grow older. In all cases where the parents could be prevailed upon to diminish the hours of pianoforte practice, or stop it altogether, a marked improvement in general health was the invariable result. Herr Wätzoldt therefore recommends, (1.) That pianoforte instruction should not begin until the age of twelve; (2.) That only girls of sound health, and who show some talent for music, should be made to play. We also agree with the final observations of the professor, who must be a true lover of genuine music. It is an indubitable fact, he says, that nine-tenths of the girls after years of arduous practice, only attain to a certain automatic technique, which not only has no relationship with art, but is an actual hindrance to true musical perception.”

DOMESTIC MEDICINE



A NEW REMEDY FOR CONSUMPTION.—Several European physicians have been experimenting with tannin as a remedy for consumption, and some report excellent results. The remedy is taken in doses of fifteen grains three times a day. It is taken with the meals, but if we were to use the remedy we would advise its employment about three hours after a meal, as tannin unquestionably delays digestion when taken with the food. It is claimed that this remedy diminishes night sweats, and occasions favorable changes in other symptoms.

POULTICES.—Apply a poultice to any hard, angry-looking swelling, if agreeable to the feelings of the patient. A joint, swollen and painful from a sprain, is often wonderfully relieved in this way. Also in pleurisy and pneumonia, after the acute stage has passed, and in all deep-seated inflammations of the liver, bladder, and other pelvic organs, likewise chronic dyspepsia, the poultice is exceedingly soothing and beneficial. The virtue of the poultice depends upon its warmth, moisture, and emollient properties, rather than upon any special merit in the article used. Bread, linseed, and slippery-elm are most useful.

SCABES.—This disease, commonly called itch, once supposed to be a blood disease, is now well known to be the result of the burrowing of a parasite in the outer layers of the skin. Any remedy which will destroy the parasite without injuring the skin, is suitable for application in cases of this sort. Prof. White, of the Harvard medical school, recommends the following as applicable to all cases of this disease:—

“Flowers of sulphur, two drachms; beta-naphthol, one drachm; balsam of Peru, one ounce; vaseline, one ounce. Mix. This quantity is generally sufficient for the cure of a case. The patient is directed to rub one third of the mixture well into the whole surface of the body, from the neck downward, at bedtime.”

SUBSTITUTE FOR EAR DRUMS.—An English physician suggests the use of castor-oil in the ears of persons whose ear drums have been perforated by disease. It is only necessary to drop into the ear three or four drops of the oil, taking care that it is carried to the inner extremity of the canal. This will often improve the hearing in a most remarkable manner.

DISEASES IN SOAP.—An anti-adulteration journal, which says a great many good things about food and other things, calls attention to the fact that “commercial salesmen and other travelers are often afflicted with skin disease of a more or less serious nature. A physician places the number seriously afflicted at one in fifty, and states that in almost every instance the cause can be traced to the use of hotel soap. Every person who has had occasion to be a hotel guest, no matter where, is familiar with the much-worn cake of soap that lies in wait for him on the washstand, sometimes in a not over-clean soap-dish, and frequently glued to the cover of the stand, according to the whim of the chamber-maid. You have n't the slightest idea in the world who used the soap last, and very few persons ever gave the matter a thought. It would be an easy-going individual, and one singularly indifferent to considerations of cleanliness, who would for a moment think of using a towel that might have been used by the previous occupant of a room at a hotel; but the instances are rare where the same guest will hesitate to use the soap he finds in the room, although it may be scarcely dry from the ablution of the last person who used it. The traveling man does not stop to think that the hotel soap is unexcelled as a distributor of cutaneous diseases, and frequently those that are difficult of eradication. The man who stops habitually at hotels here, there, and everywhere about the country, and does not carry and use his own soap, deliberately courts the contracting of what may be a most distressing and offensive malady.”

CATCHING CONSUMPTION.

DR. WHITTAKER, of Ohio, has recently called attention to the danger of infection with tuberculosis through the means of sleeping-cars, and makes some valuable remarks respecting the means by which the danger may be obviated:—

“It would be difficult to conceive of a conjunction of circumstances more directly contributive to disseminate this disease than is offered in the palace car. It is always badly ventilated; the vestibule car especially, is close and hot, sixteen to thirty people being crowded into a space that might make a small hall in a house, but never a bedroom for a pair of human beings. Somebody is always hurt by a draught, so that windows are kept closed to prevent free ventilation, as well as the ejection of sputum, which is mostly deposited on the floors. Cuspidors never contain water, and are mostly used as waste baskets or slop-jars, and the temperature is raised to a degree sufficient to rapidly disseminate infectious matter.

“With the gathering shades of evening, the compartments containing the bedding are opened into the car to diffuse through it a disagreeable musty odor. The traveler is treated to the luxury visibly of clean sheets and pillow-cases, but the blankets, mattresses, carpets, and worst of all, the curtains, remain the same until worn out.

“Consider now that every car contains or has recently been occupied by a consumptive traveler, if only *en route* for a change of climate, and that through ignorance, carelessness, or weakness, there comes to be deposited upon bedding, curtains, etc., tuberculous matter. What becomes of it, if it be not dried and disseminated throughout the car, or gradually incorporated into the lungs of the traveler?

“It is a curious fact that the first note of alarm of this kind should have been sounded by a layman, viz, a barrister in Australia, who published in the *Australian Medical Gazette*, last November, a protest against the admitting of consumptive travelers into the same cabins with healthy people. The danger is

in one sense far greater on a ship, in that the people are so closely confined in the cabins, and, as the author states, considerations of humanity prompt the well man to close the port in protection of the sick. Then, also, the trip is much longer.

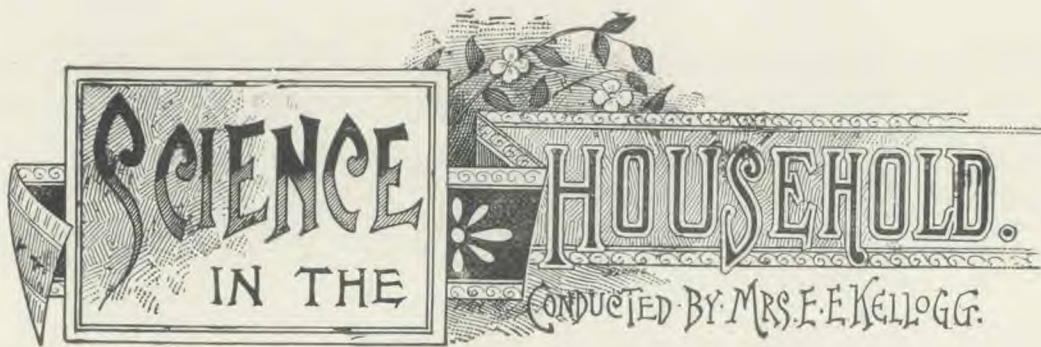
“These advantages are compensated on the car by the fact that there is from it no escape to the outer air, not even on express trains, for meals or other necessities of life. A man may mount for a breath of fresh air to the deck of a ship, where indeed he passes most of the day; a prisoner is allowed some part of the day a walk in the ‘free,’ as the Germans say; but a traveler on an express train is for all the world in the condition of the dogs made to breathe, inclosed in boxes of atomized tuberculous matter, until even these animals, naturally immune, become infected with the disease.

“But it is one thing to find fault and another to suggest the remedy. The plush velvet and silk hangings must go. Seats should be covered with smooth leather that may be washed off, carpets substituted for rugs, to be shaken in the open air at the end of every trip, or better still, abolished for hard-wood floors. The curtain abomination must give place to screens of wood or leather; blankets of invalid’s beds subjected to steam at a high temperature; mattresses covered with oiled silk or rubber cloth, that may be washed off; and above all things, invalids provided with separate compartments, shut off from the rest of the car, with the same care taken to shut out the smoke of tobacco.

“The cuspidors, half filled with water, should abound in every car, and consumptive travelers provided with sputum cups, which may be emptied from the car. For it is not necessary to say here that the sole and only danger lies in the sputum. The destruction of the sputum abolishes the disease. When the patient himself learns that he protects himself in this way as much as others,—protects himself from auto-infection, from the infection of sound parts of his own lungs,—he will not protest against such measures.”

SICK-HEADACHE. — Sick-headache is always the result of stomach disturbance. Too many dainties, sweetmeats and other indigestible things have been taken into the long-suffering stomach, and finally it rebels. Sick-headache is one of the penalties we have to pay for the transgression of nature’s laws. Swallow, at once, a quart of hot water. If vomiting is

produced, well and good; then swallow another quart, and, in addition, take an enema of warm water, to unload the bowels, partaking of no food thereafter for twenty-four hours, and drinking only hot water. A hot full-bath, taken when first symptoms are felt, will often prevent the attack. Hot foot-baths and fomentations over the stomach are also useful.



SEASONABLE BILLS OF FARE.

DINNER NO. 1.

- | | |
|---|--------------------|
| String Bean Soup, | Stewed Corn Pulp, |
| Stuffed Potato, | Baked Tomato, |
| | Whole Wheat Bread, |
| Graham Grits with Baked Sweet Apples and Cream. | |
| | Cup Custard. |

DINNER NO. 2.

- | | |
|----------------------------------|---------------------|
| Green Corn Soup, | Stewed Celery, |
| Baked Sweet Potato, | Lima Beans, |
| Cracked Wheat with Blackberries, | Graham Crisps, |
| | Peaches and Grapes. |

STRING BEAN SOUP. — Prepare a quart of fresh string beans by pulling off the ends and strings and breaking them into very small pieces. Put them to boil in a small quantity of water. If the beans are fresh and young, three pints of water will be sufficient. If wilted or quite old, more will be needed, as they will require longer cooking. (There should be about a teacupful and a half of liquid left when the beans are perfectly tender and boiled in pieces.) Put the beans into the water at the first boil, cover closely, and simmer slowly till perfectly tender. Turn all into a colander, and rub all the tender portions of the beans through. Return to the kettle, and for each cup of the bean liquid add a half cup of thin cream and a cup of milk, salt to taste, and boil up together, for a few minutes; thicken with a little flour, and serve. A quart of beans should be sufficient for about three pints of soup.

To cleanse and purify vessels and utensils from old, long-retained smells, rinse out thoroughly with charcoal powder.

THE best of ironing holders may be made of old boot tops cut into suitable pieces, as the heat does not go through the leather.

AN excellent way to remove iron rust is to mix

STUFFED POTATO. — Prepare large, smooth potatoes, bake until tender, and cut them in halves, scrape out the inside carefully, so as not to break the skins, mash smoothly, mix thoroughly with one-third freshly prepared cottage cheese. Season with nice sweet cream, and salt if desired. Fill the shells with the mixture, place them, with the cut side uppermost, in a pudding dish, and brown in the oven.

STEWED CORN PULP. — Take one half dozen ears of fresh sweet-corn. With a sharp knife chip off the thinnest shaving from the kernels, then with the back of the knife scrape out the entire pulp, leaving the skins and hulls upon the cob. Heat a cup of rich milk to boiling, add the corn and cook from twenty to thirty minutes. Season with salt if desired, and a half cup of sweet cream.

BAKED TOMATOES. — Fill a pudding dish two-thirds full of strained stewed tomatoes, season with salt, and sprinkle grated crumbs of good whole wheat or graham bread over until the top looks dry. Brown in the oven, and serve with a little cream dressing.

CRACKED WHEAT WITH BLACKBERRIES. — A most delicious dish may be prepared by stirring into well-steamed cracked wheat, as soon as done, a few spoonfuls of cream and some fresh, well-ripened wild blackberries. Serve hot.

equal parts of salt and cream tartar, moisten with water, and apply to the spots, and place in the sunshine, keeping them moist for two or three hours.

WHEN washing dishes, it is a good thing to have a wisp of broom corn and a pan of soapy water handy, in which to wash off all bits and grease before putting dishes into the dish-water. This is a specially good way to manage with pots, pans, etc.

HOW TO TREAT LACE CURTAINS.

As the fall house-cleaning now draws on, house-keepers will no doubt appreciate some directions for cleansing lace curtains, under which they will come out very nearly as good as new.

After shaking the dust out of them thoroughly, soak them at least one whole day in pure, cold water; if very much soiled, you may be obliged to repeat the process several times. They can then be washed carefully, rubbed gently, and pressed and squeezed with the hands, but on no account should they be rubbed on a washboard. They need boiling, or at least scalding. They must dry before being starched, and when dry is a good time to mend them, should they need it. Clear starch, well boiled, should be used, and there is great danger of making them too stiff. They ought to hang in very limber folds; as nearly like the way they hung when new, as possible. Gum arabic, when obtainable, is much to be preferred to starch for all such fabrics, as it imparts a freshness and crispness like new goods.

After starching, they should be hung to dry upon a sheet over the line. When a little more than half dry, fold them together, end to end, and pin them with great care upon a sheet which has previously been tacked smoothly to the bare floor, or pinned to the carpet. Pin the sides of the curtain first, smoothing out toward the center, watching that there are no wrinkles in the sheet, and being careful not to stretch, at any time, the center of the curtain. Place the pins at the edges near enough together that the curtain must dry in a straight line. Examine closely while drying, to see if they are drying straight, and if not, change the position of the pins.

Another plan, more economical of space, is to pin a sheet tightly around a broom handle, and roll the curtain smoothly and evenly around it, the ends of the curtain being first pinned to the end of another sheet, and both sheet and curtain wound together. It will take two persons to do this, in order to keep the edges even.

APPLES and potatoes in barrels, are said to keep better when laid down on their side.

PAPERED walls can be greatly freshened up by rubbing them with the soft portions of stale bread, or by a flannel dipped in oatmeal.

IN washing red table linen, it should be washed by itself, and very quickly, and in tepid water with very little soap, adding a little powdered borax to set the color. The rinsing water should also be tepid, and should contain a little boiled starch. Hang in the shade to dry.

AVOID the use of heat in washing silk, or any fabric having silk in it. The water used should be nearly cold, and it should be carefully smoothed out with a soft cloth when drying, or pressed beneath heavy weights. Wash in suds made of nice white soap, but do not rub soap on the goods.

To freshen up black lace, first wash in borax water, and when partly dry, immerse in water in which a kid glove has previously been boiled, adding some indigo blue. The lace should be stretched well in the hands, and ironed on the wrong side, or pressed under a heavy weight.

AN exchange gives the following as a good method for removing old paint: "Slake three pounds of quick-lime in water, and add one pound of pearlash, making the whole of the consistency of paint. Lay this over the old work with a brush, and let it remain from twelve to fourteen hours, when the paint may be easily scraped off."

A SIMPLE WAY TO IMITATE GROUND GLASS.—The effect of ground glass can be secured permanently by roughening one side of the glass by rubbing hard with a leather pad with fine emery. Fine emery-cloth, used by machinists, will answer. If too coarse, the emery will scratch the glass too conspicuously. Fine scratches, to remove the polish and diffuse the light by refraction and reflection in all directions, serve to soften the light without diminishing it. This is really ground glass, when thoroughly done. A similar effect may be produced by tying a piece of soft white putty in a bit of muslin, and "dabbing" uniformly over the clean glass surface, and afterward varnishing with clear Dammar varnish to protect it. A crystalline appearance may be secured by washing the clean transparent glass, inside, with a saturated hot solution of epsom salts (sulphate of magnesia), containing sufficient gum arabic to insure adhesion, and carefully varnishing when dry.

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.]

A READER asks, "How long does it take baked apples to digest in the stomach?"

Ans.—From an hour to an hour and a half.

CONVALESCENT DIET.—M. H. J., Dak., asks, "What diet would you recommend for one who has lately recovered from gastric fever and inflammation of the pancreas?"

Ans.—It is impossible to prescribe a precise diet for a patient, without a more complete knowledge of the case. It is probable that a diet consisting chiefly of milk, and lightly prepared farinaceous foods, will be found most suitable.

SCIATIC RHEUMATISM.—Mrs. M. L. B., Kans., asks for information as to the best home treatment of sciatic rheumatism.

Ans.—The best measures for treating this disease at home are, rest in bed, and the application of heat over the affected nerve. Absolute rest should be maintained in a horizontal position, until the acute symptoms have subsided; afterward the limb should be gently exercised, rubbed, and manipulated, and benefit may also be derived from the use of electricity, if properly applied.

DIET FOR COLIC OR FLATULENCE.—W. J., Dak., asks for the best diet for a person troubled with colic or flatulence?

Ans.—Persons suffering from colic or flatulence should avoid the use of starchy vegetables, such as potatoes or turnips. They should also abstain from the use of sugar, butter, and all greasy foods, and articles difficult of digestion. Well toasted bread, zweibach, granola, gluten, wheatena, whole-wheat wafers, and breads, well masticated, and taken with a moderate similar allowance of milk and cream, will be found most suitable in cases of this sort. In some cases, it is also well to add a moderate allowance of lean beef, boiled without the addition of butter.

NIGHT COUGH.—Y. M. C., Ill., writes, "What will relieve a cough at night, which arises from a slight tickling sensation in the throat?"

Ans.—It is possible that the patient is suffering from an elongation of the uvula, or chronic follicular inflammation of the pharynx. He should consult a specialist in diseases of the throat. Temporary re-

lief may be obtained by gargling the throat with hot water, by the inhalation of steam with a Sanitarium steam inhaler, or by the use of tincture of benzoin, fifteen or twenty drops, with the same inhaler. The application of a cold pack about the throat, consisting of a towel wrung out of cold water, dry enough so it will not drip, and covered with flannels sufficient to keep it warm, will often be found very useful in cases of this kind.

ALCOHOL AS A MEDICINE.—CONDENSATION OF MILK.—APOPLEXY.—BLOOD POISONING.—BRIGHT'S DISEASE.—J. H. T., Ohio, asks the following questions:—

"1. Is not alcoholic liquor in small quantities, beneficial to a person who is subject to weak spells, accompanied with a very low pulse? 2. By what process is milk condensed? 3. What is the cause of apoplexy? 4. What is usually the cause of blood-poisoning? 5. What are some of the causes of Bright's disease?"

Ans.—1. The popular idea that alcohol strengthens the heart, is entirely erroneous. The habitual use of alcohol will produce the very conditions named. 2. Milk is condensed by boiling at a low heat, in large evaporating pans from which the air is partially exhausted, so that the temperature required for evaporation is much below the boiling point. Most brands of condensed milk contain a large percentage of cane sugar, which is added as a means of preserving it. 3. Apoplexy is due to the rupture of a blood-vessel in the brain or some other part of the body. The term is chiefly used in relation to the brain. 4. There are numerous sources of blood-poisoning, and as generally used, the term is applied to a condition resulting from an absorption of pus, or decomposing matter, from an abscess, or sloughing wound. It is more than probable that blood poisoning is often produced by the absorption of decomposing matter from the alimentary canal. 5. Bright's disease is a term which covers a number of morbid conditions of the kidneys. It is very often produced by the large use of alcoholic liquors, particularly beer, and other malt liquors. It may be the result of taking cold. Anything which will over-work the kidneys, may result in the production of Bright's disease. Recent observations have shown that the use of tobacco is one cause of this incurable malady.

LITERARY NOTICES.

Food, Home, and Garden, published by the Vegetarian Society of America, is a little monthly journal actively engaged in diffusing the principles of vegetarianism. Terms, fifty cents a year. Address, *Food*, 2915 Fairhill St., Philadelphia, Pa.

WE give to the *Pansy* this month our usual warm welcome. It is a pretty little magazine, and from cover to cover, teaches the children, in its own winning way, lessons of purity and truth. \$1.00 per year. D. Lothrop Company, Boston, Mass.

THE *Sanitarian*, an ably conducted 96-page monthly, entirely devoted to the presentation, discussion, and investigation of scientific questions in their practical relations to the public health. Volumes begin January and July. Subscription price, \$4.00 a year. Address, the *Sanitarian*, 113 A Second Place, Brooklyn, N. Y.

THE *Home Magazine* for September, conducted by Mrs. John A. Logan, presents a varied table of contents—illustrated articles, illustrated poems, scientific papers, as well as something for mothers, children, and the home. The department devoted to Home Dress-Making is especially useful. Only fifty cents a year. Brodix Publishing Co., Washington, D. C.

"THE HYGIENIC COOK BOOK," by R. T. Trall, price, paper, 25 cents, cloth, 50 cents. Fowler & Wells, publishers, 775 Broadway, New York.

This work is undoubtedly the best manual published for cooking without condiments. The author abjures condiments of every description, not only mustard, pepper, pepper-sauce, vinegar, etc., but butter, milk, cream, eggs, sugar, and other seasonings which are not ordinarily classed under the head of condiments. Certainly a very large number of palatable dishes may be prepared without the use of any of the articles named, by the aid of the recipes given in this little work; and those who wish to carry out the extremely radical views advocated by Dr. Trall, respecting diet, will find this book an indispensable aid in so doing.

THE fine frontispiece, "Danger Ahead," in the September *Scribner*, is one of the many fine illustrations belonging to the concluding paper of the Railway series, "Safety in Railroad Travel," by H. G. Prout. The present paper in the Fishing series is "Nepigon River Fishing," by A. R. Macdonough.

The educational paper of the number, "The Place of the Fitting School in American Education," is by George Trumbull Ladd, and voices the popular dissatisfaction with modern education, suggesting the remedy,—"A more thorough and long-continued discipline in a very few judiciously selected and representative studies." There is great variety in the remaining matter, of which we have not space for ampler mention. Charles Scribner's Sons, New York.

THE paper "*La Nouvelle France*," by Eben Greenough Scott, in the September *Atlantic*, is an interesting pendant to that on French-Canadian literature in the August number. "The Isthmus Canal and American Control," by Stuart F. Weld, treats of the policy of the United States Government in its desire to control the Inter-Oceanic Canal, and Frank Gaylord Cook has an article on the noteworthy services of James Wilson, in behalf of the Constitution of the United States. Grouped with these, follows the "Americans at the First Bastille Celebration," by J. G. Alger. In addition to this quaternion of excellence, there is Miss Jewett's pretty sketch, "The White Rose Road," "Phryne's Test," a fine poem by Margaret J. Preston, besides much other matter. All combined, it forms a valuable number. Houghton, Mifflin & Co., Boston.

THE frontispiece of the September *Woman's World* is a portrait of Madame Tallien, of French revolutionary fame, wife of the Jacobinist leader who signed the death-warrant of Robespierre, in the famous "September massacres." The accompanying sketch is by F. Mabel Robinson, who recounts the part played in the great tragedy, by the most beautiful woman of her time. There is an agreeable illustrated article—"Glendalough and St. Kevin," by Honor Brooke, "*Il Caval di Piazza*," an illustrated historical Florentine sketch of the life and times of Casimo de Medici, "Beauty from the Historical Point of View,"—an artist's study—by Graham R. Tomson, also illustrated, and a fine paper, "A Lost Art,"—the art of conversation,—by Lady Brierly. The remaining noteworthy articles of this fine number are, a beautifully illustrated paper on "Screens, Ancient and Modern," by Miss E. T. Masters, and a bit of the real life and personality of the Italian *litterateur*, Matilde Serao, with life-like portrait of the brilliant woman who came up from the ranks of the Neapolitan *bourgeoisie*. Cassell & Co., New York.

PUBLISHERS' PAGE.

THE Pacific Press Publishing Co., of Oakland, Cal., one of the most enterprising and successful publishing houses on the Pacific Coast, has recently established a branch publishing house in London, England.

* *

PERSONS suffering from catarrh or hay fever, which is particularly prevalent at this season of the year, will do well to remember Dr. Kellogg's recent work on catarrh, which also treats in a practical way the subject of hay fever, and send for a copy, which will be sent postpaid on receipt of seventy-five cents.

* *

THE guests of the Sanitarium have been recently honored by a visit of a couple of weeks from Dr. Sarah Hackett Stevenson, one of the leading physicians of Chicago, and one of the most distinguished women in the medical profession in the United States. Dr. Stevenson had the honor to be the first woman who became a member of the American Medical Society. She is on the staff of three of the leading hospitals of Chicago, and a professor in the Woman's Medical College, of that city. Besides her great attainments in medicine, and other branches of science, she is a woman of rare good sense, and such natural graces and ability as give her a marvelous power for usefulness and influence, which are used to the best advantage wherever they can be made to tell for the good of humanity in any philanthropic effort. Dr. Stevenson will always be a welcome guest at the Sanitarium.

* *

7 THE managers of the Sanitarium, located at Battle Creek, Mich., have recently organized a school for instruction in health and temperance missionary work. It is proposed to send out companies of well-trained persons to towns and villages, where they will labor in the interests of the education of the people in health and temperance principles. Instruction will be given by means of health talks, conversations, lectures, and readings. We believe that a missionary effort in this direction, intelligently carried forward, may be the means of accomplishing quite as much good as missionary effort of any other kind. Certainly there is no direction in which enlightenment is needed more than in this. The gospel of health is preached far less frequently than its merits demand. Education in the proper care of the body, and the proper management of its surroundings, lies at the very foundation of mental and moral, as well as physical health. Young men and women who desire to fit themselves for this work should correspond at once with the managers of the Sanitarium, from whom they can obtain any further particulars required.

* *

THE SANITARIUM TRAINING-SCHOOL FOR NURSES.—The next annual course of instruction in the Sanitarium Training-School for Nurses will begin about November 1, and one month's trial is required of all new students. It is important that those who expect to join this school at the beginning of the next term should make application at once. This Training-School has already attained so wide a reputation that its graduates are in demand in all parts of the United States. The managers are constantly receiving applications from various hospitals and training-schools for graduates of this school to act as head nurses, teachers, or in other places of responsibility. Positions for one hundred competent persons could be found at once. Only about forty or fifty students can be received the present season, and, as a large number of applications have already been received, it is important that those who intend joining the school soon, should send to the managers at the earliest possible date their recommendations, and a statement of their qualifications, so that the preliminaries may be arranged in good season. Letters should be addressed to the Sanitarium Training-School for Nurses, Battle Creek, Mich.

* *

FOR a number of years back the managers of the Sanitarium have been constantly receiving urgent calls from Colorado for the establishment of a branch Sanitarium in that State. Dr. Kellogg visited Colorado last year with the view of looking over the ground with reference to the establishment of such an Institution. Since that time, calls have been still more importunate, and the inducements offered so great, that the managers of the Sanitarium at Battle Creek, Mich., have about decided to establish a branch institution in Colorado at an early date. We are not yet prepared to announce when the Institution will be opened, but it is very probable that an announcement of this kind will be made before many months. The location of the Institution is not yet fully decided upon, but it will very probably be somewhere in the vicinity of Colorado Springs. An Institution of this sort has been long needed, and will doubtless be very

liberally patronized, as Colorado is filled with invalids at all seasons of the year, who crowd hotels and boarding-houses where no proper accommodations are found to receive them, or give them the necessary care. An institution in Colorado, which will give to sick people the skillful care, nursing, and treatment which is provided at the Battle Creek Sanitarium, would not fail of being a complete success.

* *

"WHEN will Mrs. Kellogg's Cook Book be ready?"

This question has been asked the publishers at least five hundred times during the last four or five years, since the fact that the book was in preparation was announced. Mrs. Kellogg has had the manuscript for her book nearly ready for about three years, but the urgent press of other duties connected with the Sanitarium Training-School of Domestic Economy, the kindergarten, editorial work on Good Health, etc., has so engrossed her time as to make it impossible for her to do the little work needed to give the manuscript the finishing touches. She is now taking hold of the work in good earnest, and with competent assistance; and we feel safe in promising the many who are anxiously looking for the appearance of this new work on hygienic cookery, that it will be ready at no very distant day. It will probably be a volume of five or six hundred pages, and will cover the entire field of hygienic cookery,—the hygiene of diet, and various subjects relating to the hygiene of the home, such as kitchen hygiene, preparation of food, etc. From a careful examination of the manuscript, we feel convinced that this work will be received as a valuable addition to the literature of food and diet. It will spread a feast of good things such as has never been seen in this line before.

* *

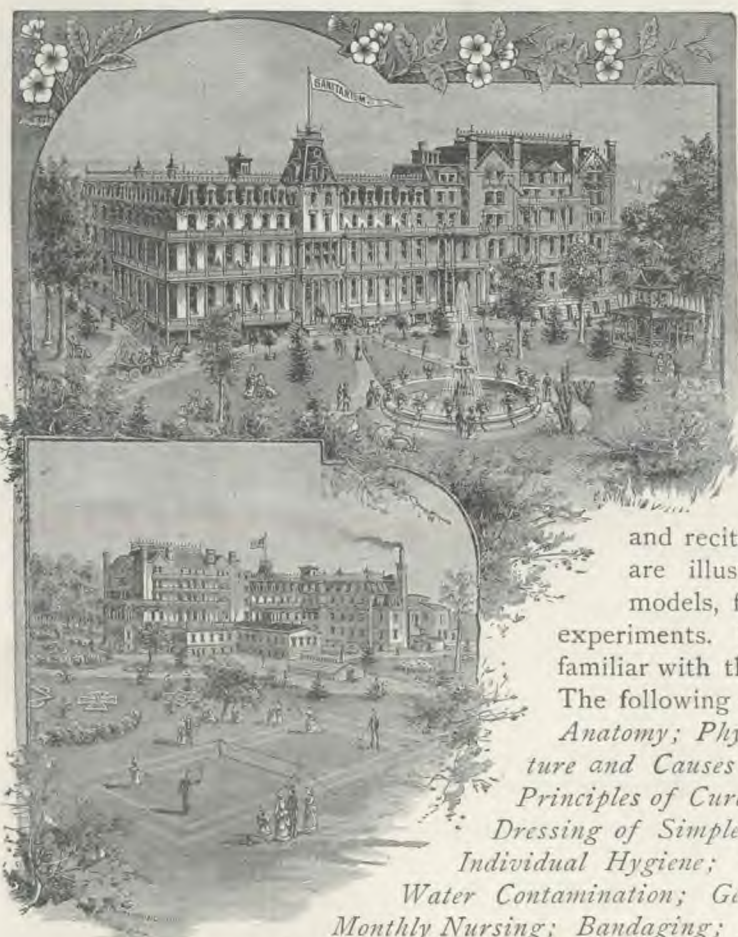
THE managers of the Sanitarium kindergarten have organized a "Kindergarten Normal." This new educational enterprise will open its first session October 1. This course will consist of thorough instruction in the best kindergarten methods, including both the German and the American systems, together with the most thorough course of training. The system taught will also include primary teaching according to the most advanced normal method, covering the educational life of the child from three to ten years of age. Each pupil will be required to obtain a thoroughly practical knowledge of the subjects taught by daily practice in the Sanitarium kindergarten, which is acknowledged to be one of the best schools of the kind in the United States. In addition to the subjects usually taught, all the students in this school will be required to take a course in physical culture in the Sanitarium gymnasium. Lectures will also be given by the physicians of the Sanitarium, respecting the hygienic care of children, hygiene of the home, the organization of mothers' meetings, and a variety of other topics in relation to which kindergarten teachers should be interested and fully equipped. It is the intention of the managers of this school to make it the most efficient training-school of the kind in the United States; and the facilities in the large and successful kindergarten which has been conducted here for several years, together with the experienced instructors in the various branches taught, are certainly unexcelled. The purpose of this school is to fit teachers for organizing kindergartens in various parts of the country, not only kindergartens for children whose parents are able to pay, but free kindergartens, for which there is a great demand, and which always receive a liberal support from the philanthropically inclined. There is probably no branch of education which is at the present time receiving so much attention as the education of children. The kindergarten is becoming the most popular of schools, and the more its merits are understood, the better this branch of educational work is appreciated. Undoubtedly there is much work done in this line which is ineffective, and to a large extent purposeless, or at any rate with no other purpose than the simple amusement of the child. The managers of this school do not desire to receive as students any excepting those who have a proper appreciation of the work in which they are engaging—the serious character of the business of training a child. In order to bring this school within the reach of persons of the most moderate means, and as the whole purpose of the managers is philanthropic in character, they have determined to receive a few well-qualified and well-recommended persons for the first year gratuitously, or at any rate without other compensation than that of labor. The regular terms are \$100.00 for tuition, and \$120.00 for board, for the forty weeks' course of instruction; but as before stated, a few worthy persons who are especially qualified for the work will be given an opportunity to meet the whole expense of board and tuition in labor.

If you desire further information respecting this school, terms, etc., etc., you should address at once Mrs. Dr. J. H. Kellogg, Battle Creek, Mich.

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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The course of instruction comprises two series of lectures, recitations and practical instruction, continuing through two years.

Methods of Instruction.

The instruction is both theoretical and practical. Several lectures and recitations are given each week. Lectures are illustrated by means of colored charts, models, fine French Manikins, and numerous experiments. Each student is required to become familiar with the subjects taught, by actual practice. The following are among the leading topics taught: *Anatomy; Physiology; Elementary Chemistry; Nature and Causes of Disease; Language of Disease; Principles of Cure; Management of Common Diseases; Dressing of Simple Wounds and Injuries; General and Individual Hygiene; Ventilation; Disinfection; Air and Water Contamination; General Nursing; Surgical Nursing; Monthly Nursing; Bandaging; Hydrotherapy—theoretical and practical; Electricity—Faradic, Galvanic, Static; Diet for the Sick; Massage; Swedish Movements; Calisthenics; What to Do in Emergencies.*

Special Advantages.

The advantages offered by this school are in many respects superior to those offered by any other, not excepting the older schools in the large cities.

TERMS.—Students pay board and tuition in labor the first year; wages are paid the second year. For Circulars giving full information, address,

SANITARIUM, Battle Creek, Mich.

The : Sanitarium : Steam : Inhaler :



FIG. 2.

chronic, throat coughs, bleeding from the lungs, chronic catarrh of the bronchial tubes, and allied affections. Every family should possess one of these inexpensive and most effective appliances. In the treatment of croup and diphtheria its use is indispensable.

Price, including directions for use, 50 cents. When ordered by mail 15 cents extra should be added for postage.

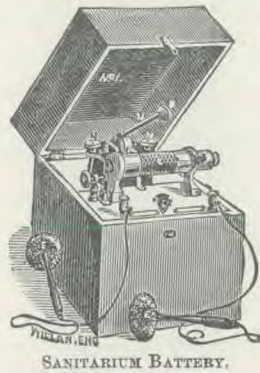
THE above cut represents one of the simplest, cheapest, and most efficient steam inhalers ever advertised. It consists of an outer cup for holding hot water, and an inner cup in which is placed a small quantity of hot water, to which the medicament is added. The construction of the inhaler is shown in Fig. 1. As will be seen, the air passes down through the cover and over the top of the inner cup through the liquid, and is drawn up through the innermost cup into the tube, thence into the mouth, as shown in Fig. 2. All kinds of volatile remedies for throat ailments, such as the essential oils, balsams, etc., may be used with this inhaler. There is no simple remedy so effective in relieving sore throats, either acute or



FIG. 1.

The Sanitarium Battery.

THE utility of electricity in the treatment of paralysis, general debility, and a great variety of common chronic ailments has become so well recognized that an electrical battery is considered in many households almost as indispensable as any ordinary article of furniture. One reason for this is probably to be found in the fact that while often effective for great good, the gentle electrical current furnished by an ordinary electrical battery is hardly capable of doing any serious injury.



The popular faith in electricity as a curative agent is to be seen in the enormous sale of electrical belts, brushes, and so-called magnetic and electrical garments of various descriptions which are being constantly effected through liberal and deceptive newspaper advertising. It is well enough known to scientific physicians that the majority of these appliances supply either no current at all, or a current so feeble as to be absolutely worthless as regards results.

The battery shown in the engraving is manufactured expressly for us, and is one of the most efficient, durable, and easily managed family batteries ever offered for sale. Many hundreds of these batteries have been sold, and the great satisfaction which those who have used them have expressed, warrants the belief that future purchasers will be equally well pleased with this very efficient and convenient electrical apparatus.

Full Directions for the use and care of this Battery accompany each instrument.

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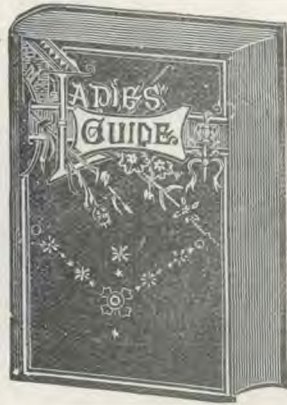
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Oatmeal Biscuit.....12	White Crackers.....10	Wheatena.....12
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Plain Oatmeal Crackers.....10	Gluten Wafers.....30	Granola.....12
No. 1 Graham Crackers.....10	Rye Wafers.....12	Gluten Food.....40
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Plain Gr'h'm Crackers Dyspeptic 10	Carbon Crackers.....15	White Gluten Food.....20

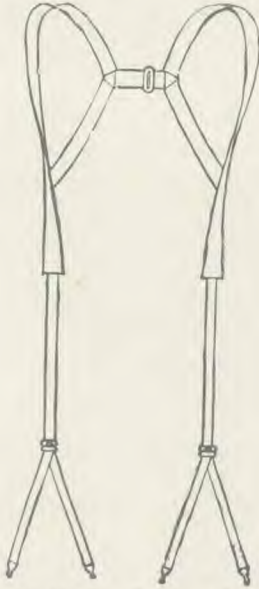
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The course of instruction continues through twenty-five weeks, and consists of daily LECTURES, RECITATIONS, DEMONSTRATION LESSONS, and PRACTICAL DRILLS in the following subjects:—

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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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By J. H. KELLOGG, M. D.,

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PLATE 1. The Alcohol Family.
PLATE 2. A Healthy Stomach.
PLATE 3. Stomach of a Moderate Drinker.
PLATE 4. Stomach of a Hard Drinker.
PLATE 5. Stomach in Delirium Tremens.
PLATE 6. Cancer of the Stomach.
PLATE 7. *A*.—Healthy Nerve Cells. *B*.—Fatty Degeneration of Nerve Cells. *C*.—Healthy Blood. *D*.—Blood of an Habitual Smoker. *E*.—Blood of a Drunkard. *F*.—Blood Destroyed by Alcohol. *G*.—The Drunkard's Ring. *H*.—Healthy Nerve Fibres. *I*.—Fatty Degeneration of Nerve Fibres. *J*.—Healthy Muscle Fibres. *K*.—Fatty Degeneration of Muscle Fibres.
PLATE 8. Smoker's Cancer. A Rum Blossom. A Healthy Brain. A Drunkard's Brain. A Healthy Heart. A Drunkard's Heart.
PLATE 9. *A*.—A Healthy Lung. *B*.—Drunkard's Consumption. *D*.—A Healthy Kidney. *E*.—Enlarged Fatty Kidney of Beer-Drinker. *F*.—Atrophied Kidney of Gin-Drinker. *G*.—Healthy Liver.



H.—Liver of Drunkard, Showing Nutmeg Degeneration. *I*.—Magnified Section of Fatty Liver of Drunkard. *J*.—View of an Eye Diseased from the Use of Tobacco and Whisky. *K*.—View of the Interior of a Healthy Eye.

PLATE 10. Alcoholic Drinks, showing the percentage of Alcohol contained in the common Alcoholic Beverages. Adulterants of Alcoholic Drinks, showing a list of poisons used in adulterating the various liquors. Sphygmographic Tracings of the Pulse, showing the effects of Alcohol and Tobacco upon the pulse. *A*.—Pulse of a Healthy Person. *B*.—Pulse of a Moderate Drinker. *C*.—Pulse of a Drunkard. *D*.—Pulse of an Old Tobacco-User. *E*.—Pulse of a Young Smoker.

Statistics of Stimulants and Narcotics. A diagram exhibiting in a graphic way the fact that the annual cost of Alcoholic Drinks, Tobacco, Rum, Tea and Coffee, exceeds the cost of Bread, Meat, Clothing, Education and Missions.

Nothing so Complete in this line has ever been attempted before. These ten charts constitute a most powerful temperance lecture, the impressions of which will not be easily forgotten.

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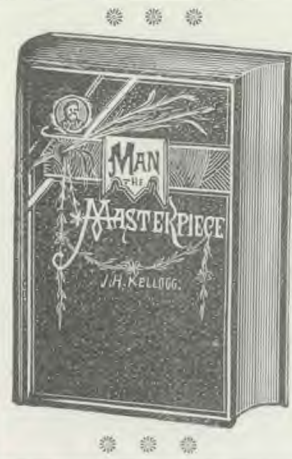
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STATIONS.	EAST.		WEST.	
	↑Mail.	↑Day Express.	↑Chicago Express.	↑Pacific Express.
Chicago.....	am 7.55	am 10.35	pm 6.10	pm 10.10
Michigan City	pm 10.08	12.28	4.54	am 12.23
Niles.....	11.4	pm 1.30	5.49	1.50
Kalamazoo	1.12	2.45	6.58	3.35
Battle Creek...	1.55	3.20	7.33	4.25
Jackson.....	3.35	4.39	8.49	6.15
Ann Arbor.....	5.04	5.43	9.41	7.50
Detroit.....	6.30	6.50	10.45	9.20
Buffalo.....	3.3	am 4.35	am 7.15	pm 5.55
Rochester.....		6.50	9.15	8.00
Syracuse.....		9.30	11.35	10.15
New York.....		pm 7.00	am 8.50	am 7.20
Boston.....		10.00	10.50	9.35

STATIONS.	EAST.		WEST.	
	↑Mail.	↑Day Express.	↑Chicago Express.	↑Pacific Express.
Boston.....		am 8.30	pm 3.00	pm 9.15
New York.....		10.03	6.00	11.30
Syracuse.....		pm 7.40	am 2.10	am 9.05
Rochester.....		9.55	4.30	11.30
Buffalo.....	8.30	am 12.15	6.15	pm 1.30
Detroit.....	am 9.00	8.00	pm 4.20	d 10.15
Ann Arbor.....	10.27	9.02	2.24	11.35
Jackson.....	pm 12.05	10.03	3.27	am 12.54
Battle Creek	1.55	11.36	4.38	2.15
Kalamazoo	2.45	pm 12.13	5.15	3.07
Niles.....	4.20	1.30	6.37	4.32
Michigan City	5.42	2.35	7.32	5.43
Chicago.....	7.55	4.35	9.30	7.45

* Daily. † Daily except Sunday. ‡ Daily except Saturday.
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Time Table in effect February 17, 1880.


GOING WEST.					STATIONS.	GOING EAST.				
Mixed Train.	Mail.	Day Exp.	Evening Exp.	Local Pass'gr.		Mail.	Lim'd Exp.	Atlt. Exp.	Even. Pass.	PH's Pass.
.....	am 4.00	am 4.10	pm 7.10	pm 7.20	Dep.	pm 10.30	am 1.15	am 7.35	.....	am 10.50
.....	5.55	7.15	8.00	4.10	Port Huron	8.40	11.58	6.17	.....	9.17
.....	7.28	8.31	9.31	5.40	Lapeer	7.55	11.27	5.40	.....	8.88
.....	8.08	9.10	10.10	6.20	Flint	7.15	10.58	5.03	.....	8.09
.....	8.48	9.35	10.58	7.15	Durand	6.20	10.07	4.00	.....	6.35
.....	10.00	10.30	12.00	8.25	Lansing	4.43	9.37	3.25	.....	6.02
.....	10.37	11.00	12.30	9.03	Charlotte	3.40	8.50	2.30	.....	5.15
.....	am 11.30	11.45	1.15	10.05	A } BATTLE CREEK } D	3.40	8.50	2.30	.....	am
.....	6.40	am 12.05	1.20	pm	D } A	2.52	8.11	1.44	.....	.....
.....	7.55	.....	12.50	2.21	Vicksburg	2.40	.....	1.33	.....	VAL.
.....	8.12	.....	1.00	12.32	Schoolcraft	1.50	7.26	12.45	.....	Acc.
.....	9.31	.....	1.50	3.15	Acc.	1.06	6.50	12.00	.....	.....
.....	10.50	.....	2.30	4.07	South Bend	1.54	.....	.....	.....	.....
.....	.....	.....	am 3.41	15.30	Haskell's	11.40	5.30	10.30	.....	3.40
.....	.....	.....	7.20	4.00	Valparaiso	9.05	3.25	8.15	.....	1.15
.....	.....	.....	10.00	6.25	Chicago	.....	.....	.....	.....	4.25
.....	am	pm	am	am	Arr	.....	.....	.....	.....	.....

†Stops only on signal. Where no time is given, train does not stop. Trains run by Central Standard Time.
 Valparaiso Accommodation, Battle Creek Passenger, Mixed Train, Pt. Huron Passenger, and Mail trains, daily except Sunday.
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