

SEPTEMBER, 1890.

GOOD



HEALTH

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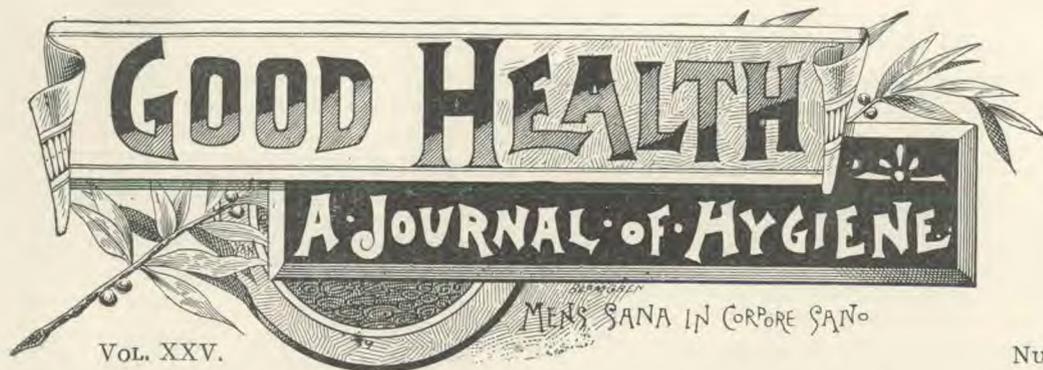
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THE WHITE HORSE.

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INTERNATIONAL HEALTH STUDIES.

BY FELIX L. OSWALD, M. D.

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

17.—Egypt.

THERE are countries which seem to have been naturally adapted for the purposes of commerce, and which consequently became civilized at a very early period of the world's history, but which, subsequently, had to pay the penalty of their geographical advantages by becoming the battle-fields of international wars. Syria, Mesopotamia, and Northern Italy attracted colonists and conquerors by turns, but the extreme vicissitudes of that fate were visited upon the valley of the Lower Nile.

Under the reign of Ptolemy Philadelphus, the high-priest of Heliopolis compiled, at the request of the king, the chronology of thirty different dynasties, tracing the historical traditions of the country through a period of eleven thousand years; and mythical records more than double that era. But allowing for all possible exaggerations, there seems little doubt that Lower Egypt had attained a high state of culture at least four thousand five hundred years before its conquest by the victor of Actium (30 B. C.); and it is equally certain that the Nile valley, from the cataracts to the delta, was once studded with prosperous cities, some of them the wealthiest of the Mediterranean coast-lands. Under the reign of the Ptolemies, Egypt proper still counted three thousand walled towns; and the first census of Nero proves the total population to have exceeded 7,500,000. At the time of the Pharaohs, the aggregate of the six Nile provinces probably reached 10,000,000; but the zenith of national prosperity had been passed a thousand years before the beginning of our chronological era. The

Assyrians, the wild Hykshos, or shepherd hordes, the Khito rebels and their Syrian confederates, the Persians and the Arabs, followed by the successors of Alexander, by the Romans and the Saracens, ravaged the country again and again, till the struggle for national independence became for millions of the original population, a mere struggle for survival.

The present moral and physical condition of the natives, therefore, presents the results of cruel oppression, exerted without intermission on at least two hundred different generations. With rare exceptions, the Mussulmen lords of the land have treated their bondsmen very much as the wealthy planters of Mexico and Peru treat the Indian aborigines, and have rarely identified their interest with the true welfare of the country, whose native population has never ceased to consider them as hostile aliens. They are, indeed, mostly Arabs, mixed with Turks, Berbers, and Circassians, while the natives proper are divided into two principal classes: the Kopts and the Fellahs. The former have for centuries persisted in the creed of their forefathers (a sort of Christianity adulterated with strange Oriental superstitions); the latter are Mohammedans, but their apostasy has failed to conciliate the good will of their conquerors, who have learned to profit by their degradation, and to despise their pitiful attempts at insurrection. "The insignificant difference in the dress of men and women is really suggestive of their moral characteristics," says the traveler Lefevre; "for the natives have a strangely feeble conception of the dignity of men, and of their

own value; the only answer they give to blows is a complaint. Sometimes, indeed, they rebel like a flock of sheep, but with a misgiving that their efforts will be of no avail. It is thus at the time of conscription; they resist the soldiery, but after a few have been killed, the rest allow themselves to be huddled on board the man-of-war, in which they are taken



FELLAH WOMAN AND CHILDREN.

down the Nile to Cairo, the women and children following them for some miles along the banks, with cries and lamentations."

A village of Fellah peasants impresses a stranger with an emotion of mingled pity and amazement, and in spite of its dreary monotony, offers really an interesting chance for studying the problem of survival under conditions reduced to the extreme minimum of crea-

ture comforts. The hovels of the villagers are constructed of sun-dried mud bricks, and thatched with reeds—a single layer of reed-bundles being thought sufficient to protect the structure against the scant rains of the arid climate. Durrha (millet), maize, and melons constitute the staple articles of food. Thousands of the poorer field-laborers subsist on durrha-bread alone,—a pasty, insipid preparation, washed down with water,—and such water!—warm, turbid, and often as malodorous as the fluid which gives sailors an excuse for their alcoholic proclivities. Both men and women wear a sort of short-sleeved dalmatica of cheap cotton fabrics; shoes are thought entirely superfluous, and children, up to their tenth or eleventh year, run about stark-naked, except on their visits to towns where police-regulations prescribe a compromise garment resembling a Fiji breech-clout or "pin-around." At night the dreadful plague of gnats makes cloaks indispensable, though in the cottages of the poor a dozen persons can often be found huddled together under the same cotton shroud. At many points along the shores of the lower Nile, the air is heavy with the odor of decaying vegetables. Masses of drift weeds get lodged at the mouth of the irrigation canals; dead animals, too, add their effluvia to the miasma of the atmosphere, and with the exception of the Lower Ganges valley, Egypt is consequently the most unhealthful of all thickly populated regions of the present world.

Cholera, the Asiatic plague, an small-pox visit the valley of the Lower Nile at least once in five years, while ophthalmia and dysentery are permanent afflictions. Boils, and all sorts of skin diseases, prevail to a distressing extent, and the average longevity of the agricultural classes is eight years lower than in Southern Araby, as a proof that heat alone is only a secondary cause of the national marasmus.

Like other Mohammedans, the Fellahs abstain from alcoholic beverages; but temperance alone can not compensate their numerous sanitary sins of neglect.

"Do you ever wash yourself?" Dr. Brehm asked his unkempt-looking donkey-boy, whose clothes seemed to have faded beyond all resemblance to their original color.

"Yes, sir; sometimes, on Friday," said the lad with a deprecatory glance at his dusty feet.

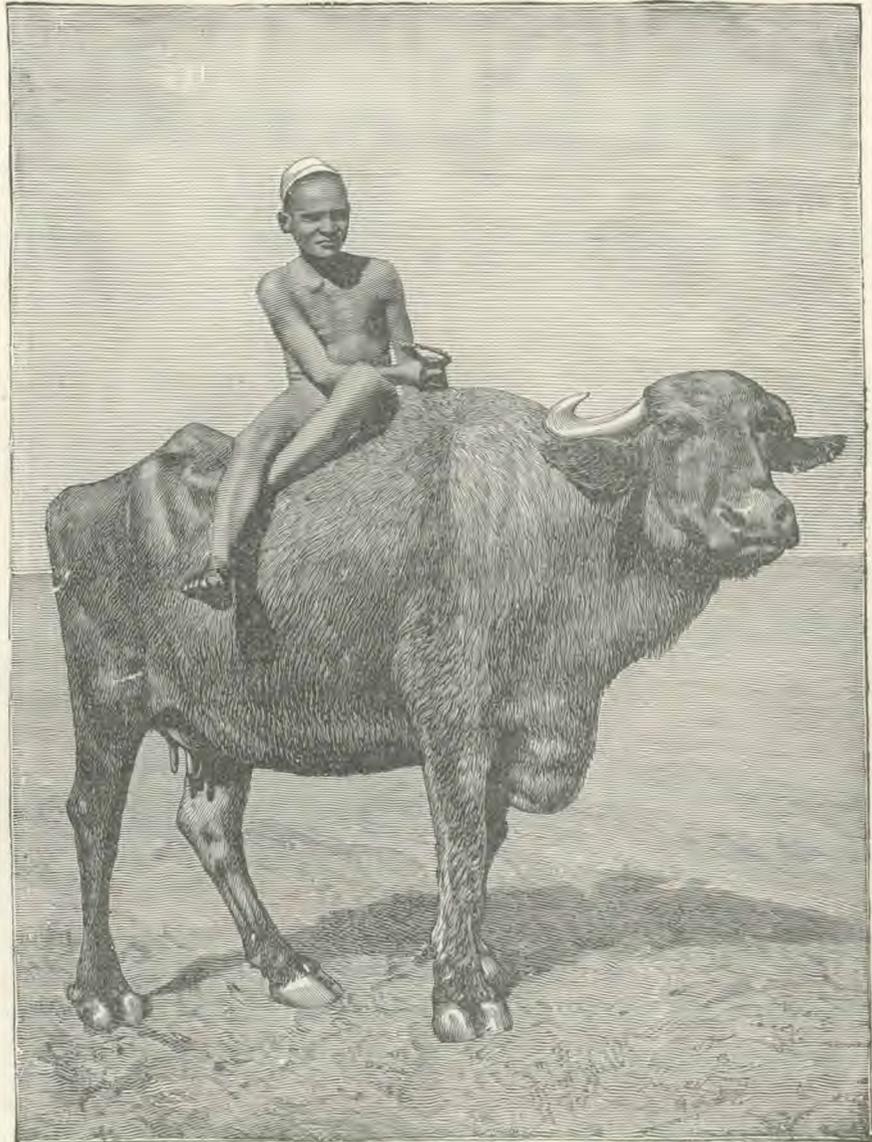
Children of six years are often forced to stand all day in the torrid sun, wielding a rattle to keep birds out of a grain-field; and under the influence of the malarious atmosphere, every casual scratch is apt to fester, till the whole body of a starved youngster is often a mass of neglected sores. No wonder that forty per cent of

the poor wretches die before their twelfth year, and that the low vitality of the race asserts itself in the almost epidemic prevalence of ophthalmia and other eye-diseases.

Millions of field-laborers cultivate patches of alluvium, forming about the most unhealthful districts of the African continent; but the alternative would be death by starvation, for the uplands are indescribably arid and unproductive. In the hope of redeeming the climatic condition of the Nile valley, Ibrahim Pasha procured many ship-loads of forest-trees from the east shores of the Black Sea, and planted them in carefully prepared trenches along the naked hill-sides of the Thebaid; but the forest destruction of fifty centuries had produced consequences that could not be neutralized by the labors of a single generation. Here and there the rain-fall of the country is said to have actually increased by a couple of inches a year; but the dear-bought showers are mostly limited to the river-shores, or the immediate vicinity of the tree-plantations, while the uplands remain sterile to a degree that is best illustrated by the habits of

Cynosephalus Papio, or dog-faced baboon, which manages to eke out a precarious existence in those dreary hills. Necessity has made the poor brutes almost omnivorous: they will devour eggs and young birds, honey,—wax and all,—and nearly all sorts of vegetables, from wild onions to the dryest grain; but the complete exhaustion of all such sources of food compels them to subsist on *scorpions*, which they capture by turning over rocks and stone-heaps, and breaking off the business-end of the dangerous tidbit by a dexterous twist. Brehm, Rueppel, Camas, and other naturalists, corroborate that remarkable fact, which illustrates the barrenness of the Lybian hill-country more strikingly than any famine-statistics.

The two-handed relatives of these scorpion-eaters



EGYPTIAN BUFFALO DRIVER.

have to stick to their river farms, where three hundred and twenty yearly days of hardest toil are rewarded by a pittance representing about one sixth of the actual harvest; for the Fellahs are tenants, cultivating the soil under the supervision of grasping and merciless task-masters.

Their creed, naturally enough, has aggravated the *other-worldliness* of the Mohammedan doctrine; they endure the miseries of earth in hopes of a better hereafter, and hold life very cheaply. Suicide is a ready expedient in hopeless troubles, and infanticide is condoned almost as freely as in China. The disappearance of a superfluous youngster excites no unfavorable comments on the part of the starving neighbors, and hardly ever leads to official inquiries. The increase

of population is therefore rather low considering the prevalence of polygamy, which now and then is practiced even by the Kopts. Nominally, the creed of that quasi-Christian portion of the native population enjoins monogamy; but Moslem influences have modified that tenet, at least in practice, and a modern English traveler was told that Koptic boatmen are

“tacitly allowed to have two wives; one at Girgeh, for instance, and the other at Assouan.” But even among the Mohammedan population, the popularity of the peculiar institution is gradually decreasing with the decreased resources of a country whose productiveness is, nowadays, far surpassed by other river valleys of the African continent.

(To be continued.)

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

BY A DOCTOR.

Structure of the Nerves.

A FEW drops of water from a stagnant pool, when examined under the microscope, reveal the lowest form of life, the study of which is very curious and interesting. These transparent, jelly-like protoplasts are not more than one five-hundredth of an inch in size, and many are less; yet they move about, eat, and are sensitive to sound or motion. They have no organs of locomotion, yet seem to have the ability of thrusting out feet when they desire to move. They have also power to contract, although possessing no muscles. If one of these minute creatures comes against a spore or germ, it immediately puts out a lip on one side, and then on the other, and soon the germ or spore is on the inside, instead of on the outside, of the protoplasm; yet it is just as plainly visible as before. This mite of protoplasm has wrapped up in it all the properties of living matter.

The cell life, or protoplasm, of the human body is precisely analogous with that described above, except in size, being only one-fourth as large. These cells are called human amœba, as distinguishing them from other amœba. Each muscular fiber may be considered as a long row of these little, living cells. The liver is made up of just such living cells, each busy making bile; while some of those of the stomach manufacture gastric juice.

In the cells of the brain and spinal cord, the property of sensibility is chiefly developed, while in the muscles, the contractile property is chiefly developed.

In the brain, these are known as nerve cells, and they send branches down through all parts of the body. Some cells have one, some two, and others a larger number of these thread-like branches or fingers leading from them. A nerve is simply a bundle of these fine threads from the cells, bound all together, just as the wires which go to make up a sub-marine cable are bound together so as to constitute one insulation. It would take twenty thousand of these little nerve fibers to make a band an inch wide. In

the brain there are some three or four trillion of these cells. They are arranged so as to form the outer layer or covering of the brain, and constitute what is called the gray matter; while the little threads or filaments they send out are deeper in the brain substance, constituting the white matter. These nerve fibers so ramify in all directions that they reach every portion of the body. The point of a pin thrust into the finger would cover a good many of them. In the brain itself, these telegraph lines have a great variety of work to do. Some of them have charge of the sense of hearing, and if they become disordered, will cause a person to hear noises which are purely subjective, and not real. The same is true of those which preside over the sense of sight. A story is told of the arrest of one man by another for an assault committed in the dark. The complainant was asked, “How do you know that this is the man who struck you, since the night was pitch dark?” “Well,” was the reply, “he struck me in the eye, and made me see stars; and by the light of the stars I saw him!” Of course this was impossible, since the stars he saw were merely subjective visions, not real. Light depends upon the excitement of the cells of the brain, and not necessarily upon the eyes alone.

If a blood clot is formed in the brain, the nerve cells of that part are destroyed, and though the long-reaching filaments which lead from that part of the brain to some portion of the body, the arm for instance, are still there, they convey no sensation, and the condition which we call paralysis is induced.

A class of nerve cells of especially vital importance is that which is capable of receiving impressions sent inward to the brain on the sensory nerves. These cells are not all alike, since through them we experience many different sensations,—pain, fatigue, hunger, thirst, heat, cold, etc., besides the special sensations we denominate hearing, seeing, tasting, and smelling, each of which has its special line of nerves connect-

ing with the various seats of impression, such as the ear and the eye.

There is another class of cells which has an entirely different property, possessing the ability to send impulses outward. These may be called cells of work. The nerve cells of the brain send down impulses to other cells, from which nerve fibers are distributed to the various muscles, forcing them into activity. The cells of the brain and the spinal cord, as well as the muscles, are constantly storing up energy, to be released as thought or action when the proper stimulus comes. All the work we do, mental or physical, is through this releasing of energy by impulses sent down from the brain. There are similar nerve cells which cause the heart to do its work. One set of cells accelerates its movements when necessary; another restrains it. Bile-making and the manufacture of gastric juice are also under control of certain brain cells, as are all other bodily processes.

Then there are other cells which do not produce work, but which regulate work. We go on breathing without taking thought, because there are certain cells which control the breathing automatically. These cells are very sensitive to carbonic acid gas, and when this gas accumulates a little in the body, these cells send down an impulse to the lungs to take in more air, and thus expel the gas which is dangerous to life. This answers for a few seconds, when the cells again recognize that the body is liable to be

poisoned unless more air is taken in, and thus send down another impulse to the lungs to act. Sometimes we are nervously excited in some way, perhaps by reading a very interesting book, or listening to an absorbing story, and we forget to breathe as regularly or as deeply as we should, when we are roused up with a deep breath or sigh, which makes up for our remissness. Nature rallies her forces by this deep inspiration.

Other cells of the brain have the power to determine the weight of objects. Still others have the power of balance of movements, being sort of regulators. This regulation of balance is a very remarkable thing. When this is perfect, as in health, the different parts of the body know instinctively their relations, part to part. The finger-tips of the two hands can be brought exactly together, though the eyes be closed, the action bringing into play thousands of nerve and muscle cells in harmonious concert. We are able to do this because the two sides of the body are so perfectly made that one part knows where the other part is.

Every part of the muscular system is represented in the gray matter covering the cerebrum. Each little fold or convolution has its corresponding muscle or group of muscles which it controls. Thus is every part of the body, every thought, and power, and action, voluntary or involuntary, governed by some special group of nerve cells set apart for the purpose.

THE ROOT OF THE TEMPERANCE QUESTION.

FROM A KINDERGARTEN STAND-POINT.

[Continuation of an abstract of a lecture on the right and wrong training of the senses, given before the Mothers' Department of the Chicago Kindergarten Training-School, by the Principal, Miss Elizabeth Harrison.]

THERE is no one among us who cannot recall a picture of a young mother putting a spoonful of sweet to her baby's mouth, and persuading that unwilling little one to take the unaccustomed food, saying with coaxing tone such words of encouragement as, "So good, so good," in this way teaching the child to dwell upon and value the relish side of his food.

Not long ago I had occasion to take a long ride on a street-car. My attention was soon attracted to a placid mother with her year-old child in her arms. The little one was in quiet wonder looking out on the great, new world about him, with its myriads of moving objects. Here was a picture of serene contentment in both mother and child. Soon the mother slipped her hand into her pocket, and drew forth a small paper bag, out of which she took a piece of candy, and put it into her mouth; then fearing I suppose, that this might be selfish, she took out another

piece and put it into the infant's mouth. The child resented the intrusion upon its meditations by ejecting the proffered sweet. The mother was not to be defeated in her generosity. She put it back into the child's mouth and held it there until the little one began to suck it of its own accord. This operation was repeated a number of times, about every third piece of candy being put into the child's mouth. Once or twice the small recipient turned its head away, but was coaxed back by the cooing voice of the mother saying, "Take it, darling; see, mamma likes candy," illustrating the remark by eating a piece and giving every sign of relish during the operation. The child was soon won over, and began to reach out its hands for more. After the unwholesome relish had accumulated in the delicate little stomach to a sufficient extent to make the child physically uncomfortable, it began to show a restless spirit, or desire to move about unnecessarily. The mother grew impatient, which only increased the child's uneasiness. Finally

she shook it, saying, "I don't see what in the world is the matter with you. You are a bad, troublesome little thing!" At this, the unjustly accused little victim set up a lusty yell, and the mother in a few moments left the car in great confusion, and with a very red face, wondering, no doubt, from which one of its father's relatives the child inherited such a disagreeable disposition.

"But," exclaimed one mother to me, "do you mean to say that you would not give any confectionery to a child? I think candy is the prerogative of every child. Why, I think it is a crime to take it away from them!" "I think," was my reply, "that a healthy body and a strong moral will power are the prerogatives of every child, and it is a crime to take them away from him." "But," she added in an annoyed tone, "I do love candy so myself, and I can't eat it before my child and not give her a part of it." I need not multiply my illustrations; they are too numerous to need preserving.

I do not mean that all sweets must be banished from the nursery or the table; the child would be thus deprived of the lesson in voluntary self-control; but they should be given as relishes only, after a wholesome meal, letting the child understand that it adds little or nothing to his up-building, and must, therefore, be taken sparingly.

Froebel suggests to the mother that she playfully lead her child's thoughts to the discrimination of different kinds of food and the value of the same, by some such little song and play as the "Tasting Song," in that wonderful book of his for mothers. "Who does not know," said he, "and rejoice that you, dear mother, can carry on everything as a game with your child, and can dress up for him the most important things of life in charming play."

It is not supposed that any mother will feel herself compelled to use the rather crude rhyme given in the "mother book," still it contains the needed hint of *playfully guiding the child's attention to the after-effects of different kinds of food*. Froebel has said: "This is the way in which you, mother, try to foster, develop, and improve each sense, playfully and gaily, but especially the sense of taste. What is more important, mother, for your child, than the improvement of the senses, especially the improvement of the sense of taste, in its transferred moral meaning, as well." Farther on in the same earnest talk with the mother (see page 136, "Mother Songs"), he tells her that by such exercises of her child's senses does she teach him gradually to judge of the inner essence of things by their appearance. It is not necessary for him to actually indulge in them, claiming that moral as well as

physical things show their real nature to the observing eye. Thus if a child is trained to know the wholesomeness or unwholesomeness of food by its results, or after-effects, he will the more readily judge of the nature of a pleasure, of a companion, of a book, of a line of conduct, by its after-effects; and it is not, therefore, necessary that he "sow his wild oats," or "see the world," in the pitiable sense in which that term is used, in order that he may know life. His rational judgment can teach him what, oftentimes, sad, bitter, deforming experience tells him, alas! too late to avoid. He need not be a Faust to solve the Faust problem. In the motto to the mother, Froebel says:—

"Ever through the senses Nature woos the child;
Thou canst help him comprehend her lessons mild."

In other words, that *Nature, God's design, is striving to educate your child spiritually, and that you can help do this through his careful physical training.*

"By the senses is the inner door unsealed,
Where the spirit glows in light revealed."

You can see how definite Froebel's convictions are on this subject. That the soul, the divine element in each child, is, as it were, sealed up when he first comes into the world, and is gradually awakened and strengthened by the impressions which come to it through the senses from the outside world; that the physical and spiritual growth of the child go forward simultaneously, the one by means of the other. He especially charges the mother to teach her child *to observe and avoid things which are unripe*. "Make your child notice not only the fixed steps of development from the unripe to the ripe, but above all that to use *what is unripe is contrary to Nature in all relations and conditions of life*, and often works, in its turn, injuriously on life,—on physical, but no less on intellectual and social life. And as a closing word he exclaims, "If you do so you will be really, as a mother, one of the greatest benefactors of the human race."

That the opinions and consequently the actions of children are easily influenced through play, soon becomes evident to any one who has ever played much with them. One morning, while giving a lesson with the building blocks, we made an oblong form, which I asked one of the children to name. "It is a table—a breakfast table," "Let us play they are all breakfast tables," said I; "I will come around and visit each one, and see what the little children have to eat. What is on your table, Helen?" "Oh!" exclaimed she, in eager delight, "my children have ice-cream and cake, and soda-water, and"—"Oh, dear! oh, dear!" cried I, holding up my hands; "poor little things, just think of their having such a thoughtless mamma, who didn't know how to give them good,

wholesome food for their breakfast! How can they ever grow strong and big on such stuff as that? What is on your table, Frank?" "My children have bread and butter, oatmeal and cream, and baked potatoes," said the discreet young father. "Ah!" said I, in a tone of intense satisfaction, "now here is a sensible mamma, who knows how to take care of her children!" "Oh!" broke in little Helen, "my children's mamma came into the room, and when she saw what they were eating, she *jerked* the ice-cream off the table." The significant gesture which accompanied the emphatic tone, told of the sudden revolution which had taken place in the child's mind as to the right kinds of food for carefully reared children.

In a thousand such ways can children be influenced in play to form judgments concerning lines of conduct which will help them to decide aright when the real deed is to be enacted. I know of the kindergarten-trained five year-old son of a millionaire, who refused spiced pickles when they were passed to him at the table. "Why, my son," said his father, "do you not want some pickle? It is very nice." "No," replied the boy, "I do n't see any use in eating spiced pickle. It does n't help to make me stronger; my teacher says it does n't." If this kind of training can be carried out, such a boy will grow into the young man, who, when tempted, can easily say, "No. I see no use in that. It will not help to make me a stronger nor a better man."

(To be continued.)

STRENGTH AND INCOME.

THERE are women whose strength would only suffice for their own homes, and the demands in them, if a reserve is to be left for the future when the strength-producing powers are gone and physical life is pauperized, but who give more strength outside than inside their homes. Men and women shrink from financial poverty in old age, but the wealth of nations cannot save from physical poverty if strength has not been administered wisely.

Every man and woman has a right to a spiritual and a mental life that will administer to the future. It is the reserve fund on which they must draw when the world forgets them on its onward march, when enfeebled vision and halting step leave them at the roadside for the chariot of death. How many men and women who are busily hoarding money for that future, are hoarding the strength that will make it doubly rich? It is appalling, the rate at which we live, using every day every ounce of strength we make, and drawing on future strength. It saps life of pleasure. The grandest music fails to wake the souls of many who listen, "because they were too tired to hear it." The noblest picture is but half seen, because of a mind cluttered with worthless cares more often than by those that are truly worth bear-

ing. Faces grow old and wrinkled, and voices shrill and dissonant, not in service, but in worry. We do live in a busy world. And who would rather not wear out than rust out? But let us live to a purpose; let us wear out evenly,—not in holes that require patching. What service we render, let it be given in health, not disease; in joy, not pain.

As there are men and women who watch the outlay of every penny, so there are men and women who must watch the outlay of every physical and mental effort. The value of the individual to himself and the world depends on the nicety of his adjustment of his relations to its demand upon him. We should develop a wholesome shame for disease; we should see in it the result of transgression; and, when so seen, it should lead us to repentance and conversion. All men and women should study their own natures enough to know where to call, Halt! where to place the legend, "Thus far and no farther," and live up to it. Then when the emergencies make large demands, the exchequer will not be empty; poverty will not be added to other burdens. Treat your strength as you do your income—getting the best results for the amount expended, and leaving a margin for use in the non-productive days.—*Christian Union.*

LIBERTY is freedom from restraint. Is freedom from restraint good?—That depends upon circumstances. If you wish to run an engine, the steam must be restrained. If you ask me whether liberty is good for men, I ask you, "What are they going to do with it?" There is no magic in liberty. It is like everything else, good or bad, according to the use made of it.

There can be no absolute freedom. Every man is limited by those about him. You are free to be a good citizen; you are not free to murder, to steal, or

defraud. You are free to be a kindly, courteous, and cultivated member of society, you are not free to be morose, indecent, or low-bred. You are free to be a law-abiding, peaceful member of the community; you are not free to be a Mormon or a cannibal. You are free to utter those ideas which help men; you are not free to utter those ideas which destroy morality and corrupt the character of people. You are, in short, free to do right, but not free to do wrong; free to speak the truth, but not free to lie.



MURIEL TEN EYCK'S NEW WARDROBE.

BY HELEN L. MANNING.

"COME rain, come snow ; come any sort of weather ! I can defy the elements now just as well as my big brother, whose freedom I have so long envied."

Thus exclaimed Muriel TenEyck, as she surveyed with intense satisfaction her first complete hygienic wardrobe. Her daily work lay in a large newspaper office, where she was already recognized as "a young lady of adaptability and business-like ways ;" and a business suit for a business woman had for some time been an unrealized ideal in her busy brain.

"You are a young woman after my own heart," responded Muriel's aunt, Dr. Constance Ormsby, a practicing physician from Chicago, under whose direction this wardrobe had been planned. "Dressed in this sensible fashion, I shall not only expect you to hold your own, but to lead the way for others to follow. You are both independent and popular, therefore a good leader of reform. For several reasons women are at a disadvantage in their competition with men for daily bread, affecting both the quality of their work and their wages. One of the most prominent of these is the hampering, unhealthful style of their dress. Yet most of them have resignedly accepted it as an inevitable portion of their lot as women. Corsets are not only ruinous to health, but to true symmetry of outline ; while heavy, dragging skirts, pending from the hips, work about as much mischief as the corset. The body is unevenly covered : fold upon fold, and band upon band are crowded about the middle portion of the body, where least clothing is needed, on account of the greater blood supply ; while the extremities, which are the most susceptible to cold, are unsufficiently clad. Many serious cases of congestion, often leading to life-long invalidism, are due to this uneven distribution."

"I was in Cousin Maude's dressing-room this morning," said Muriel, "while she was making her toilet, and during the laborious process, I took an inventory of the number of pieces which go to make her up. She thinks the combination suits are 'horrid,' and so sticks to old fashions in underwear. Not counting

shoes and stockings, she put on thirteen pieces. The corset, and corset-cover, and three white skirts were among the superfluities I might name."

"And if you had weighed the garments she put on, you would find more reason than appears on the surface for her being so languid and spending most of her forenoons lying upon the sofa and complaining alternately of headache and backache. In my practice I have tried to lessen my income by teaching my patients how to get well instead of how to keep sick ; and as an object lesson in advocating dress reform, I have weighed up a number of such sets of garments, and found the aggregate something astonishing. The other day I weighed a basque and skirt alone, of silk and cashmere, which tipped the scales at eight pounds, and I have found one or two tailor-made cloth suits which weighed thirteen pounds. The weight of the underclothing varies from three to five pounds additional. Small wonder that women burdened in this way can't walk four blocks without an alarming degree of fatigue. I don't know as I could, though in a costume of my own choosing, I think nothing of walking eight or ten miles in a day. In the interests of science I would like to see a strong, healthy man arrayed after the fashion of your cousin Maude, and sent off for a day on a collecting tour, or let try ten hours of any kind of manual labor. I fancy he would die outright, or at least be sure that he was going to."

By this time Muriel was arrayed in one of her new suits, of only three pieces, which covered her lithe body evenly from head to foot. The first was a combination suit of light flannel knit goods ; over this a divided skirt of wash pongee, and a bewitching little garment of alabastro cloth, made in one piece, on a gown form, the whole weighing scarcely three pounds.

"Now," continued Aunt Constance, viewing her niece's costume with much satisfaction, "all you have to do in going out in bad weather is to draw on a pair of leggins, and into the tops of them tuck the fullness of your divided skirt, raise your dress to convenient height with a safety-pin, don waterproof and

rubbers, and you can reach your place of business in perfect comfort, take off your leggins, drop your dress, and be just as dry and tidy as if the sun shone."

"How light and comfortable the costume is!" put in Muriel. "I feel as free as a bird. See, I have already brought home several suits of wash goods and flannel, mostly of the substantial sort for office wear, besides this dainty one of gray surah silk and the one of black nun's veiling. I remembered what you said about always making sure of light-weight material for these gowns when I did my shopping."

"When the autumn frosts come, you will need a heavier combination suit of under flannel, and for mid-winter, still another over that. Two suits of light flannel are much warmer and more comfortable than one of very heavy flannel. The Jenness-Miller divided skirt is most suitable for summer, being open at the bottom; but for winter I have adopted Dr. Kate Lindsay's modification of this garment. She gives it a waist and a lining foundation, which holds the fullness at the bottom in proper place, and makes sure that it hangs well. It bags over like a blouse, and comes down to the length of an ordinary petticoat."

"Such trouble as I had with my dressmaker!" said Muriel. "In the first place, she preferred to fit a French corset rather than my figure; and then to get my dresses loose enough and still fit smoothly, was something she declared at first she could not do. But patient insistence finally conquered, and at last she seemed both surprised and delighted at the prettiness and gracefulness of these completed costumes, with their flowing outlines, which suggest, rather than closely mark, the contour of the body. I wish you would start a school of reform for dressmakers, among your other benevolences, Aunt Constance."

"That is what the world needs more than anything else at present, I know; still, advances are being made, since so many fashionable ladies are taking up dress reform, and especially since athletic sports have begun to be popular with young ladies. The world has ceased to laugh at reformers who are trying to emancipate their sex from the thralldom of dress. I remember very well what the woman who dared had to bear twenty-five or thirty years ago;" and Doctor Constance shut her lips rather firmly, as if what she remembered was not altogether pleasant.

BEAUTY VS. THE CORSET.

IN a sensible paper, "Artistic Dress," read before the Chicago "Society for the Promotion of Physical Culture and Correct Dress," by Frances M. Steele, the author makes the following truthful statements concerning the corset, and withal so forcibly that but very few women can fail to see the point:—

"If we reverence the Creator, no human form can be beautiful to us that is not natural and healthy. A small waist is only pretty when harmonizing with general slightness. The dainty waist of the poets is precisely that flexibility which is a natural characteristic of youth. It is later replaced by a beauty of greater dignity. That flexibility is one quality destroyed by corsets. When the shoulders spread out above and the hips poke out below, a small waist is only a deformity. It is only because modern men and women have been accustomed to such a departure from nature that the deformity is admired, or even tolerated. The curves of the natural body are all outward curves, one gently rising out of the other; but the chief curves of a corset are inward curves, which are utterly incorrect,—exactly opposed to those elements which Ruskin has taught us are beautiful in a curve. Fixed angles are monstrous except where nature has placed them, at the juncture of the limbs with the trunk.

"Another ugly feature of the corset is the whalebones, whose rigidity obscures that rippling move-

ment of the body which is one of its chief beauties. So far as that quality which artists speak of as the 'sentiment of the muscles' is concerned, the woman might as well be incased in cast iron, or be one of those 'stylish' squaws who persistently offer you a bundle of cigars at the door of a tobacco shop. Other ugly features are the hard cross line of the bust, which distinctly shows, and the whalebones and lacing can generally be seen through the dress behind.

"The ampler the form the less can good taste consent to its compression. Every one knows that a large person looks less large when moving with ease and grace. Tight dressing destroys both. The sudden bulges and violent amplitudes it displays are distressing to the sense of modesty. Ineffective, imperfect struggles to move about are distressing to the sense of beauty and grace. These things are positively ugly. And all this unlovely spectacle for what? Pleasure?—Certainly not. Beauty?—Certainly not. For nothing but the gratification of a depraved taste. For just the reason, and *no other*, that the savage sticks a bone through her lip to make it hang down below her chin. Nature is grievously insulted, and often avenges herself. The epitaph,—

"Here lies a girl whose brief, brief days
Were briefer still for wearing stays,"—

if often repeated, would tell more truth than is commonly found in grave-yards."

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.

"WHAT SHALL WE DO TO-DAY?"

THE question had been asked half a dozen times, even before breakfast; but when that meal was finished, it was repeated with added emphasis and most wearisome effect—"What shall we do to-day?" Every day brought from the lips of these young people the same monotonous question, the emphasis varying a little with circumstances. Occasionally, more than one form of recreation presented itself, in which case the first word of the sentence became the prominent one. Frequently it rained, and at such times the despairing inflection upon the "shall" was quite demoralizing to the spirits of the listener; but with the advance of the season, the last word of the sentence was made to sustain the full weight of anxious and almost hopeless inquiry.

The little hotel whose walls were daily made to resound to this stereotyped question, was located in a mountain region of great grandeur. The scenery in every direction was magnificent and inspiring. Countless drives and walks surrounded the house, while two lakes, with row-boats and sail-boats, were within a short distance. Near by stood a mansion built in colonial times, and possessing an extensive library which the owner was generous enough to allow the summer boarders to use whenever they felt inclined. To a person possessing the least taste for nature, art, or literature, the situation was infinitely full of advantages for enjoyment and culture. Yet this group of young people, all of them over sixteen years of age, and possessed of that amount of education given up to that time by the ordinary public school, were, as a rule, casting about "from morn till dewy eve" to find an answer to the question, "What shall we do to-day?" Plenty of cheap, paper-covered novels lay about on the parlor tables; there was some talk of "reading" and "lending" and "finishing," and of "how it turned out," but the novels seemed to give no satisfactory enjoyment to any one who read them. There were croquet and tennis; in the evening, some desultory playing and singing in the parlor, with a

little spasmodic dancing; and on rainy days, much grumbling, staring out of windows, speculation upon the chances for fair weather, perfunctory attention to embroidery and crochet work. Altogether, the effort to "have a good time," the sole object of these young people in leaving their city homes for this transient country one, was tiresome and depressing to the looker-on, arousing much sympathy for the poor young souls continually inquiring what they should do to be saved from weariness and satiety.

To one of these restless young women, trying for entertainment "everything by turns and nothing long," the writer one morning addressed herself:—

"What are you going to do to-day?"

The question was so evidently a paraphrase on the one frequently asked on the other side that the young lady laughed merrily.

"I am sure I do n't know," she replied, almost sadly, for the laughter had quickly subsided. "I've finished that new novel, 'The Maiden Maundering in the Moonlight'—it's awfully exciting, but 'taint half long enough; and I've learned that new crochet stitch—it's too awful fussy for anything; and if it's going to rain, I do n't know what I *shall* do."

"And supposing it does not rain?"

"Well, I guess I should walk around," she answered, somewhat aimlessly. "Some one said we might as well do that as anything."

"When you walk, what do you see?" I inquired.

"See!" she repeated, opening her eyes to their fullest extent.

"Yes, what do you see? But possibly you do not open your eyes so widely as that when you go to walk."

My words did not seem to penetrate her inner consciousness.

"For instance," I pursued, determined to test some of the theories I had formed concerning the mental poverty of these young people, "have you any idea how many different kinds of trees there are from

the front door down to the first turn in the road?"

"Why, no. I never noticed."

"Nor the different kinds of ferns growing down by the pond?"

"No."

"You have studied botany?"

"Oh, yes; I've studied it—term before last. Our class planted a tree when we graduated last June—a maple, I guess it was."

"You are not sure?"

"No. I don't know a maple from any other kind. How should I? One of the girls said it was."

"And geology?" I said, tentatively.

"Oh, that's worse than botany! They both came in the first term of the last year. They're just horrid!"

"Have you ever spent any time in Mr. Wiseman's library?"

"Yes, indeed. I went all through it the other afternoon. 'Tisn't good for much. There isn't a single new novel in it."

"But there are over five thousand volumes on the shelves, they say."

"Yes, I should n't wonder. He's got lots of books. But I never cared for poetry, and the poky old authors we studied in the literature class—mercy! you just bet I've had enough of them to last me one while!"

"He has one alcove filled with histories," I remarked.

"You don't mean that anybody would *read* history!" she exclaimed, with the most genuine astonishment. "Why it's the driest thing under the sun. I studied it long enough to know that."

"And biography," I feebly added, as a supplement to my last remark.

"Pooh! That's just like history, only stupider."

"You play and sing, I believe."

"A little. It makes my back ache to sit at the piano more than half an hour at a time."

"In Mr. Wiseman's library there are great stores of music, classical and—"

She slowly shook her head with an indifferent air.

"It seems to me that any one who can sketch in this beautiful country must have an unfailing source of enjoyment."

"Yes," she languidly assented, "I guess likely. Anyway, the folks who draw are all the time gushing about it. They see a picture where there is nothing but an old stump or a stone wall. It's so queer!"

"Then you never tried to draw?"

"Why, of course I can draw. I got a hundred per cent last term for my drawing. It was just copying,

you know. We never tried anything else. But I shouldn't wonder if it was nicer to paint. I like colors. I just love to go round and match things when mamma has a dressmaker; only it does bother me so to calculate how much stuff to get, and how to make change."

"Do you row?" I asked, with a sudden change of subject.

"No; I'm not strong enough. The doctor says my chest is very weak."

"But it is the finest sort of exercise for any one with a weak chest," I observed.

She shook her head conclusively.

"I should n't dare to try it."

Although I had by no means finished the questions I would gladly have had answered by this young person, I was obliged to discontinue them, as she was suddenly seized and carried off by a bevy of her companions, who had, fortunately, discovered something they could do to kill time that day. But the conversation gave me plenty to think about. It was a revelation of the average girl of to-day—the machine-made graduate, with stooping shoulders and weak chest; with a smattering of book science, a surfeit of dead literature, a dislike for all history, difficulty in the simplest mathematical calculations, a hundred per cent of skill in copying pictures on paper, without one per cent of ability to see or create pictures for herself—these frank admissions made in the most commonplace language, lacking all touch of originality, and with a decided touch of current slang. This education had transferred her from the graduating class of the high school to short summer leisure among the mountains, and was supposed to have fitted her for all the coming summers and winters of her woman's life. She was but one of a group of such girls, fairly pretty, gentle in manner, innocent in thought, well meaning and well behaved, with weak minds and weaker bodies, which with proper training might have been strongly and symmetrically developed. At sixteen years of age, with all the past advantages supposed to be given by a city life and a first-class public school education, with all the present and future opportunities waiting for the American young woman in this progressive and magical nineteenth century of time, she stood comparatively helpless, without individuality, without developed tastes, without practical knowledge of any kind, conscious of no particular power or interest in the world. Life had so far freely given to her and her companions of every good gift, requiring from them in return only attendance at school at regular hours, and some effort of memory to retain what was there imparted

to them. Evidently they were looking for it to give them more and more abundantly. Every hour was challenged to produce some novelty for their entertainment; every hour which failed to do so was regarded as a grievance. Nature opened to these young eyes and ears and fingers her store-houses of incalculable treasures for their profit and enjoyment. Everything which could instruct, delight, and stimulate the artistic soul was spread before them in the most lavish profusion. Literary and musical art offered to them the riches accumulated by the wisest scholars and sweetest singers through all the ages; but having eyes they saw not, having ears they heard not, the things which could have ministered not only

to the peace of their restless spirits, but to the development of their intellectual and spiritual natures.

"What will they do to-day?" I asked myself as I saw the group disappear in the distance. "What will they do to-morrow, and for all the days to come?" If such conditions as these are really the result of our present systems of what we are pleased to call education,—and who that understands the situation can deny the fact?—is it not time for us, who, as parents, teachers, citizens, are responsible for the present and the future of these young souls, to ask ourselves seriously and swiftly the vital question, "What shall we do to-day?"—*Caroline B. Le Row, in Christian Union.*

IF WE HAD BUT A DAY.

We should fill the hours with sweetest things,
If we had but a day;
We should drink alone at the purest springs
On our upward way;
We should love with a life-time's love in an hour,
If the hours were few;
We should rest, not for dreams, but for fresher power
To be and to do.

We should waste no moment in weak regret,
If the day were but one;
If what we remember and what we forget
Went out with the sun;
We should be from our clamorous selves set free
To work or to pray—
To be what the Father would have us to be,
If we had but a day. —*Selected.*

MOTHERS AND BABIES.

BY MISS M. F. CUSACK.

EVERYWHERE the same old story: poor little mortals, playing and laughing—and, it must be admitted, crying, also, once in awhile. They think not at all of the future, when there may be so many tears in store for them. And the mothers?—Well, it seems to me, sometimes, the mothers think as little about the future of their children as the children do. But the babies have no knowledge of their future life, and the mothers have. Will there not be a good deal of responsibility somewhere? Will not God say one day to the mothers, "I gave you these little ones to care for; what did you do to prepare them for their future in time or in eternity?" It is not that these mothers do not care for their children—on the contrary, they love them dearly; but they do not always give them wise care. We have had mothers' meetings and talks to mothers, and much has been said that would have done these young mothers so much good if they had only heard it. But I noticed with pain that at all of these meetings the young mothers who should have been there were absent.

The young mothers, I fear, think they know everything. The old mothers are just beginning to find out how little *they* know. But these old mothers—grandmothers, many of them—had evidently begun at the beginning with their own children, and were

reaping now the harvest ripe from early sowing—happy mothers and happy children.

If mothers would only think seriously of their responsibility to their children while they are young, they would not so often have to mourn over their short-comings or their sins in later life. I think one cause of the mother's neglect of the mental and spiritual education of children, is that few mothers remember at what a very early age a child "takes notice." The very best of mothers are sometimes very unwise on this point. What a wonder the mind of the young child is! Surely no one can have been much with little children without noticing their marvelous intuitions. You may not think, but most certainly they do think. What a mystery life is to them. Everything is new and strange; and as they begin to reason with the first dawn of intellectual power, you must be well prepared to inform their minds, to satisfy their questioning. One thing you may be sure of: if you do not satisfy their growing desire for knowledge, some one else will do so. And will they then obtain a knowledge of good or a knowledge of evil? A child often begins to reason before he begins to speak. The process may not be comprehensible to you,—certainly it is not comprehensible to the child,—but it is in active existence all the same.

The great trouble, and perhaps I might say the great evil, of the present age is, people do not think. The young people of the present day are brought up, or bring themselves up, in such a different fashion from the good old home-life. It seems to me, sometimes, that there are no homes now. We have places to live in—we must have them; but a place to live in is not a home. I believe that much of the domestic trouble of the present day arises from or is indirectly caused by the absence of home-life. A boarding-house may be convenient, but it is not a home. A flat is a degree better; but a flat is not a home. Here to-day; gone to-morrow. There are no tender associations, no loving personal recollections. I do not know whether a home is most needful for the husband or for the wife. I do see, at the end of a long life of close observation of human nature, that it is

needful for both, and most needful for the children.

Far better for the newly-wedded to have a home, however humble, than to have a few rooms, "a place to live in," where there may be more fashionable surroundings, but where usually there will be far less mutual interest. The advantage, too, of bringing children up in a home seems almost too obvious to need comment; yet if it were realized as it should be, there would be more home-life in this country. I know the great difficulty in inducing young people to think of the future. If the present arrangement promises freedom from care, that is all they wish; and yet how much of the future depends on the present. A love of home is almost as great a safeguard as a love of mother. The mother and the home go together as one sweetest part of early recollection. Is it not worth while to secure such memories for our dear ones?

THE ORDEAL BY CHEWING RICE.

"THE East Indian method of discovering a thief by the ordeal of chewing dry, pounded rice has almost disappeared of late," says a recent writer in the *Popular Science Monthly*. He then goes on to give an account of this queer custom, founded on a keen insight into the influence of mind over body, which we would hardly expect to find in the untutored savage:—

"A case of its successful application many years ago, to discover who had stolen a gold watch that was missing, is described in *Chambers's Journal*. A native official, who was employed by the government for detecting thieves by the rice ordeal, was called in to conduct the process. The loser of the watch was one of four young Englishmen who occupied a house together. All the servants of the establishment, some forty-odd in number, were seated in two rows on the ground in one of the long verandas of the house. A small piece of green plantain leaf was first placed in each man's hands. The thief-detector then went round with a bowl of pounded rice, like flour, and with a wooden spoon poured a quantity into the open mouth of each servant. The order was given that each man was, within five minutes, to chew the rice-flour to a pasty mass, and eject it on his plantain-leaf.

"Most of the men set to work with a will, though a few were rather frightened at first; but long before the five minutes had elapsed, almost every one had got through with the operation, and held the evidence of his innocence in his hands. But why are so many eyes turned toward one man, who sits back as if anxious to avoid observation? We also look, and there is the favorite servant of the loser of the watch, with his face almost convulsed, and trying in vain to get the rice-flour out of his mouth. His lips are dry, and his glands refuse to produce the saliva which is needed to moisten the rice-flour. At last the detector's eyes glare upon him, and pointing at him with his long bony finger, he says solemnly, 'There is the thief!' The victim quails and grovels on the floor before him; he faintly appeals to his master for forgiveness, and promises that he will restore the watch. The convicted thief slowly rises, and requesting his master to follow him, goes to the well in the garden, and produces the gold watch from under a loose brick.

"This operation savors of magic, but it has a psychophysiological explanation. It is one of the influences of the mind over the body, the anxiety of the culprit evidently arresting the flow from the salivary glands."

THE INFLUENCE OF SURROUNDINGS. — Forms of beauty are not simply pleasant in themselves, but are perpetually reaching out, and by touching the soul itself, molding the disposition and the heart. I have known a father to select a picture,—only a lithograph, inexpensive, but chosen from among many, because of the sweet face of a little girl who

looks up at you from her work, with her needle in her fingers, while a gentle smile is lighting up every feature,—and place it in his dining-room, with the sole purpose that the ever-beaming countenance should exert its influence over the little ones of the household. No one can measure the quiet influence of things like this.

A WORKADAY ROMANCE.

THIS story was originally told by Spurgeon: A young clergyman and his bride were invited guests at a large party given by a wealthy parishioner. In all the freshness and elegance of the bridal wardrobe, the young wife shone among the throng, distinguished by her comeliness, vivacity, and rich attire; and when, during the evening, her young husband drew her aside and whispered to her that she was the most beautiful woman in all the company, and that his heart was bursting with pride and love for her, she thought herself the happiest wife in the world.

Ten years later the same husband and wife were guests at the same house, where there gathered a similar gay company. The wife of ten years ago wore the same dress she had worn on the previous occasion, and, of course, it had been altered and re-made, and was old-fashioned and almost shabby. Toil, and care, and motherhood, and pinched circumstances had taken the roses out of her cheeks and the lithe spring out of her form. She sat apart from the crowd, careworn and pre-occupied. Her small hands, roughened with coarse toil, were ungloved, for the minister's salary was painfully small.

A little apart the ten-year husband stood and looked at his wife, and as he observed her faded dress and weary attitude, a great sense of all her loving faithfulness came over his heart. Looking up, she caught his earnest gaze, and noticed that his eyes were filled with tears. She rose and went to him; her questioning eyes mutely asked for an explanation of his emotion; and when he tenderly took her hand, and placing it on his arm, led her away from the crowd, and told her how he had been thinking of her as she looked ten years before, when she was a bride, and how much more precious she was to him now, and how much more beautiful, for all her shabby dress and roughened hands, and how he appreciated all her sacrifice and patient toil for him and their children, a great wave of happiness filled her heart, and light shone in her face so that it gave more than youthful beauty. And in all the company there was not so happy a couple as this husband and wife, their hearts and faces aglow from the flaming up of pure sentiment that transfigured and ennobled and glorified all the toils and privations they had endured, and whose reflected radiance no untoward future could dim.

FOUR things come not back — the spoken word, the sped arrow, the past life, the neglected opportunity. — *Haslitt.*

EVERY one has a welcome for the person who has the good sense to take things quietly. The person who can go without her dinner, and not advertise the fact; who can lose her purse, and keep her temper; who makes light of a heavy weight; who does not magnify the splinter in her finger into a stick of timber, nor the mote in her neighbor's eye into a beam; who swallows bitter words without leaving the taste in other person's mouths; who can give up her own way without giving up the ghost; who can have a thorn in the flesh, without pricking all her friends with it, — such a person surely carries a passport to the good graces of mankind.

THE EARTH GROWS. — Accumulations of surface matter are astonishingly rapid. Professor Newton estimates that 400,000,000 meteors fall to the earth annually. These add enormous quantities of matter to the earth, but do not, of course, account for all surface growth and changes. Modern London is built on the site of Roman London, but the ancient city is seventeen feet lower than the modern. The Jeru-

salem streets that Jesus walked through are twenty feet lower down than the streets of the Jerusalem of to-day. One of the most interesting resorts in that city was the pool of Bethesda. Recently, work being done by Algerian monks laid bare a large tank cut in the solid rock, thirty feet below the surface.

ECONOMIES ON A LARGE SCALE. — Some remarkable statements are made by Prof. Rein, a scientist who has been investigating the material resources of Japan. They reveal a national frugality and economy of a marvelous type. The area of Japan is less than that of California. Its cultivated land is less than one tenth of its total acreage, yet its products support about 38,000,000 persons. The United States has about 60,000,000 population, and this allows over a square mile of territory for the maintenance of every two individuals. In Japan 2,560 persons subsist from each square mile of tilled land. A people existing under such circumstances must from necessity of preservation be provident, painstaking, hard-working, ingenious, and frugal. The Japs appear to deserve all these adjectives. Agriculture with them is literally market-gardening, because the soil is required to produce more in proportion than any other in the world.

TEMPERANCE NOTES.

At the International Fair and Exposition now being held at Detroit, strict precautions have been taken against the sale of intoxicating liquors in the buildings or on the grounds. Gambling in all its forms, has also been excluded.

AN English temperance orator, when speaking on the subject whether or not it would be possible to close the public drinking-saloons, said: "This is a difficult question, truly, my friends; but we will do well to remember that—

There is a little public-house which every one may close;
It is the little public-house just underneath the nose."

SALOONS are everywhere. There are even saloons among the fishing fleets in the North Sea—floating saloons where liquor is sold to the poor fishermen suffering from cold and wet, who thus hope to better endure their daily hardships. As an offset, an English benevolent society is now sending out schooners of provisions, which will be sold to these fishermen at merely nominal prices.

It is said that the Viticultural Commission of California has applied to the Directors of the World's Fair for permission to place on exhibit a flowing fountain of pure native wine, fifty feet high.

THE women of a certain section in Indiana have undertaken a novel crusade against liquor-selling. They have resolved to "knit out" the saloon nuisance. They take their knitting work, and go in quiet, orderly groups to the saloon, enter, sit down, and—stay. Another company relieves them after a few hours, but a certain number of women remain there, until the saloon-keeper finally gives in. The women do not destroy, nor even trespass; still less do they interfere with the business in any way. They simply stay right on, and knit, knit, interminably. They cannot be turned out, for it is a public place. They are for the most part those who have moneyed husbands, fathers, brothers back of them; and therefore they must be treated courteously. So the women and the knitting carry the day. The saloon-keepers thus far tried, have been obliged to give up the business.

POPULAR SCIENCE.

IN France, a certain kind of paper is manufactured from hop-vines. It is claimed that they form an excellent substitute for rags.

A NOVEL flower, it is said, exists on the Isthmus of Tehuantepec. It is white in the morning, red at noon, and blue at night. It gives out its perfume during the middle of the day.

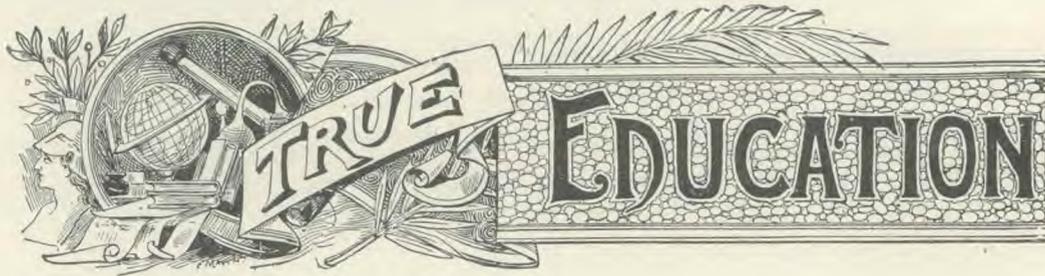
It is stated that a Bohemian has lately discovered a chemical compound by means of which the hardest stones can be dissolved and molded in any shape, the "cast being as hard as flint, translucent, and capable of taking on a brilliant luster."

IN some parts of Mexico, soap is the current money, and therefore the legal tender in all business transactions. Small cakes are used, of the value of one and one-half cents, each cake being stamped with the name of the one authorized to issue it, as well as the name of the town where it is current. So long as the stamp remains undefaced, so long it passes unquestioned. In portions of South America, chocolate is used as currency, as are also cocoanuts and eggs.

ONE ounce of gold can be beaten to cover 146 square feet.

A CURIOUS industry in Japan, handed down from father to son, is the systematic dwarfing of forest trees until they are mere plants of two feet or less in height. In the Tokio exhibit at the Paris Exposition was an eighty-year-old maple only twenty inches high, and several pines of twenty-four inches, which were one hundred and fifty years old.

THE *Boston Globe* is our authority for the statement that there is an island in one of the lakes in New England which floats upon the top of the water. Portions containing several acres each have become detached, and float off by themselves. These sometimes cluster together, and at other times are found five or six rods apart. The main island contains about one hundred acres, and moves more slowly. After the wind has blown hard for a day or two, it is found to have changed its position several rods. There is a forest of thrifty tamarack trees upon it, which fact gives rise to much speculation as to how the roots are nourished.



NEWSPAPER READING.

BY MYRTA B. CASTLE.

BETWEEN the ages of twelve and twenty, most people form a taste for a certain style and class of literature,—a habit in reading; and as “habits are cables,” it takes a fierce storm of conviction to sever the strands. Good habits of judiciously choosing one’s authors, will seldom be broken, as it is not conviction that leads to vice, but temptation along the line of inclination.

It is said of social companions that “birds of a feather flock together.” Although the trite proverb is true in the main, in many individual cases it is not, as some people are too proud of birth, social standing, or opinion, to consort with those who are naturally congenial. But the general trend of our literary habits, the authors we choose,—mental companions of many leisure hours,—will nevertheless tell to all who care to know if our intellectual companionship is elevating, if our minds are expanding under the genial influence of the noble thoughts of others; and this same comradeship of authors will as surely tell if we are dwarfing or distorting our minds.

Young people cannot be trusted to judge in all things for themselves,—to be a light to their own pathway. The home and the school should unite in forming correct judgments in the immature, susceptible minds; for when once the wax of their forming minds has been stamped with an unworthy image, nothing can ever wholly erase it.

Precept upon precept, without the stimulus of practice upon practice by the teacher, at home or at school, will never accomplish what it so gratuitously attempts. As the reading of the idle hours has so largely to do with forming the men and women of the future, it is of the first importance that such reading be wisely chosen; for the land is so flooded with cheap, exciting literature, which destroys not only the intellectual preceptions but the moral as well, that it is next to impossible for it all to be avoided.

The yellow-covered novels and the sensational weeklies are not alone in furnishing food for morbid brains. Our daily and weekly newspapers are stuffed

full to overflowing with matter just as bad, perhaps worse, although it does not come in the form of exciting fiction. It bears upon its face the stamp of truth; yet because of its very truth it is most vitiating.

This subject calls to mind one of the honored patriots and statesmen of the Revolutionary period, Fisher Ames. Think of our multiplied printing-presses since he raised his voice to cry down what he could see was one of our nation’s weakest points! What he saw in his day to excite disgust and pity, has multiplied upon itself thousands of times. A hundred years ago he wrote his celebrated protest to printers, complaining of the harm done to young, sensitive minds by the shocking articles calculated to raise wonder, terror, or even worse, horror and disgust. “Boys are found unaccountably bent to do as men do,” as is also true of many eccentric minds; and the lengthy accounts of incendiaries burning our cities, he thought, only tend to aggravate the calamities. But his own words will best show the danger coming through the medium of our newspapers:—

“Every horrid story in a newspaper produces a shock; but after some time this shock lessens. At length such stories are so far from giving pain that they raise curiosity, and we desire nothing so much as the particulars of terrible tragedies. To wonder is as easy as to stare; and the most vacant mind is the most in need of such resources as cost no trouble of scrutiny or reflection; it is a sort of food for idle curiosity that is easily chewed and digested.”

Of course it is patent that the mind cannot thrive and do its best upon solid food only. “Man cannot live by bread alone.” There should be a judicious mingling of the “staff of life” and lighter food; but it *should* be a judicious mingling, with the preponderance always on the side of bread. Literary sugar-plums will never develop Henry Clay minds.

“To wonder is as easy as to stare,” said Fisher Ames; and Emerson, in speaking of newspapers, tells his “College Boy” to avoid “the stuff put in for people who have nothing to think.” “There is a great

secret," he says, "in knowing what to keep out of the mind as well as what to put in. And even if you find yourself interested in the selections, you cannot use them, because the original source is not of reference. You can't quote from a newspaper. Like some insects, it died the day it was born." The "College Boy" is further exhorted to make quick searches for the genuine news, and to learn to get the best of the newspapers, without letting them get *his* best.

Literature of some kind, good, bad, or indifferent, the young people will have. We are living in the "age of words,"—words multiplied, squared,* and cubed. One recent writer says, "Every street in every city of civilization has its news-stand, every event its historian, and every possible dramatic situation is being hunted down by a score of ambitious authors. Even the log cabins and summer cottages in the mountains overflow with books. In street-cars and on steam-boats, men and women read incessantly. It is not an age of iron, nor electricity, but of printed paper." But notwithstanding all this profusion of

reading, the same writer says the world "goes hungry for the lack of words that are food and drink to the spirit."

If mothers and teachers only realized that "the reading of strong books and the thinking of pure thoughts make the mind strong," that "bad books [and bad papers] in the long run make bad men, and vulgar books vulgar men," there would be felt a genuine alarm. The class of reading that should not be read is the class that is everywhere present; therefore the urgent need that strengthening, growing mental food be substituted for the unnutritious and positively harmful.

If newspaper people would only follow the example of a dear old lady long in newspaper work, who said that she wrote because she had "something to say—some evil to lift her voice against," the "fables, prodigious monsters, and crimes" would gradually become fewer; for morbid minds would have nothing to fatten upon, and consequently would have to turn to something better.

KEEPING AT IT.

It is a great mistake to suppose that the best work of the world is done by people of great strength and great opportunities. It is unquestionably an advantage to have both these things, but neither of them is a necessity to the man who has the spirit and the pluck to achieve great results. Some of the greatest work of our time has been done by men of physical feebleness. No man has left a more distinct impression of himself on this generation than Charles Darwin, and there have been few men who have had to struggle against such prostrating ill health. Darwin was rarely able to work long at a time. He accomplished his great work by having a single aim, and

putting every ounce of his force and every hour of his time into the task which he had set before him. He never scattered his energy, he never wasted an hour, and by steadily keeping at it, in spite of continual ill health and of long intervals of semi-invalidism, he did a great work, and has left the impression upon the world of a man of extraordinary energy and working capacity.

Success is rarely a matter of accident, always a matter of character. The reason why so many men fail is that so few men are willing to pay the price of self-denial and hard work which success invariably exacts.—*Selected.*

Go where he will, the wise man is at home,—
His hearth, the earth; his hall, the azure dome.

—*Emerson.*

THE sun's rays might fall all summer long on the white paper, and only dim its whiteness; it is when they are focused, concentrated at one point, that the paper burns.

EXCELLENCE is never granted to men but as the reward of labor. If you have great talents, industry will employ them; if you have but moderate abilities, industry will supply their deficiency. Nothing is entirely denied to well-directed labor; nothing worth keeping is obtained without it.

IF, in the pursuit of that on which we have set our hearts, we take steps which violate our sense of right and lower our moral tone, to just that extent we lessen the success of our lives. The temporary gain which may seem to ensue is, in reality, our worst failure, and will, in time, manifest itself as such. So completely does the success of man's work depend upon the success of his life that it is worse than useless for him to attempt to secure the former at the expense of the latter. Each one has some talent, some preference. Let him work in that line, if possible; but, while he cultivates himself in that, let him, at the same time, keep such a hold on the other phases of life as shall round and make symmetrical his nature.

SOCIAL PURITY.

LEGISLATIVE INFLUENCE ON SOCIAL SINS.

BY S. ISADORE MINER.

WISE laws strictly enforced are the protection every government owes its citizens, from least to greatest. The great sin-suppressing force of civilization is the civil law, and always will be so long as men build their characters on so low a plane that fear of punishment rather than the love of what is good and best and truest, the love of right itself, is the restraining motive.

It should be, then, a matter of individual interest that the law-making power of the land should be entrusted only into just and judicious hands. The members of our legislative bodies should be chosen with an eye to the public good and the betterment of the public morals, rather than the furtherance of party or personal considerations. Right here lies the secret of much of the evil endured from social vices and intemperance. How can temperance people expect to get prohibitory laws, when, at the same time, the men they choose to formulate them are liquor-users themselves? And how can those interested in social reforms look for legal protection for defenseless women and innocent girls from the very men who above all others profit by the freedom that the present atrocious laws give? Go to any of our capital cities during sessions of the legislature, and what do we find?—That hundreds of shameless creatures have flocked there, thrown open their houses of sin, and it is an open secret who fill them and provide for their support. Is it not a disgraceful commentary on the lives of our public men,—the men to whom we trust the protection of our wives and daughters?

Christian voters too often lend their ballots and influence for the election of those whom they know to be immoral. In a public man, these things are frequently winked at; "he is a trifle loose in his morals, but then, a great many of our smart men are;" "he will work for the good of the party;" "has an interest in the working classes;" and so his election is assured. And these are the very men who make so strong a fight, too often successful, when any of our social reformers succeed in getting prohibitory or

protection bills before the legislature. In Wisconsin, at the time social-purity workers were having such a struggle to introduce a bill for the relief of the pinery victims, one energetic person undertook to look behind the scenes in the lives of some of the men who so vigorously opposed the measure in the house. The disclosures were simply appalling. The majority of those who took exceptions to the bill had individual interest in so doing.

It is not possible for men who are corrupt in their private life to be just or beneficent rulers, and their very presence in the legislatures of our States and nation, is a block to all good measures that gain a hearing. The private life ought to be made a test for candidacy, and will be when men become educated to the moral aspect of citizenship. The boy arrives at the age of majority without any particular sentiment concerning the ballot, except that he is twenty-one, and can vote. He votes the ticket his father does, or to please some friend, or sells it, perhaps, to some anxious aspirant. That he has accepted any moral responsibility with the little slip of paper, never once occurs to him, nor the magnitude of the right or wrong that he thus unconsciously furthers. Educators have a great work for good in their grasp, in training the boys who are growing to manhood under their influence, to recognize the moral obligations of the ballot.

Those who have been thus educated to a sense of their duty as citizens, will clearly see through the fallacy of legalizing intemperance and prostitution by license, "for the good of the government." He will ask: "What is this government? It is not a figure-head set upon some pedestal, to which Americans, like heathens, should offer up their honor and virtue. The *government* is the *people*, and of the latter I am one. It is not for my interest that rum and wickedness should be encouraged, nor for the safety and welfare of those I love; therefore I will have none of it." It is the ignorant voter that thinks the country is growing prosperous on its own wretchedness. Vice

may pay enormous revenues into the public purse, but it more than consumes it in the keeping of jails and poor-houses to hold its victims. The hundreds of murder trials, and trials of other crimes, individual cases of which often cost the civil courts thousands of dollars, are all the direct results of drink and vice, and must be met from the purse of the tax-payer. And yet corrupt politicians say these things pay, and go on upholding the licensing of the liquor traffic and dealers in shame, and continue to cry down with voice and veto any pro-

test entered against them. We sometimes wonder that, for the "good of the government," they do not issue licenses for murder, at an enormous profit; yet that is what they virtually do when they murder honor, and shame, and innocence by immoral laws.

It was so great a man as Lord Beaconsfield that said: "The health of the people ought to be one of the considerations of a statesman." If the physical condition of the people is worthy legislative attention, how much more so the public morals.

PARENTAL RESPONSIBILITY.

PARENTS are responsible in the example of purity they set before their children. Many a young boy's mind is vitiated by the impure stories he hears his own father relate. Many a young girl need not be blamed for hiding around a corner to whisper "secrets" to another girl; for her mother has frequently sent her from the room that she might enjoy a rare bit of scandal with a neighbor. Parents are also responsible for the training of the child in habits of purity.

"He's a regular boy!" exclaims the fond mother as she administers a trifling reprimand for a gross breach of modesty in the little one. The same offense in her little girl would have caused the mother great anxiety. But "these things are natural to boys," she says, never dreaming that the fearful aspect of the case is that they *are* natural, that is, an inheritance from sensual male ancestors. An acquired vicious habit may be easily broken, but not so an inherited one. Nevertheless, the little girl who is by birth less given to immodest actions, is assisted up the heights of purity of character, while the little boy, who is being

dragged down by the terrible momentum of ancestral forces, is trifled with, instead of being rescued from moral peril.

But no such thing is possible as the placing of the sexes upon different moral planes. God meant that man and woman should stand together in every place and condition where humanity exists. Women who have trifled with the awful truth that certain base propensities have been handed from father to son until they have become in a sense "natural" to our boys, will soon hear thundering in their own ears, the unconquerable avalanche of sensuality that has already swept to an unsought degradation thousands upon thousands of weak, defenseless working-girls.

A flower garden, however tastefully arranged and well prepared for the reception of good seeds, will never sprout plants of its own accord. If left to itself unplanted, flowers will not grow in it, *but weeds will*; and that preparation which facilitates the growth of flowers will also facilitate the growth of weeds.—*Kate C. Bushnell, M. D.*

CHILDREN must be interested. The persons and places where they find the keenest interests are those to which they will attach themselves. If the parent and teacher fail to pre-occupy the field, the dangerous outside influences are sure to do it. We must pre-occupy the field if we would save the children.

THERE can be no appearance more hopeful and promising in childhood and youth, than a tenderness of conscience respecting *small things*. A child who is never inclined to plead excuses for what is known to be wrong, by saying, "Is it not a little thing?" who resists an improper thought, forbids a hasty word, who fears the slightest deviation from the truth, bids fair to rise by gradual but certain steps, to true excellence.

THERE is a mine of truth in the following words by the *Christian Union* anent the divorce question: "We have no doubt that the real foundation for permanent felicity in the marriage relation, is fairly well expressed by the English judge who said, 'People are made good husbands and wives by the knowledge that they must continue to be husbands and wives.' Hasty marriages are more disastrous than clandestine marriages, and experimental marriages are more disastrous than either." It is the knowledge that divorce opens an easy way out of any uncongenial union, that is the cause of so many hasty and ill-advised marriages. Once let the binding vows be considered irrevocable, and the choosing of a partner for life will become a more serious matter than mere pastime, as much of the present-day courting really is.

GOOD HEALTH

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

MEDICAL FRAUDS.—IX.

The Wilford Hall Humbug Again.

OUR exposure of the fraud which is being perpetrated by this notorious charlatan, seems to have seriously disturbed his equanimity, in spite of the beneficent offices of his marvelous panacea. In an advertising sheet which he publishes under the title of the *Microcosm*, he makes an attack upon us in an infusion of the most insane railings imaginable. Without attempting to answer a single one of the objections which we have raised against his so-called "remedy," he simply fires his mud-loaded blunderbuss, which is evidently his only means of defense. Presenting no scientific facts in support of his absurd pretensions, he has nothing else to say in response to an exposure of the falsity of his claims, and the dangerous character of the so-called panacea, except a miscellaneous volley of vituperation. After telling his readers that we "run a so-called health resort, which has been largely attended," he thus proceeds to cut his own throat:—

"But now a change has come over the spirit of his [our] dreams. He learns of the pamphlet's having commenced its salutary work among his patients, and fearing a stampede in consequence of this inestimable knowledge becoming general, he is goaded to desperation, and comes out in this villainous attack, hoping thereby to prevent his dupes from prosecuting further investigation.

"But he is mistaken. He might as well try to dam the Niagara River with a walking-stick as to attempt to check with his puny ravings the onward march of this priceless discovery.

"We now give notice that every patient in his resort shall be supplied with this pamphlet *free of charge* and postage paid, by making application to us.

"Nor need he think for one moment that he can prevent their seeing this notice, and thus possessing themselves of this treasure, by his ribald disparage-

ment of the work. We have the means of reaching their eyes in spite of all he can do, through the columns of this ubiquitous little journal, which, during the past year, has carried the glad news of our health-giving panacea to more than 7,000,000 families in the United States and Canada, as our publication books will show, verified by the affidavits of more than twenty of our book-keepers and clerks."

Dr. Hall's Secret for a Two-Cent Postage Stamp.—After receiving a copy of the *Microcosm* containing Dr. Hall's complimentary notice of us, and the above generous offer, we improved the first opportunity to read his entire article, including the above paragraphs, to our patients, at a public lecture in the Sanitarium lecture-room. We took pains to give every patient Mr. Hall's exact address, including the street number, so they could make sure of obtaining a copy of his recent pamphlet, if they desired. Also offered to loan, to any one who desired, a copy of the pamphlet which we have in our possession.

We have not yet been called upon for the loan of the pamphlet, and have not heard that any copies have arrived through the mails. We take this opportunity to place Dr. Hall's generous offer before our readers, as the best means of reaching the attention of many of the twenty-five to fifty thousand patients who have been under our care during the last fifteen years. Dr. Hall has kindly offered to make a generous discount for the benefit of our patients. The ordinary price of his pamphlet is four dollars, net; but his high regard for the interest of our patients leads him to make the liberal discount of 99½ per cent. He can certainly afford to do this, if, as he claims, his patrons already number 1,000,000,000 persons. Nevertheless, we judge that two cents will amply pay the cost, one cent postage and one cent for the pamphlet. Indeed, it is quite likely that Dr. Hall has

counted upon half a cent of profit in the transaction, even at two cents per copy, postage paid. At any rate, none of our readers who are prompted by curiosity to know more of this matter than we have given in our journal, need to give four dollars for the information. Those who have been under our professional care have only to send to Dr. Hall a two-cent stamp, stating the fact, and if he does as agreed, he will at once send a copy of his pamphlet, postage paid. We should be glad to have every one of our readers have a copy, if they feel interested enough in the matter to send for it, so that they may be able to verify the statements we have made concerning it. Those of our readers who have never been our patients, can avail themselves of this golden opportunity by writing to us. We can easily make a prescription of one dose of Dr. Hall's panacea, which will entitle the patient to obtain a copy of his "secret" for a two-cent postage stamp. So if Dr. Hall does as he has agreed, the bottom has dropped out of his business altogether; no more four-dollar drafts for a half-penny pam-

phlet. We hope our readers will spread the knowledge of Dr. Hall's generous proposition as widely as possible. If one of his agents comes into your neighborhood, immediately publish in the local paper the fact that any person who desires can obtain the secret for a two-cent postage stamp, by addressing GOOD HEALTH, Battle Creek, Mich.

Since the publication of the former articles, we have received further evidences of the rascality and duplicity of this man Hall, which are of the most astounding character. We will reserve this for a future number, and in the meantime shall wait with interest to see whether the proprietor of the greatest of all discoveries in relation to human health, the distinguished scientist, the old philanthropist, the audacious charlatan, A. Wilford Hall, will fulfill his promise to furnish each one of our patients a copy of the pamphlet disclosing his so-called secret, on receipt of a two-cent postage stamp. Will each of our readers who has the curiosity to give him an opportunity to fulfill his promise, report the result of his experiment?

FOUL AIR AND SUMMER COMPLAINTS.

VARIOUS forms of intestinal disturbances, diarrhea, etc., commonly known as summer complaints, are undoubtedly due to the reception of germs into the alimentary canal. These germs may be received either through contaminated food or drink, or through the inhalation of impure air, as is clearly shown by the following extract from a paper by Prof. Lewis Smith, medical professor of diseases of women in the Bellevue Hospital and Medical College:—

"Many years ago, when making a sanitary inspection, one street arrested my attention on account of its general filthy state, and the offensive odors observed in it during the summer months. The street was without sewer, and the houses, built of wood and without drainage, and with little or no intervening spaces, were densely crowded by a low class of occupants, mainly foreigners, who seemed to have no thought or knowledge of sanitary requirements. Refuse, constantly wet by the slops thrown out or trickling from the houses and evolving noxious gases, lay in the street and in the front and rear areas. As might be expected, the infant population suffered severely from the foul air during the summer months. A house to house visitation revealed the fact that nearly every infant in the street was suffering from a severe form of diarrhea. In another locality occupied by a low class of meat venders and tripe dealers, who carry on bone-boiling and similar objectionable oc-

cupations which taint the air, the summer diarrhea was very prevalent and fatal. The cause of the prevalence and severe and fatal character of this disease, was made apparent by a visit during a hot summer night, when the air in this and adjoining streets was so stifling and foul that the peculiar and unpleasant taste which it produced, due to bacteria or ptomaines, or both, was distinctly noticed in the mouth and throat hours after leaving the place.

"A few years ago, when on duty in the New York Infant Asylum, a very offensive odor was noticed in the wards of the institution on May 10, a day not unusually warm for this month. It was traced to a manure heap in an adjoining lot, which the gardener was disturbing. On this day four infants were seized with vomiting and purging, and one died. The summer diarrhea was not occurring or was infrequent at the time, and it was evident that these severe diarrheal attacks were due to the foul air which pervaded the wards of the asylum. The statement made by Murchison that nearly all the children in a school were attacked by diarrhea when an old and foul drain was opened in the immediate proximity to the school-room, and the fact known to medical students that the air of the dissecting-room, if not freely ventilated, is liable to produce diarrhea, afford additional proof of the causal relation of foul air to this disease.

"Since foul air is an important factor in produc-

ing the summer diarrhea of infants, it is obvious that measures should be employed to render the atmosphere in which the infant lives as free as possible from noxious exhalations. Cleanliness of the infant and of the persons who are in immediate contact with him, produced by daily bathing and the change sufficiently often of the bedding and wearing apparel during the summer months, should be insisted on. Not less important is domiciliary cleanliness. No

vessel containing slops or excreta should be allowed to remain in the apartment, but should be emptied immediately and cleansed, and all refuse animal and vegetable matter, in or outside of the house, should be promptly removed. Street cleanliness is as important as that of the domicile as a means of obtaining a pure and untainted atmosphere; and to procure it, the active and willing co-operation of families is requisite."

HINDOO AVERSION TO THE HOG.

WE find the following illustration of that wholesome aversion to the hog which characterizes all high-class Hindoos, in one of our esteemed contemporaries, the *Bible Echo*, of Australia:—

"A party of Europeans traveling in the East, were much annoyed at meal-times by the natives swarming around them like flies. At last one cunning man suggested that a piece of bacon might drive them away. It was produced, and as soon as the natives saw it, they fled.

"A mounted English officer of high rank, ignorant of the Hindoos' prejudice against the hog, took up the little son of a Hindoo noble, and placed the boy before him on the saddle. The saddle was made of pig's-skin, and the child's caste was at once broken. He had touched the polluting hog, and not until he had gone through a long and expensive series of puri-

fications in a cow-shed, was he received among his own people.

"The captain of an East Indiaman once used a pig to compel a crew to do their duty. The ship was largely manned by Hindoo sailors, who, as long as the vessel was in the warm latitudes, cheerfully did their work. When, however, the higher latitudes were reached, the men suffered from the cold, and began to shirk their duty.

"At last they refused to come on deck, and in spite of threats and even blows, remained below in the fore-castle. A happy thought struck the captain; he ordered a rope tied to the leg of the ship's pig, and had the animal lowered into the strikers' quarters. Immediately every Hindoo, fearing his caste might be broken, rushed on deck to avoid contact with the contaminating beast."

REMARKABLE SURGERY IN EGYPT.—Prof. Clot Bey, who is acknowledged to be the founder of rational medicine in Egypt, asserts: "It requires as much surgery to kill one Egyptian as seven Europeans. In the native hospitals, the man who has been operated upon at two o'clock is sitting up and ready for supper at six." The explanation offered for this remarkable vitality is the simplicity of diet, out-of-door life, and abstinence from meat and alcoholic spirits.

BOILING WATER FOR A VILLAGE.—One of our Australian exchanges gives an interesting account of how an outbreak of typhoid fever was stamped out at Houghton-le-Spring, by the intelligent sanitary board at that place. Finding that the epidemic was due to pollution of the public water-supply, the board at once erected large steam boilers in the vicinity of the great Herrington well which supplied the village, and passed every drop of water which came from the well through the boiler before circulating it to the public water-pipes.

PEPSIN MANIA.—One of the greatest physical needs of the present age, at least in this country, is good digestion. The lack of digestive ability has created almost a mania for swallowing artificial digestive agents of every description. Pepsins of varied origin and in various combinations, peptones, peptonoids, and every possible preparation for digestive promotion, are manufactured and sold in prodigious quantities, to satisfy the almost universal demand for something to aid digestion. An eminent French physician, M. Georges, has made examinations of the gastric juice in one hundred and forty-two cases of indigestion, and has never found pepsin deficient in a single case. In sixteen cases, patients were made worse by the use of pepsin. Recent researches show that in cases of indigestion, if accompanied by pain, the difficulty is usually a deficiency of the natural acid of the gastric juice, rather than a deficiency of pepsin, which may be considered as always present in sufficient quantity, as a small amount of pepsin will digest a very large amount of albumen.

HYGIENE IN BURMAH.

ONE of the most conspicuous deficiencies in missionary labors among the heathen has been due to the want of a proper knowledge of hygiene on the part of missionaries. It has not infrequently been observed that one of the most serious obstacles in the way of the success of missionary labors, has been the fact that as soon as the heathen became civilized and converted, he became unhealthy through the adoption of civilized modes of living. The few attempts which have been made to teach rational modes of living in connection with missionary labor among the heathen, have been conspicuously successful. Some years ago, an experiment of this sort was made by the director of the mission at Liberia, Africa, and with the best results, in protecting missionaries as well as pupils from pestilential fevers which prevail in that region.

But we wish to notice particularly an effort now being made by Miss Emma O. Ambrose, a missionary to the Karens at Tongoo, Burmah. After a dozen years of arduous missionary labor among the wildest natives of Burmah, Miss Ambrose found herself completely broken down in health, and was barely able to get back to her native land. Some good fortune brought her to the Sanitarium, where she remained a great part of two years. For months, her life was almost despaired of, but she finally recovered so good a degree of health that last fall she was able to return to her post in Burmah. While receiving treatment as a patient, Miss Ambrose kept her eyes and ears wide open, gathering information for the benefit of Burmah, and when able to do so, entered the training-classes of the institution, and acquired as much knowledge as possible in that way of the methods of treatment, as well as the principles under-

lying the hygienic reforms advocated. She became a staunch vegetarian, and her excellent health in the employment of a simple vegetarian diet, is rapidly convincing her co-laborers of the practical advantage of abstaining from the use of meat, especially in tropical countries. She took with her a considerable quantity of health foods, which she finds eminently useful.

But the thing to which we wish especially to call attention, is the fact that Miss Ambrose is laying the foundation for a most beneficial work among the benighted inhabitants of the mountains of Burmah, by training a class of bright native girls in the excellent methods of treatment and nursing used at the Sanitarium. The amount of good which may be accomplished by native girls thus trained, is beyond estimate. Miss Ambrose is doing a noble work as a pioneer in this field, and we feel sure that the results will be most gratifying. The Sanitarium managers would be glad to train a health missionary for every missionary station on the globe, and has now in training between thirty and forty young men and women who are under pledge to devote themselves to medical missionary work. There is no more useful calling for young men and women of ability than that of the medical missionary.

Our attention has also been recently called to the noble work which is being carried on under the superintendence of Dr. Dowkouth, who is at the head of the Medical Missionary Training-School in New York City. His school is sending out every year some scores of young men and women to all parts of the globe. Its purpose is wholly philanthropic, and it is certainly an enterprise worthy of encouragement and financial aid.

STERILIZING MILK.—Sterilizing milk consists in subjecting it to heat at the temperature of boiling water for at least one hour. Some scientists who have been making extensive experiments claim that all germs are killed by boiling the milk well for an hour. Others claim that a temperature above that of boiling is necessary to kill certain kinds of germs.

VEGETARIAN DIET.—By vegetarian diet is not meant a diet of vegetables, but a diet consisting of the productions of the vegetable kingdom, the best of which are the various grains and fruits. Milk is usually added, as it is quite free from the unwholesome qualities which render flesh food objectionable. Dr. Dujardin-Beaumetz, the renowned Parisian physician, maintains that the body may be thoroughly well

supported on a diet from which meat is wholly excluded, adducing as proof the fact that French peasants do not eat meat, and yet are strong and healthy. As Dr. Dujardin-Beaumetz well observes, "this diet is of therapeutic importance in certain diseases. A vegetable diet limits to a minimum the production of toxines, such as neurin, muscarin, etc. It is indicated in insufficient functional activity of the kidneys and alimentary canal, indeed in all similar conditions where an accumulation of ptomaines in the blood might prove dangerous. It is also indicated in "putrid diarrhea." In diseases of the stomach, a vegetable diet is especially indicated, as the intestines are principally employed in its digestion, thus affording the stomach considerable rest. In the uric acid diathesis, this diet is also recommended."

OLD GABRIEL, a famous California Indian, died recently at Salinas, aged, according to authentic records, one hundred and fifty-one years. He was a man of most sober and temperate habits.

ELECTRICITY AS A GERMICIDE.—Prof. Apostoli has been experimenting with electricity as a germicide, and finds that by the employment of strong currents, the most deadly microbes may be killed. The positive pole only was found to be effective, no result being obtained from the most powerful current when the negative pole was employed.

OPIUM-SMOKING IN LONDON.—According to the *Medical Brief*, this vicious habit, borrowed from the Chinese as tobacco-smoking was borrowed from the American Indian, is greatly on the increase in London. It has recently been disclosed that a leading practitioner living in the West End, has published a pamphlet extolling opium-smoking as a remedy for various morbid diseases, and giving minute directions for the practice of this most pernicious habit.

THE CAUSE OF TYRO-TOXICON POISONING.—Eighteen cases of tyro-toxicon poisoning recently occurred in the community in which the editor resides. All used milk from the same cow, and all received symptoms practically alike,—violent vomiting and purging, with great prostration. The symptoms closely resembled those of cholera. All recovered, but in some instances the illness occasioned by the poisoning lasted for a number of days. Cases of poisoning of this sort are exceedingly prominent at this time of year, but may be entirely prevented by simply taking precaution to boil all milk before using it for food.

DIPHThERIA FROM MILK.—Recent researches by European bacteriologists have discovered the germ cause of diphtheria, and have also revealed one fact respecting its origin which is of the greatest importance; namely, that cows frequently suffer from this disease, and that the germs may pass from the system of the cow into the milk, and thus be communicated to human beings. This is another important reason for the cooking of milk. In the opinion of the writer, milk should never be eaten without first being raised to a temperature sufficient to destroy disease germs. Most germs may be killed by heating the milk to a temperature of 160°. All dangerous germs will be killed by raising the milk to the boiling point and maintaining its heat for five minutes. When diphtheria is prevailing in a neighborhood, no child should be allowed to take milk which has not been boiled.

FISH-POISONING.—This is the season of the year when poisoning from the use of animal food of various sorts is exceedingly common. A recent medical journal reports a case of the poisoning of a widow and her five children and three boarders, by the use of fish. Two of the patients died.

TOBACCO AND INDIGESTION.—According to the *Union Medicale*, M. Lyon, an eminent French physician, has shown by careful researches that tobacco lessens the contractility of the walls of the stomach, thus not only producing indigestion, but a tendency to dilatation of the stomach and chronic disease of that organ. The presence of digestive disorders among tobacco-users is practical evidence of the injurious effects of tobacco on digestion.

CONSUMPTION IN BIRDS'-NEST SOUP.—Some Americans are fond of sampling Chinese dishes, among others the various preparations of birds'-nests. It has recently been discovered that these nests, which are the product of the salivary secretion of a certain species of swallow, are frequently constructed by birds suffering from consumption. The most valuable nests are those which contain a certain quantity of blood. It has been recently learned that the presence of the blood is due to hemorrhages occasioned by a disease from which the birds sometimes suffer which is probably identical with consumption. It would seem from this fact that these birds'-nests might be the most efficient of all means of spreading the disease. Practically, the edible birds'-nest appears to be composed of the expectorated matter of diseased birds.

POISONING FROM LEAD.—The common use of tin-foil adulterated from lead, as a wrapping for various substances, is a frequent cause of lead-poisoning. Dr. Kinnicutt, president of the Practitioners' Society of New York, recently reported several cases of lead-poisoning due to lead-foil. One patient was a florist, and had been in the habit of biting off the ends of tin-foil used as wrappers for hand bouquets. The other was a beer dealer, who had been in the habit of drinking beer from bottles cleaned with lead shot. Dr. Dana reports cases of poisoning due to the use of beverages held in bottles with "patent stoppers." Dr. Wiley reports lead-poisoning through the use of tobacco which had been wrapped in tin-foil. We do not object to the use of lead for the last-named purpose. The addition of lead or some other substance commonly recognized as poison, to tobacco, might be beneficial in the end by discouraging its use.

INJURY FROM BAKING-POWDERS. — The free use of baking-powders is one of the most efficient causes of the prevailing dyspepsia for which this country is noted. The researches of M. Lyon and M. Robin, authoritative French *savants*, as well as the experiments of other investigators, show that alkalies taken with food neutralize the gastric juice, and induce the formation of lactic acid, through encouraging development of the microbes which give rise to the souring of milk. These microbes are present in the stomach at all times, and produce a lactic acid fermentation in various food elements when the acidity of the gastric juice is not sufficient to render the germs inactive. Baking-powders always contain soda, and sometimes other alkalies. These chemical substances utilize the acidity of the gastric juice, not only preventing its action upon the food elements, but encouraging the activity of germs, and thus give rise to indigestion, which in turn occasions many forms of chronic disease of the stomach and other organs.

ICE-WATER. — The danger in the use of ice-water is well emphasized in the following paragraph from a paper by Dr. Hammond, in the *North American Review*, which we take pleasure in quoting, although we do not by any means indorse everything Dr. Hammond writes:—

“It is quite common for persons to feel faint and to become pale immediately after drinking a glass of ice-water. They attribute these effects to heat or over-exertion, or to some other cause which has nothing to do with the result, not knowing that they have so weakened the heart as to prevent its sending a due amount of blood to the lungs and brain, and that, had the water been a little colder, life would possibly have been extinguished altogether. Direct experiment with instruments especially devised for the purpose of measuring the force of the heart's pulsations, establishes the fact that there is no agent of the *materia medica* more powerful with some persons as a depressant of this organ than a large draught of ice-water. Under certain circumstances it acts with all the force and rapidity of prussic acid.”

WOMEN AS SANITARY INSPECTORS. — Chicago leads in the appointment of women as health reporters, having appointed five intelligent women, at a salary of \$1,000 each, the same amount paid gentlemen for the same work. The duties of these women, as stated in the *Union Signal*, “are to inspect places where women and children are at work, and if unsanitary conditions are discovered, they are empowered to order necessary changes. In many places the condi-

tions they found were sickening, and demonstrated the wisdom of the Woman's Alliance, at whose petition they were appointed. These ladies are clothed with police power, and if necessary, enforce their recommendations by pointing to their star, which is usually concealed. Already great good has come from the work of these inspectors. Abuses have been discovered and put in the way of being remedied or abated. Often the terrible conditions surrounding working-women in shops and factories seem due to ignorance on the part of employers and employed, and are greatly improved by carrying out the directions of the inspectors.” We heartily approve of this action on the part of the Chicago municipal authorities, and recommend a similar action in every city of the United States. Women are pre-eminently fitted for work of this kind.

HOT-AIR TREATMENT OF CONSUMPTION. — For some months the medical world has been agitated by the great results claimed by the inventors of a simple apparatus for the heating of air, to be inhaled by persons suffering from consumption. Dr. Dujardin-Beaumont, at a recent meeting of the Academy of Medicine, declared that it was important to remove the delusions concerning the treatment of phthisis by this means, which were entertained both by the public and by certain medical men. The first idea of Weigert, who championed this method in America, supposed the bacillus in the lungs could thus be destroyed. Mosso and Rondelli have shown that the air inhaled even at 212° F. is not, at the moment it reaches the alveoli, higher than the rectal temperature. From a clinical point of view, the same authors affirm that this method is of service in producing a species of respiratory gymnastics. Dujardin-Beaumont adds that the experiments carried out by him in his hospital ward had given unsatisfactory results, and concludes that the hot-air treatment of such cases is positively dangerous. *Apropos* of this subject, Dr. Constantin Paul remarked that at all the mineral water stations where phthisis was treated, it had been observed for a long time that when the temperature of the air became high, the treatment had to be suspended, as the condition of the patient became notably aggravated. The frequent notice of this method of treatment by the newspapers, has brought it before the attention of the laity, and has not only led to the creation of false hopes respecting this malady, but led many to waste money in the purchase of a high-priced apparatus which, as will be seen by the above statements, is not only of no use, but may be positively harmful.

DOMESTIC MEDICINE



DIET IN PAINFUL DYSPEPSIA.

PAUL CHERÓN, a noted Parisian physician, makes the following excellent suggestions, which we translate from the *Union Medicale*, respecting the diet of persons suffering from painful dyspepsia, in which there is usually an excess of acidity in the gastric juice.

"The dietetic prescription must be very minute. The patient will avoid tea, coffee, and alcohol; also all meats and all substances which excite the gastric juice, as condiments, game, etc. Vegetables rich in cellulose are harmful, because they are badly digested in the stomach, which contains an excess of acids. They accumulate and dilate it. On this account, dilatation of the stomach is very frequent in persons suffering from an excess of acidity in the gastric juice. Lyon recognized that fat substances and fresh bread are badly digested, and such a patient should be per-

mitted to eat only well-toasted bread, in which the starch is in part transformed to dextérine. In all cases, it is necessary to avoid table drinks, which contribute to dilatation of the stomach. A milk regimen is indicated in the treatment of this malady when there is much pain or symptoms of ulceration. It is not necessary, however, to continue a milk diet exclusively during a long time. A glass of milk taken during a crisis of pain occurring in the night, often produces good results. The food should be finely divided and thoroughly masticated. Eggs may be freely used."

Aside from a glass of milk taken immediately upon rising, the author above referred to recommends that a patient suffering from this disease should eat but twice a day, and eight hours should intervene between the hours of eating.

ONE of the best antidotes for carbolic acid is soap. A little Castile soap should be quickly chewed and swallowed by a person who has taken carbolic acid. A solution of soda may also be taken with advantage.

TO REMOVE GUN-POWDER STAINS.—Wash the pigmented skin with distilled water containing one-half its own weight of biniodine of ammonia. This changes the color to red. By application of a little hydrochloric acid, the red stains disappear.

CRAMPS.—If taken with a cramp in the foot or leg, seize the part firmly, and hold it for a minute or two in a tight grasp. A muscle cannot cramp without shortening, and if it is thus held down, it cannot shorten. A gentleman troubled with cramps in his legs, to whom we gave this prescription, made an improvement on it by providing himself with a leather strap and buckle, which, when he felt a cramp coming on, he would buckle tightly around his leg, and thus relieve himself of the difficulty.

CAUSE OF DIZZINESS AFTER EATING.—The immediate cause of dizziness is the blood leaving the brain. The process of digestion calls a large amount of blood directly to the digestive organs, and in an anæmic condition, this sudden withdrawal of so large an amount of the blood from other parts of the body, may leave the brain with an insufficient quantity to maintain its activity. Nearly one half of the blood of the body can be drawn into the large blood-vessels of the trunk.

FELONS.—Felons are due to germs which have set up the forming of pus in the covering of the bone. Hence the quicker the pus is liberated and cleansed out by lancing clear to the bone, the better; for if left to work its way out, the process of destruction in the bone is very apt to ensue. When a felon is just beginning, it can be aborted sometimes by holding the part in ice-water; but this is of doubtful propriety, for being caused by germs, the best way is to get rid of the germs.

SUGAR is used as a surgical dressing at the surgical clinic at Strasburg, and is said to be a most efficient agent for the purpose.

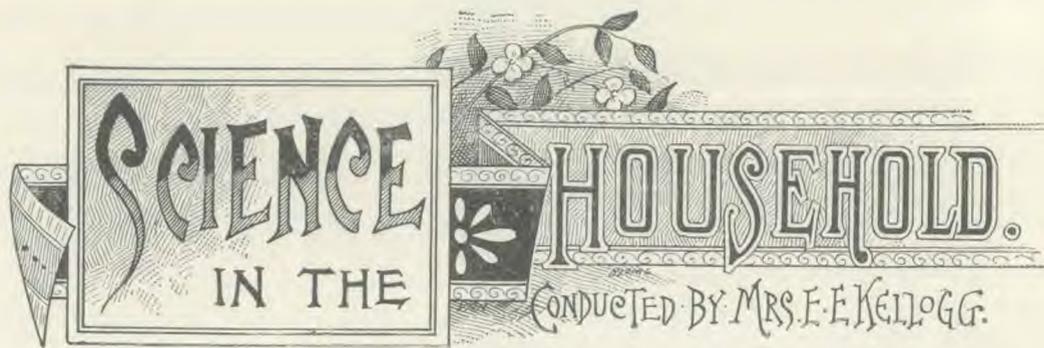
SODA IN FRUIT PIES.—Some housewife, more frugal than scientific, has discovered, and is publishing the fact, that if soda be added to fruit pies, it will require less sugar to make them palatable. Of course a little soda would neutralize a portion of the acid contained in the fruit, but the chemical only disappears as an alkali to reappear as salt, and the salt is harmful to the digestive organs. The stomach contains, during digestion, an acid equivalent to one drachm of hydrochloric acid, although no human chemist can manufacture that which is of the precise quality of compound. When alkalies are taken into the stomach, they serve to break up this acid combination, important as a digestive fluid, and so the process of digestion is delayed. Anything which slows digestion or weakens the gastric juice, gives germs a better chance to work, and decomposition to a greater or less extent results. Thus all alkaline substances—baking-powder, soda, saleratus, and the like—are deleterious.

BOWEL DIFFICULTY IN CHILDREN.—The following simple suggestions will avoid nearly, if not all, bowel difficulties in children, not only in summer, but at all other times of the year. First, make sure of pure water, and if you are at all doubtful about the purity of your supply, boil it well before using. Boil the milk thoroughly, and have all food properly sterilized by cooking. Avoid the use of green fruit. Ripe, fresh fruit may be eaten freely at meals, but at no other time; yet there are thousands of persons who never think of eating fruit except between meals. This imposes extra burdens upon the stomach, and makes many dyspeptics. The stomach gets tired out by being continually worked, and by and by declares a "strike," in the shape of sick-headache. The constant use of any muscle will induce excessive fatigue. Try moving the hand gently but constantly for twenty-four consecutive hours, and you will gain a clearer meaning of what a task you impose upon your stomach by keeping it constantly at work. It is a muscular organ, and should receive at least the consideration given to muscles less delicate.

BOILS.—Boils are caused by germs, but it is not fully determined just how the germs find access. They are probably received through some slight abrasion or other injury to the skin. The pus which is discharged is full of germs. A slight injury in the

vicinity of any of the glands of the body through which germs are given opportunity for entrance, is often followed by enlargement of the glands. An injury to the face, for instance, will cause the glands of the neck and jaw to swell. Sometimes from inflamed tonsils, germs find access, and are carried by the lymphatics along to some point where they obstruct the blood-vessels and form a tiny clot, which gives the germs a chance to feed and grow upon dead blood, and in this way develop a boil. Sometimes germs of consumption are similarly taken to the lungs. Enlarged lymphatic glands about the neck or elsewhere should receive attention, because they may lead to something else. They often take on tuberculosis degeneration, and after a while reach the lungs. It is best to have the glands removed by surgery while the enlargement is still slight. Otherwise, gland below gland may be found affected, and the operation come to be quite a serious one. It is very rare that they can be cured by any remedy. A simple enlargement of the glands can sometimes be driven away by arsenic, but the arsenic may develop a disorder worse than the enlarged glands.

BALDNESS.—Dyspepsia is one of the most common causes of baldness. Nature is a great economizer, and when the nutrient elements furnished by the blood are insufficient to properly support the whole body, she cuts off the supply to parts the least vital, like the hairs and nails, that the heart, lungs, and other vital organs may be the better nourished. In cases of severe fevers, this economy is particularly noticeable. A single hair is a sort of history of the physical condition of an individual during the time it has been growing, if one could read closely enough. Take a hair from the beard or from the head and scrutinize it, and you will see that it shows some attenuated places, indicating that at some period of its growth, the blood-supply was deficient from over-work, anxiety, or under-feeding. The hair falls out when the strength of its roots is insufficient to sustain its weight any longer, and a new hair will take its place, unless the root is diseased. For this reason, each person has a certain definite length of hair. When the hair begins to split or fall out, massage to the scalp is excellent. Place the tip of the fingers firmly upon the scalp, and then vibrate or move the scalp while holding the pressure steadily. This will stimulate the blood-vessels underneath, and bring about better nourishment of the hair. A brush of unevenly tufted bristles is also excellent to use upon the scalp, not the hair.



HELPS FOR THE INEXPERIENCED. — 9.

Of all foods cooked by baking, that of bread requires, perhaps, the most skill to bake properly. The objects to be attained in the baking of yeast bread are to rupture the little starch and gluten cells of the flour, so as to make them easily digestible; to destroy the yeast plant, and to render permanent the cells formed in the risen dough by the action of the carbonic acid gas. To well accomplish these ends, the loaf must be surrounded by a temperature ranging from four to six hundred degrees. The oven should be one in which the heat is equal in all parts, and which can be kept at a steady, uniform heat. Old-fashioned brick ovens were superior in this respect to most modern ranges.

The fire for baking should be of sufficient strength to keep the oven heated for at least an hour, without replenishing. The heat should be greater at the bottom than at the top of the oven. If the heat of the oven be insufficient, fermentation will not cease soon enough, the bread cells will be imperfectly fixed or entirely collapsed, too little of the moisture will have evaporated, and the result will be a soft, wet, and pasty or sour loaf. If the heat be too great, the bread will be baked before it is perfectly risen, or a thick, burnt crust will be produced, forming a non-conducting covering to the loaf, which will prevent the heat from permeating the interior; thus the loaf will have a burnt exterior, but be raw and doughy within.

One hour is the average length of time required, with proper heat, for perfect baking of bread. Divide the time of baking into thirds, the first fifteen or

twenty minutes of which the heat of the oven should increase, although it should not be hot enough to brown the crust during this time. For the next twenty minutes the heat should remain steady, and decrease during the last third. If by any mischance the oven be so hot as to brown the crust too soon, cover the loaf with a clean paper for a few minutes. Care should be taken to prevent all draughts from reaching the bread while baking. Open the oven door very seldom, and not at all for the first ten minutes. If necessary to turn the loaf, endeavor to do so without bringing it to the air. When done, the crust of bread should be equally brown all over. It is better to allow it to bake ten minutes too long than not long enough.

The common test for well-baked bread is to tap it on the bottom with the fingers; if it is light and well done, it will sound hollow; heavy bread will have a dull sound. A thoroughly baked loaf will not burn the hand when lifted from the pan.

Unfermented bread requires quite as hot an oven, and one which will retain the heat with as much uniformity, as does yeast bread, since as the lightness of such bread depends upon the amount of air confined within the loaf to be expanded by the heat during the process of baking, the oven must be quick enough to form a slight crust entirely around the bread before the air escapes. The length of time requisite for baking such bread will vary from thirty to sixty minutes, according to the kind and form in which the bread is baked.

DISCOLORED rattan chairs are made pretty by a coating of black or golden brown paint, finished with handsome cushions.

A CASE of common muslin sheeting that can be removed and washed occasionally, will keep a mattress clean for years.

It is a good thing to paint the kitchen and pantry walls, as it gives a neat appearance and will admit of frequent washing.

CAYENNE pepper blown into the cracks where ants congregate, will drive them away. The same remedy is also good for mice.

THE GRAPE AND SOME OF ITS USES.

UNDOUBTEDLY the grape was one of the first fruits eaten by mankind, and one highly valued from antiquity down to the present time. Although this fruit is often sadly perverted in the manufacture of wine, when rightly used it is one of the most excellent of all fruits. The skins and seeds are indigestible, and need to be rejected, but the fresh juicy pulp is particularly wholesome and refreshing. Several hundred varieties of the grape are known and cultivated.

The very best way to serve grapes is just as they are picked fresh from the vines. They should, however, be first thoroughly cleansed of dust. An excellent way to do this is to lay the bunches, after removing all over-ripe and decaying ones, in a colander, and place this on the top of a pail or deep dish filled with very cold or ice water, in such a manner as to allow the water to cover the fruit well. Turn and shake the colander lightly about in the water. In this way the grapes may be well cleansed and cooled without being crushed or the skins broken. Drain well, and serve.

The different colored varieties arranged together upon a dish make a pretty fruit-piece for the table. Another artistic fruit-piece may be made by arranging large purple plums with bunches of the transparent Niagaras in a basket edged with the velvety leaves of the dark purple foliage plant.

One of the most serviceable ways in which the grape may be prepared for use after the season of fresh fruit is past, is by canning. For this purpose only perfect fruit should be used. After picking from the stems, wash in a colander by dipping and shaking in a pan of cold water. Drain well before using. Grapes have so many seeds that they are more palatable if used without the seeds. Remove the skins by dropping them into one dish and the pulp into another. Turn the pulp into a double boiler, and the skins into another, and heat both slowly, stirring the pulp occasionally until the seeds will come out clean.

Then rub the pulp through a colander, add the skins, and return to the fire, and boil until the skins are tender. Then add a cupful of best granulated sugar to each quart of pulp, and can. If the sugar is first heated by spreading in shallow pans and placing

in the oven, it will greatly facilitate matters. If preferred, the whole grapes may be cooked, and when well scalded pressed through a colander, thus rejecting both skins and seeds. Reheat, add sugar, and can.

The pure juice of the grape, properly extracted and bottled, is a most excellent article to have on hand for many purposes, and housekeepers will do well to prepare a supply of it. The following directions for preparing grape juice without sugar, we quote from "Fruits and How to Use Them":—

"Grape Juice.—The grapes should be of the best quality. Wash them thoroughly, after stripping from the stems and discarding any that are imperfect. Throw them into a granitized kettle, with half a pint of water to every three quarts of fruit; skim when they begin to boil, and cook very slowly for ten minutes. While still boiling hot, strain through a jelly bag, squeezing the skins and seeds into a separate receptacle, as the juice from them will be apt to be discolored. Return the liquid to the preserving kettle, and after boiling half an hour, seal in heated glass cans like fruit. The juice from seeds and skins may be bottled separately. It can be safely kept till grapes are again ripe, if packed in a cool, dark place. The absence of light is as imperative as the absence of heat. Cooled on ice it makes a delicious and wholesome beverage, and is supposed to have specially tonic qualities. If grape juice cannot be kept in a very cool place, add one cup of sugar to every quart of juice at the end of half an hour, then boil ten minutes longer."

Upon good authority we also offer the following recipe for—

Unfermented Wine.—Express the juice from some thirty-five pounds of well-ripened grapes, without cooking the fruit. Strain the juice through a hair sieve, and after it has stood thirty minutes, restrain. Allow it to remain quietly in a cool place for three hours, then strain twice through muslin or cheese cloth. This quantity of fruit will make about nine pints of juice. To this add three of water, and six cupfuls of white sugar. Heat to boiling, skim carefully, and bottle at boiling heat. A corker is necessary, and the corks should be thoroughly softened in hot water. Seal air tight.
E. E. K.

A RED-HOT iron passed over old putty will soften it so it can be easily removed.

It is said that ripe tomatoes will remove ink stains from white clothes, as well as from the hands.

THE main things to observe in preparing for any meal are: to begin in season with the article needing most cooking, to serve everything either hot or cold, not lukewarm, and to make everything as attractive as possible.

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.]

CORRECT BREATHING.—F. L. B., Mich., wishes to learn to breathe as men and uncivilized women do. Finds it hard work. Will inhaling air through a tube be of any use?

Ans.—Yes, provided the movements of the chest are managed correctly.

EXTRACT OF MALT.—Mrs. H. R. M., Ohio, asks our opinion of "Extract of Malt," advertised as a food article and an aid to digestion.

Ans.—Most of the so-called extracts of malt which are advertised in newspapers, are simply contemplated lager beer. As aids to digestion they cannot be recommended.

PIE-PLANT—BRONCHIAL COUGH.—Mrs. J. K., Wis., inquires: "1. Is pie-plant healthful? 2. What would you advise for a cough that seems seated on the bronchial tubes?"

Ans.—1. No. The acid of this plant is oxalic acid, a recognized poison. It is entirely unfit for food. 2. A visit to the Sanitarium, or a change of climate.

RHEUMATISM IN FEET.—S. M., Neb., writes: "Nine months ago I was afflicted with rheumatic pains in back and shoulders, which after doctoring, went to my feet, rendering them painful and swollen. What relief can you suggest?"

Ans.—Soak the feet in hot water every night before going to bed, and apply a pack consisting of a towel wrung quite dry out of cold water, and covered with several thicknesses of flannel, so as to retain the heat. Bathe in the morning with tepid water, rub with oil, and then apply a flannel bandage to be worn during the day. Exercise upon the feet should be avoided.

SORE EYES.—J. Q., Penn., is afflicted with sore eyes. Has tried many so-called remedies without avail, and has also been treating with a specialist for two years. Sight is good, both near and far; general health excellent. Eyelids are inflamed, with enlarged veins. Mucus becomes impacted on the lids during the night, and when the eye is closed, a burning sensation is experienced. Eye-lashes drop out.

Ans.—Would advise the patient to visit the Sanitarium for special treatment, also such treatment as is needed to improve the general health and render eye treatment of the highest efficiency. We know of no

simple remedy which will effect a cure. The patient will probably be benefited to some degree by bathing the eyes with hot water for five minutes two or three times a day, and afterwards applying a solution of boracic acid, made by dissolving three or four grains of borax in an ounce of distilled water.

RHEUMATISM—MICROBE-KILLER.—Mrs. A. C., Mich., wishes to know: "1. What can be done to relieve rheumatism resulting from *la grippe*,—feet and hands almost useless, finger joints stiff and enlarged? 2. Is there any efficacy in the remedy sold as 'Microbe-Killer'? 3. What is meant by *massage*?"

Ans.—1. A short application of heat, either dry or moist, to the affected parts, followed by rubbing with oil, will probably give great relief. Moist packs may be applied every night with advantage, rubbing first with alcohol and then oil on removal of bandages in the morning. Flannel bandages should be worn about the parts constantly. 2. If the patient will send us a bottle of the "Microbe-Killer" referred to, it will be submitted to a chemical analysis, and a report will be published. 3. *Massage* is a French word which refers to the systematic application of kneading and various other manipulations of the body,—a remedy of great utility.

"GIANT OXIE" — AFTER-EFFECTS OF TYPHOID FEVER.—Mrs. J. C. McS., Colo., writes: "1. Can you tell me anything concerning a 'nerve food,'—Giant Oxien,—and whether its ingredients are harmful, even if not beneficial? 2. Is there any remedy for a white scar around the mouth, left by an eruption during an attack of typhoid fever? 3. What is the cause and cure of a numbness and weakness of the ankle joints and feet after an illness of typhoid fever?"

Ans.—1. We are not acquainted with the remedy. If you will send a bottle, we will submit it to chemical analysis, and report result. Have examined many of these nostrums, but never yet found one which was what it claimed to be. 2. We know of no means by which a scar can be removed, except in some cases where scars are broad and irregular. It is then sometimes possible to substitute a thin, straight scar by cutting out the old scar, bringing the parts together under such conditions as will secure immediate union. 3. The probable cause of the symptoms referred to is weakness of the spine, due to the typhoid fever.

LITERARY NOTICES.

THE index for the September number of the *Chautauquan*, shows many rich and inviting subjects, among which are: "On Pleasure Bent," by John Habberton; "Margaret Fuller Ossoli," by L. H. Boutell; "Moral Recovery," by Hezekiah Butterworth; "A Spruce Bark Camp in the Adirondacks," by John R. Spears; "The Supreme Court of the United States," by Eugene L. Didier; "Japanese Art," by T. de Wyzewa. The "Woman's Council Table" contains the following timely and helpful articles: "The Average American Cook," by Marion Harland; "Competition between Men and Women in Business," by Ella Wheeler Wilcox; "Delsarte for Women," by Mrs. Emily M. Bishop, besides many others. The *Chautauquan*, Meadville, Pa.

THE opening paper of the current number of *Good Housekeeping*, is a very valuable one on the feet, in its series, "The Head, the Hands, the Feet." This is followed by a variety of papers relating to all phases of the household, particularly including the care of children. There are other worthy articles in large variety, as well as a careful selection of poetry. Mrs. Campbell's department, "Woman's Work and Wages," is always worthy of special mention, and the other departments are, as usual, well filled and ably edited. Clark W. Bryan & Co., Springfield, Mass.

THE September *St. Nicholas* opens with a paper by Annie Isabel Willis, describing a visit to Oliver Wendell Holmes, and giving a fine illustration of the poet in his library. W. J. Henderson contributes an interesting article on "Great Ocean Waves," strongly illustrated by the artist Taber. There is a clever and exciting story of the "Great Tri-Club Tennis Tournament," by Richard Harding Davis; "Chopping Him Down," a recital of some risky tricks and experiences in a lumbermen's camp, by Charles G. D. Roberts; and Kate W. Hamilton's description of the rescue of "A Little Brown Witch," in Alaska. There are many other contributions of both prose and verse, bright and amusing, the most of them lavishly illustrated. Author and artist have each given of their best, throughout the entire magazine, thus making it a most enjoyable number. The Century Publishing Co., New York.

THE *Polytechnic* is the name of a new magazine, the organ of a Polytechnic Institute lately started in Chicago, and will be modeled after the famous Lon-

don institut^o of similar name. The first number is largely descriptive of the work of the Institute, especially its Trade Schools, a peculiar feature of which is that students may earn their expenses while in attendance, and can learn almost any trade. As this promises to solve the vexed apprenticeship question, all Master Associations are warm supporters of the movement. An article on the new Evening Medical College of Chicago, is also included in this number. The ladies will be interested in the description of the Cooking, Millinery, and Dressmaking schools of the Chicago Polytechnic Institute. Published at the S. E. Corner Madison Street and Fifth Ave., Chicago.

CALIFORNIA topics and scenery occupy considerable space in the September *Century*. There is an illustrated paper on "Features of the Proposed Yosemite National Park," by John Muir, and *apropos* of the celebration, this month, of the fortieth anniversary of the admission of the State, an illustrated article by George Hamlin Fitch, entitled "How California Came into the Union." The present number begins a temporary department of "Californiana," to be devoted to short articles of interest in relation to the gold-hunting days of '49. A paper of timely interest, practically illustrated, is Commander C. F. Goodrich's description of "Our New Naval Guns," detailing the process of manufacture, and recounting their remarkable efficiency. A very fine as well as important paper by Professor Charles W. Shields, of Princeton, on "The Social Problem of Church Unity," is another of the series of "Present-Day Papers" so valuable to all students of social problems. The Century Publishing Co., New York.

SCRIBNER for September has for frontispiece "In the Morning Watch," which forms one of the many fine illustrations of R. F. Zogbaum's article, "With Uncle Sam's Blue Jackets Afloat,"—the first of a series of three on our new Navy, the results of the voyage undertaken by the artist and writer on the flag ship, the "White Squadron," expressly for the magazine. Donald G. Mitchell has also a very richly illustrated paper on "The Country House"; Thomas Stevens, a discussion of the commercial importance and relations of the River and Lake Systems of Africa; C. Emma Cheney, a description of Heligoland (recently ceded by Great Britain to Germany), and Professor N. S. Shaler, a fine paper on "Nature and Man in America." Charles Scribner's Sons, New York.

PUBLISHERS' PAGE.

THE summer at the Sanitarium has been delightfully cool, and free from oppressive days. Two or three warm days, not, however, without a refreshing breeze, have been the only indications of the extreme hot waves experienced in other parts.

* *

OUR readers will notice that we have once more paid our respects to the "Wilford Hall Humbug," in the editorial department. We take special pleasure in calling the attention of our readers to the fact that this marvelous discovery which has heretofore been held by its proprietor at the moderate sum of \$4.00, can now be obtained for a two-cent postage stamp, through the medium of GOOD HEALTH. Please notice Dr. Hall's generous offer. We shall be happy to assist any who may wish to avail themselves of Dr. Hall's proposition, and we trust our readers will not fail to notice what we have said respecting the so-called panacea of all the ills to which human flesh is heir,

* *

THE beauty of the Sanitarium grounds has been recently enhanced through the purchase by the managers of nearly a score of fine palms, and other tropical plants. These palms constitute, unquestionably, the finest collection in the State. A new green-house, 30 x 60 feet, is being built for their accommodation.

* *

WE are glad to acknowledge the receipt of several gallon bottles of distilled water from E. C. Hargrave, of Bay City, Mich., who has been led to undertake its manufacture by the difficulty experienced in that city in obtaining a pure water supply. The sewage of the city empties into the lake, and the water supply is taken from the same source, which of course involves exposure and danger through sewage contamination. The water sent out by Mr. Hargrave is twice distilled and then carefully aerated, and we have no hesitancy in stating that this is the finest specimen of distilled water which we have ever seen, being wholly free from the flat flavor which, to most people, renders distilled water unpalatable. No natural water can be compared with distilled water from a health stand-point. Mr. Hargrave has invented apparatus by which the distillation of water can be accomplished on a large scale, and at so moderate a cost as to make it possible to supply a city with drinking water of absolute purity at a price within the reach of the humblest citizen. There are thousands of cities which could not make a better investment than in expending a few thousand dollars in putting in one of Mr. Hargrave's distilling plants. This sort of distillery is one which even the staunchest prohibitionist could support, and which has the commendation of GOOD HEALTH.

* *

JUST as the journal is going to press, the Editor, in company with a large number of other medical gentlemen interested in climatology, is on his way to Colorado, to attend a meeting of the American Climatological Society, which convenes at Denver the present week. Dr. Kellogg expects to meet in Colorado, Mr. Tyszkiewitz and wife from the Pacific Coast, who are interested in a proposed Sanitarium for that State. The managers of the Sanitarium have fully decided to start, at the earliest possible moment, a branch institution in Colorado, to be especially devoted to diseases of the chest, and other diseases which are favorably influenced by such climatic conditions as are found in that State, which are undoubtedly superior to those of almost any other locality in the world for certain classes of ailments.

THE managers of the Sanitarium are exerting themselves to the utmost to extend the charitable work of the institution, especially in the surgical department. During the last year a large number of worthy persons suffering from grave diseases which required important and critical operations, have been received into the ward, and have, through skillful treatment and nursing, been sent home restored to excellent health. Many of these cases were of the most desperate character. The gratitude expressed by these sufferers in being restored to health and usefulness, is ample compensation for all the pains-taking labor bestowed upon them. A few philanthropically inclined persons have endowed beds, which are entirely free to worthy persons. It is hoped the number of such beds may be considerably increased within the next year. A report of the beneficent work done through these beds will be published at an early date.

* *

SANITARY ENTERPRISE.—Through Hon. J. L. Hubbard, President of the State Board of Health, of Walpole, New Hampshire, we have learned that the New Hampshire State Board of Health has undertaken a sanitary survey of that State, through its local Boards of Health. We deem this action one of the most important measures which could be undertaken in the interest of the public health of that State. The making of a sanitary survey calls attention directly to the evils which render Boards of Health necessary, and is a means of educating not only those engaged in the survey itself, but also the people of the community in which the survey is made. A sanitary survey of every State and village in the United States, and the carrying out of the recommendations which such a survey would naturally elicit, would result in the saving of at least several hundred thousand lives annually. It is to be hoped that the enterprising example of the Board of Health of New Hampshire will be followed by the Health Boards of other States that have not yet adopted this important measure.

* *

THE Sanitarium School for Medical Missionaries will begin a second session about Nov. 1. There are thirty-five pupils already enrolled, and the prospects are that the school will number seventy-five or one hundred persons on opening day.

* *

THE various additions to the Sanitarium which have been in progress during the last summer, are at last completed. The five-story addition to the old main part was occupied several weeks ago, each room receiving a patient as soon as it was finished. A sixth story has also been added to the north end of the old main building. The central tower has been raised twenty feet, and surmounted with an observatory which stands nearly one hundred feet above the ground, and commands a view of many square miles of landscape as beautiful as the eye often sees.

* *

THE Sanitarium has enjoyed the past season a larger patronage than ever before, and a fact which is very encouraging to the managers is that a large share of the patients who visit the institution are sent by the most intelligent physicians of Michigan and neighboring States. In some instances patients come from long distances. Within a week, two gentlemen have arrived, one from Scotland, bringing his wife and little daughter for treatment, the other from Australia. Both were led to visit the Sanitarium through their acquaintance with GOOD HEALTH.

PUBLISHERS' PAGE.—Continued.

HOMESEKERS' EXCURSIONS will leave Chicago and Milwaukee via the Chicago, Milwaukee & St. Paul Railway, for points in Northern Iowa, Minnesota, North Dakota, South Dakota (including the Great Sioux Reservation) Montana, Colorado, Kansas and Nebraska, on September 9th and 23d, and October 14th, 1890. Rates for these excursions will be about one fare for the round trip, and tickets will be good for return within thirty days from date of sale. For further information, apply to any coupon ticket agent in the United States or Canada, to A. V. H. Carpenter, General Passenger Agent, Chicago, Ill., or to Harry Mercer, Mich. Pass. Agt., C. M. & St. P. Ry., 90 Griswold St., Detroit, Mich.

* * *

OUT AND ABOUT WITH THE EDITORS. — GOOD HEALTH'S representative has returned from participating in the annual gathering and excursion of the Michigan State Press Association, in this case extending into the fourth week, and reports having had a most delightful time all round. The excursion was divided into three sections, to accommodate those whose time would allow only the program in part. The business sessions were held at Saginaw, where the hospitalities of its good people nearly prevented their visitors from getting farther. From thence they were taken by excursion to the "Soo," where the first section of the Association bade their fellow-penmen farewell. The second section continued with the third as far as St. Paul and Minneapolis, *via* Iron Mountain, while the third completed the trip by a visit to Yellowstone Park, through South Dakota, Montana, and Idaho, and home by way of Salt Lake City and Denver.

All along the line they were most royally entertained, and nowhere more so than at Saginaw. Chief among the pleasant recollections of the stay at this city, were the receptions, one given by Hon. W. R. Burt and wife, at their residence in Saginaw, another by the citizens, at the Academy of Music, and still another by Hon. S. O. Fisher and wife, at their beautiful home, Elm Place, in West Bay City. From the latter place, the Electric Street Railway took the party to Wenona Beach, on Saginaw Bay, which is *the* resort of that region, and furnishes the lover of aquatic sports with the best of bathing, fishing, and boating amusements. Among the many industries in the consolidated cities which attracted the attention of the Press, were the immense salt blocks, lumber mills, shingle manufactories, ship-yards, F. W. Wheeler & Co.'s steel ship-building plant exciting much interest. The last day of the three spent in Saginaw, was ushered in by a carriage drive around the city and to points of interest, and in the evening the citizens rounded off their generous entertainment by a banquet at the Teutonia Opera House, a most successful and enjoyable affair. Fully five hundred editors and their wives partook of the hospitalities of the Valley City.

The next morning, the Michigan Central kindly placed at the Association's disposal a special train to Cheboygan, where the "Soo City," of the Delta Transportation Co., was waiting to bear them on to Sault Ste. Marie. *En route* to Cheboygan, a stop was made at Grayling, where the open-handed citizens furnished the members, now three hundred strong, with a most bountiful dinner. From Cheboygan the route is without doubt the most delightful on the Great Lakes, and the officers of the Transportation Company took great pains in giving their guests a view of all the principal points of interest. Stops were made at St. Ignace and Mackinac Island, a detour around the latter giving the sight-seer something of an idea of the many natural attractions of that most beautiful isle. The white walls of the fort, set high up on the precipitous bluffs, formed a striking contrast to the surrounding green of lawns and groves, while further around, a glimpse was caught of the ruins of the old embankment of Fort Holmes, Robinson's Folly, and the wonderful nat-

ural formation, Arch Rock. At the pretty little town of Detour, a change was made from the "Soo City" to her companion boat, the "Minnie M." Both of these boats are of fine construction, and afford ample accommodations to the summer tourist.

It was an all day trip, this through the lakes and locks of the St. Mary's River. The next day the citizens of Sault Ste. Marie received and banqueted their guests, besides tendering them an excursion to the Canadian "Soo," a visit to the Government lock, to the rapids of St. Mary's and other attractions. At this point, the first section set their faces homeward, while about two hundred continued the trip to St. Paul, aboard the very Pullman's that carried them on their far western journey, and back to Chicago.

At Iron Mountain, many of the Association caught their first glimpse of a mine. Among the numerous iron mines here is the Chapin, the second largest in the State, an opportunity to visit which was given the Press. The output of this mine is a million tons per year, and many of the shafts have been sunk to the depth of a thousand feet. The water power of the Quinnesac Falls, three miles distant, equal to nearly 4,000 horsepower, is utilized for various purposes in working the mine, forcing air into the shafts, drilling, etc. Everything was free to our excursionists, they being made, literally, the guests of the city. A carriage ride and a sumptuous banquet came in as a matter of course, as they did also at St. Paul and Minneapolis, where a night's jaunt brought the travelers.

A visit to these marvels of "Twin Cities" is not complete without "doing" Fort Snelling and the Falls of the Laughing Water. Minnehaha was suffering from extended drought at that time, but little water passing over the rocks. Still the situation was picturesque in the extreme. A novelty at Minneapolis was the serving of dinner on the fourteenth floor of one of their many mammoth blocks.

And now the party was again depleted by the leave-taking of the second section, only fifty-four continuing the trip. However, this gave an opportunity for better acquaintance with fellow-members, and it was a delightfully social crowd that, singing, chatting, and laughing, rolled onward on the Northern Pacific, through South Dakota's great farms of wheat, through the desolate "Bad Lands," through Montana's and Idaho's valleys and pasture-lands, broken here and there by the foot-hills of the Rockies, and along the banks and canyons of the winding Yellowstone into the very confines of the National Park itself!

And the Park! Words would fail to give any conception of its wonders and glories. The space at the disposal of the trip is altogether inadequate to attempt it in this issue, but GOOD HEALTH'S readers may look for an illustrated paper in some future number, devoted entirely to the most wonderful sights of the many in this basin of land which the Government has so wisely chosen to protect in primitive grandeur, to feast the eyes of its tourists.

No settlements or dwellings are allowed to be made within the Park's confines, but four good hotels, located at different points, bountifully supply the necessities of the inner man,—one at the Mammoth Hot Springs, one at the Upper Geyser Basin, another at the Lower Geyser Basin, and still another at the Falls of the Yellowstone. The party spent four days at the Park, doing the hotels and their regions by turns.

It was with regret that they set their faces eastward, three weeks from the time of leaving home. Nearly another week was consumed *en route*, passing through such places of world-wide reputation as Ogden, Salt Lake City, Cheyenne, Denver, Kearney, Omaha, and Chicago. To all of our readers these cities are sufficiently familiar to make description unnecessary; suffice it to say that all display the Western "hustling" spirit, and are largely composed of the most elegant business blocks and residences. Indeed, they compare most favorably with Eastern cities of the same size, since being of recent growth, their style of architecture and general appearance is more modern and artistic. The cities of the East were built with an eye to utility and service; the cities of the West have combined beauty with these qualities, much to their advantage.

But at the close of four weeks of outing, after all, "there's no place like home;" though the memory of this trip, to be kept green by hundreds of views all along the route, snapped off by a "Kodak," will lend an enchantment to the life of a "quill-driver," which even the "grind at the desk" cannot wholly obliterate.

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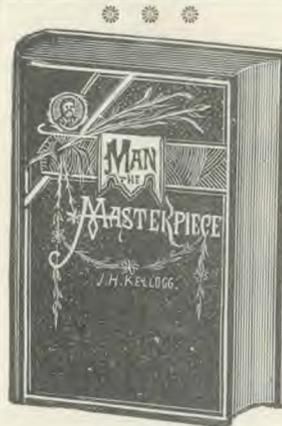
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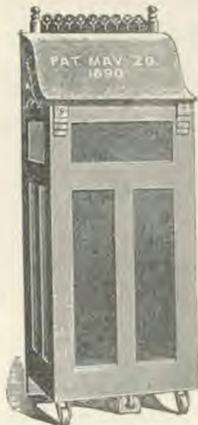
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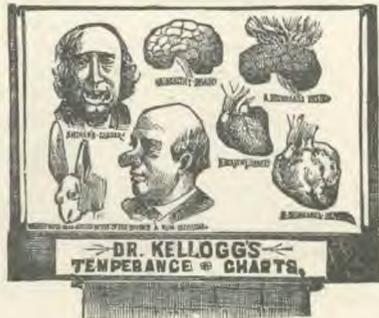
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- PLATE 7. A.—Healthy Nerve Cells. B.—Fatty Degeneration of Nerve Cells. C.—Healthy Blood. D.—Blood of an Habitual Smoker. E.—Blood of a Drunkard. F.—Blood Destroyed by Alcohol. G.—The Drunkard's Ring. H.—Healthy Nerve Fibres. I.—Fatty Degeneration 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 Fatt. Kidney of Beer-Drinker. F.—Atrophied Kidn. 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.

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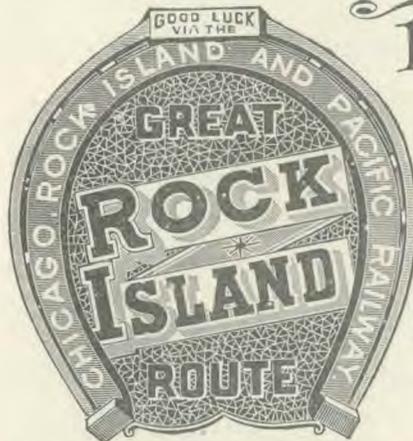
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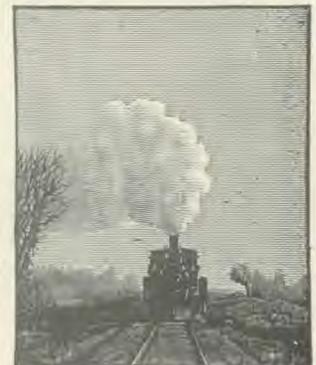
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STATIONS.								
Chicago.....	am 7.05	am 9.00	pm 12.30	pm 3.10	pm 10.10	pm 9.00	pm 4.50	
Michigan City	9.10	11.10	1.56	4.48	am 12.20	10.58	7.00	
Niles.....	10.20	pm 12.5	2.53	5.55	1.52	pm 12.00	8.25	
Kalamazoo....	11.50	2.20	3.08	7.04	3.35	am 1.18	pm 10.45	
Battle Creek....	pm 12.55	3.09	4.30	7.37	4.25	2.00	7.10	
Jackson.....	3.10	4.40	5.33	8.52	6.15	3.40	9.55	
Ann Arbor.....	4.45	5.32	6.29	9.45	7.45	4.55	11.00	
Detroit.....	6.15	6.45	7.30	10.45	9.20	6.20	pm 12.10	
Buffalo.....	am 3.25	am 3.25	am 3.25	am 6.25	pm 4.55	pm 2.15	8.30	
Rochester.....			6.00	9.20	8.00		11.20	
Syracuse.....			8.00	11.55	10.20		am 1.30	
New York.....			pm 4.0	pm 8.50	am 7.20		9.42	
Boston.....			8.30	10.57	9.35		pm 2.50	
WEST.		† Mail.	† Day Express.	* N. Shore Limited.	* Chicago Express.	* Pacific Express.	† Kal. Accom'n	† Niles Accom'n
STATIONS.								
Boston.....		am 8.30		pm 3.00	pm 7.00			
New York.....		11.50	pm 4.5	8.00	10.00			
Syracuse.....		pm 8.30	11.55	am 2.10	am 8.00			
Rochester.....		10.40	am 1.42	4.20	10.45			
Buffalo.....	pm 11.30	11.30		5.30	11.50	am 8.45		
S open Bridge	am 12.8	am 12.28	3.05	6.25	pm 12.50			
Detroit.....	9.05	7.50	9.25	pm 1.20	9.15	4.4	pm 5.55	
Ann Arbor.....	10.37	8.55	10.19	2.17	10.30	5.58	7.15	
Jackson.....	pm 12.15	10.05	11.18	3.20	11.50	7.1	am 7.25	
Battle Creek....	1.50	11.35	pm 12.22	4.30	am 1.23	8.47	7.55	
Kalamazoo....	2.37	pm 12.12	12.59	5.02	2.17	pm 1.9.30	8.39	
Niles.....	4.17	1.23	2.0	6.07	4.05	7.40	10.05	
Michigan City	5.42	2.25	3.18	7.21	5.45	8.55		
Chicago.....	7.55	4.15	4.50	9.00	8.05	11.20		

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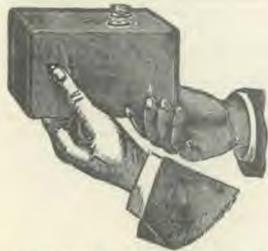
Going North and West.		STATIONS.		Going South and East.	
P. M.	4.35	Ar....	Allegan....Lv	A. M.	10.25
A. M.	1.30	P. M.	7.30	Ar....	Battle Creek. Lv
P. M.	6.00	A. M.	10.30	Lv....	Toledo....Ar
P. M.	11.55	P. M.	3.13	Ar....	Bryan....Lv
P. M.	4.00	A. M.	7.15	Lv....	Cincinnati...Ar

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Time Table, in Effect Jan 19, 1890.

GOING WEST.			STATIONS.			GOING EAST.		
3.00	7.00		Boston.....	am	pm	pm	pm
5.00	8.00		.....	New York.....	am	pm	pm	pm
6.20	6.32	1.00	.....	Buffalo.....	9.50	5.40	7.30	9.00
7.45	7.35	2.45	.....	Niagara Falls....	8.15	3.17	5.30	7.10
8.30	8.30	1.00	.....	Boston.....	8.00	7.45	7.45	7.45
8.30	8.30	1.00	.....	Montreal.....	8.00	7.45	7.45	7.45
			.....	Toronto.....	8.40	7.25	7.25	7.25
			.....	Detroit.....	8.45	7.45	7.45	7.45
Chl. Pass.	B. C. Exp.	Land Exp.	Pacific Exp.	Pacific Exp.	Yail Exp.	Land Exp.	Night Exp.	Fr. H. Pass.
am	pm	pm	pm	pm	am	pm	pm	pm
5.55	4.10	12.45	8.55	7.45	7.15	Dep.	Port Huron	Arr.
7.28	5.40	1.55	10.20	9.08	8.31	.....	Lapeer.....	10.20
8.05	6.20	2.25	10.50	9.45	9.05	.....	Flint.....	10.50
8.48	7.15	2.53	11.25	10.30	9.35	.....	Durand.....	11.17
10.00	8.25	3.45	12.37	11.35	10.30	.....	Lansing.....	11.45
10.37	9.00	4.18	1.09	12.08	11.00	.....	Charlotte.....	12.05
1.00	10.00	5.00	2.00	1.00	12.05	.....	BATTLE CREEK	12.05
1.49	pm	.....	2.50	1.48	12.4	.....	Vicksburg.....	1.48
2.00	.....	.....	1.58	12.58	.....	.....	Schoolcraft.....	2.00
2.52	.....	.....	2.45	1.42	.....	.....	Cassopolis.....	2.52
3.40	.....	.....	3.35	2.25	.....	.....	South Bend.....	3.40
5.00	4.52	Haskell's.....	5.00
5.20	5.10	4.00	Valparaiso.....	5.20
pm	8.10	8.10	7.31	6.25	Chicago.....	8.10
.....	pm	am	pm	pm	Dep.

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<i>Plain Oatmeal Crackers</i>	10	<i>Gluten Wafers</i>	30	<i>Granola (Bulk 10)</i>	12
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