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ELECTRICITY.

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PROBABLY, next to water, no single remedial agent fulfills so many requirements in the treatment of disease as different forms of electricity. It is one of the most

ditions. Electricity can be applied in such a manner as to produce its most beneficial results only by a person who is familiar with the physical properties of electricity and the principles and mode of construction of batteries. In order to be able to

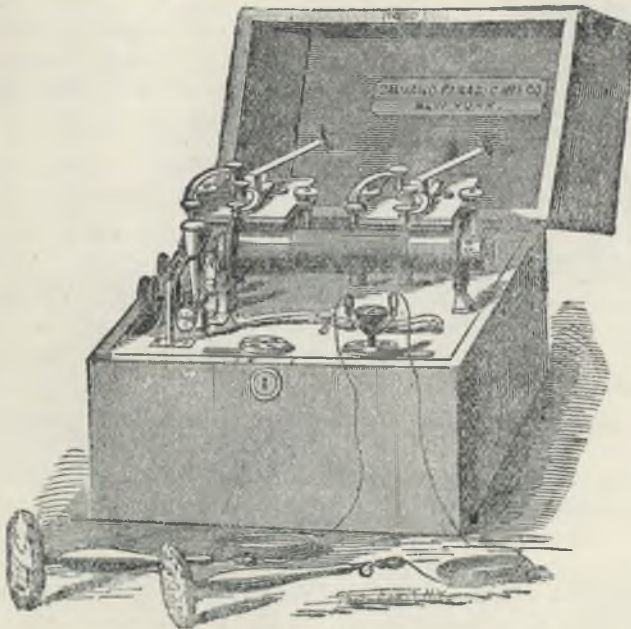


FIG. 1. FARADIC BATTERY.

powerful agents in nature, for evil as well as good, it is true, but nevertheless, it is capable of being controlled so perfectly as to be made useful in the treatment of a large number and great diversity of con-

ditions. Electricity can be applied in such a manner as to produce its most beneficial results only by a person who is familiar with the physical properties of electricity and the principles and mode of construction of batteries. In order to be able to apply it, it is necessary, in addition, to understand well the structure and functions of the various parts of the body, particularly of the nervous system, and to be well acquainted with the effects

of electricity upon each of the several portions of the body in health. To become possessed of this knowledge requires long study and experience.

We have not space to attempt anything like a thorough treatise upon the nature and medical uses of this powerful agent. All we shall attempt to do will be to point out some of the principal modes of application, and mention a few diseases and morbid conditions to which it is especially applicable. We are led to do this particularly as we have many times been requested by patients who have been benefited by the use of electricity under our care, to give them instruction in its employment, so that they might continue its use after returning to their homes, and retain the benefit which they had received. While we do not, in general, recommend

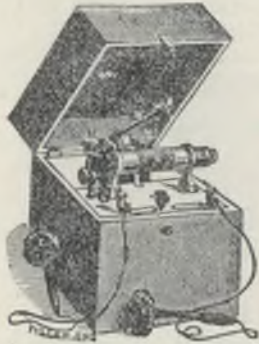


FIG. 2. SANITARIUM FAMILY BATTERY.

the self-application of electricity, yet the request referred to has come many times from persons whose intelligence and quickness of perception, together with their personal experience in the application of the remedy, from having been some time under treatment, rendered them entirely competent, with the proper instruction, to continue at least in the particular mode of application which had been found most beneficial in their particular cases. The principal kinds of electricity to be employed are known as the galvanic and the faradic currents.

Galvanic electricity as used in medicine is produced by chemical reactions taking place in a battery composed of several

cells. The strength of the current depends on the size of the cells, and the number employed.

Faradic electricity is produced by passing the current from a very weak galvanic battery, consisting of one or two cells, through a coil of wire arranged around an iron bar. By this simple device the intensity of the current is very greatly increased. By using several coils, one outside of the other, a very high degree of intensity can be produced from a very weak galvanic current.

The faradic current, although inferior for some purposes, is much more generally useful than the galvanic. Fig. 1 represents a convenient form of faradic battery. Fig. 2 is the Sanitarium Battery made on the same plan for family use.

RULES FOR THE USE AND CARE OF A FARADIC BATTERY.

The following directions for the use and care of this battery we copy from Beard and Rockwell's excellent work on medical and surgical electricity; the same directions will apply in general to most other faradic machines:—

TO PREPARE THE APPARATUS FOR USE.

“Fill the glass jar with a solution of water and sulphuric acid.—one part sulphuric acid to eight or twelve parts water. It is not necessary to be rigidly mathematical in regard to the quantity of the sulphuric acid. The average proportion is one-tenth, but it may range between one-sixth and one-sixteenth. The jar should be about two-thirds filled with the solution.

“It is also necessary to put about a teaspoonful of quicksilver into the cup. This touches the lower end of the zincs and keeps them constantly amalgamated.

“The quicksilver should not be allowed to touch the central plate of platinum, as it may injure it. In some of the modifications of this apparatus, it is necessary to close the prongs between one of the brass posts that is labeled and the one in the middle that has no label.

“The apparatus is now ready for action.

If the spring does not at once vibrate, give it a slight stroke with the finger. If it still refuses to vibrate, it may be necessary to re-adjust the screw. If the spring vibrates irregularly or too slowly, the evil may usually be remedied by re-adjusting the screw.

"Now connect the strings attached to the electrodes with the lettered posts. A is always the positive pole, and B, C, and D are always negative relatively to A."

CONDUCTING-WIRES.

These are usually composed of several twisted or braided copper wires covered with silk. When the battery is used very much, the silk frequently becomes worn so much that the wire is easily broken. On this account it is well to pass the wire through a small rubber tube, which will act as a protection without doing it any injury. One advantage is that the wire will be kept dry, so that it will not communicate electricity to the hand or other parts of the body of the patient or operator which it may fall upon, as it may do when uncovered.

ELECTRODES.

In addition to the copper plate to which reference has already been made, which is applied to the feet, several sheets of copper of different sizes and shapes may be used for lengthy applications to different parts of the body. One, for instance, a plate the size of the hand, may be used for application to the back or to the pit of the stomach. The same plate, or a larger one may be used for application to the abdomen. Electrodes of all shapes and sizes can be obtained of the manufacturers of batteries. Metal electrodes should never be applied directly to the skin; a covering of cloth or a sponge moistened in water should always intervene. Some electricians use salt water for moistening the electrodes, as it is a better conductor of electricity than ordinary water. The metal electrodes should frequently be scoured, as the electric current causes rapid corrosion to take place. They should be kept bright and clean. Care should also be taken to thoroughly

cleanse the cloth and sponge covers by boiling and thoroughly washing in a solution of soda or chlorinate of soda.

The following is a minute description of the Sanitarium Battery and how to use and care for it:—

DESCRIPTION.—*E* Sponges or Electrodes; the left hand sponge is Positive, the right Negative. *C* Coil. *D* Cylinder, by which strength of current is regulated. *H* Hinged Rod, to the lower end of which the Zinc Plate is attached, and by means of which the plate is raised out of the Fluid, or lowered into it. *N* Nuts, holding on the cover of the Cell; these should always be screwed down tight to keep the fluid from spilling.

BATTERY FLUID.—Place one quart of cold water in a glass or earthen vessel. Add slowly, while stirring with a clean wooden or glass rod, two ounces of commercial Sulphuric Acid. The mixture will become warm by chemical action. Allow it to cool, then add three ounces of Bichromate of Potash, and stir frequently until nearly or quite dissolved. Turn off the clear liquid into a glass or earthen vessel, and then place in the Battery Cell. Two or three quarts can be made at once, employing the ingredients in the proportion given, as the fluid will keep any length of time.

TO PREPARE THE BATTERY FOR USE.—Open the Box. Remove the Pin, the head of which is seen near the upper edge of the box, on the right side. Take hold of the coil with one hand and raise the right end of the wooden piece to which the coil is attached, about half an inch. Now slip it a little to the right, thus withdrawing a pin from the opposite side, and the whole will be detached from the box. In the box beneath will be found the Conducting Wires, Sponges, etc.

Now unscrew the two nuts marked *N* in the cut, which hold the cover of the glass jar. Remove the cover and the zinc and carbon plates attached. Take out the cell by slipping it forward, and put into it ten fluid ounces of the battery fluid, which will fill the large lower part about two-thirds full. Replace the cell and put on its cover, using care to screw the nuts

down tight to prevent spilling of the fluid, as it will injure articles on which it may fall. Place the coil in position, taking care to bring the ends of the connecting strips fairly upon the hollow places prepared for them on the cell cover. Raise the end of the hinged rod perpendicularly, and lower the zinc into the fluid. Tap lightly upon the box, and the vibrations will start, if not already begun, showing that the battery is ready for operation. If the vibrations do not begin promptly, the little screw at the left end of the coil needs adjusting by screwing out or in, thus moving the vibrator nearer to or farther from the end of the coil. A very little change is all that is required, and the vibrator is usually properly adjusted and requires no regulating. Now attach the ends of the Conducting Wires to the first two binding posts, counting from the left. Moisten the sponges until well softened, and all is ready.

TO DISTINGUISH THE POLES.—The left-hand sponge, that is, the one attached to the left binding post, is always *Positive*, and the other *Negative*. That is, if one wire is attached to the first post (counting from the left), and the other to the second or third, the sponge connected with the first post is *Positive*, and the other *Negative*. If one wire is attached to the second post, and the other to the third, the one attached to the second post is *Positive* and the other *Negative*. The two poles can also be distinguished by holding them in the hands, the negative being more strongly felt than the positive.

THE CURRENTS.—This battery supplies Four Distinct Currents,—an object secured by an improvement made by us, which is one of the **SPECIAL FEATURES** and advantages of this Electrical Machine. These are obtained as follows:—

1. **PRIMARY CURRENT.**—This is the current obtained when the conducting wires are attached to posts 1 and 2. It is a mild, soothing current, of very great value in soothing nervous irritability, relieving sleeplessness, quieting pain, etc.

2. **SECONDARY CURRENT.**—This current is obtained from posts 2 and 3. It is a

very strong and highly stimulating current.

3. **EXTRA CURRENT.**—This current is obtained from posts 1 and 3. It combines the qualities of the primary and secondary.

4. **GALVANIC CURRENT.**—A mild galvanic current will be obtained from posts 1 and 2 when the adjustable screw at the left end of the coil is turned out so that it no longer touches the Vibrator, thus causing the vibrations to cease. It is a very gentle, uninterrupted current, so mild that it is scarcely perceptible, except to the tongue, the end of one wire being held in the mouth, and the sponge of the other wire in the hand.

TO MODIFY THE STRENGTH OF THE CURRENTS.—The *Primary*, *Secondary*, and *Extra Currents* may be increased by drawing out the Cylinder shown in the cut at *D*. The cylinder does not affect the *Galvanic Current*. The strength of all the currents may be increased by increasing the amount of Sulphuric Acid in the fluid. This should not often be done, however, except when the fluid becomes weak by long use. When the current is applied through the hand of an attendant, the strength may be increased or diminished by the pressure of the hand of the operator upon the sponge.

WHY THE BATTERY STOPS.—The principal causes of the failure of the battery to start, or its stoppage when once started, are the following:—1. Improper adjustment of the screw at the left end of the coil, which may be either too tight or too loose.

2. Weak Fluid, or neglect to cleanse the Zinc and Carbon Plates, which should be kept free from deposit by soaking over night in warm water whenever they become covered with deposit. The deposit should be rubbed off with a tooth-brush. Sometimes the fluid becomes diminished by evaporation, and only needs a little water added to make up the original quantity.

3. A broken wire. If the wires are carelessly used they may become broken so that they will not conduct the electricity. When this is the difficulty, the Battery will vibrate all right, but no current will be felt.

4. The coil may be at fault, in which

case the battery must be returned to the manufacturers. Fortunately, however, this difficulty occurs very rarely.

5. The Zinc may be worn out. If the battery is much used, the zinc will in time become used up. A new one can be obtained of the manufacturers at an expense of a few cents.

6. The little plate against which the vibrator point impinges may become rusty at the point of contact. To remedy the difficulty, turn the disk around a little.

CARE OF BATTERY.—1. Remove the Zinc from the Fluid by pulling up the jointed rod and turning it down, as soon as through using the current. If the zinc is left in the fluid for a few hours only, it may be nearly spoiled.

2. Keep the whole apparatus dry and clean.

3. Do not wind the conducting cords, but hang them up. Frequent winding breaks the wire.

4. To remove the zinc, remove the cover of the cell with plates attached, unscrew the nut on the top of the jointed rod, and pull the plate out from the lower side.

WRITTEN FOR GOOD HEALTH.

THE TOBACCO BONDAGE.

BY HON. NEAL DOW.

I do not think there is in the world a more absurd custom than that of the tobacco habit. There are many things about it worse than the absurd, but this particular feature is in my mind now. The Chinese women have crippled feet, which renders it almost impossible for them to walk; it is not their fault, the deformity is inflicted upon them in childhood. The natives of some barbarous countries are tattooed, the operation inflicting upon them great and protracted pain. The natives of some other countries have flattened heads,—a wrong imposed upon them from their infancy. Some African tribes knock out the two upper front teeth of every male, and others have the front teeth filed like those of a saw. There are many other deformities found among savages, but none of them so absurd as the tobacco habit.

Here is a minister, possibly a Doctor of Divinity, smoking a cigar; there is a reason for it, there must be; what is it? Ask him. He will say, "It's a great pleasure." Is that true? No, it's false, it is not in any proper sense a pleasure. Then why does he practice that disgusting habit? Because it is a necessity to him, not because it's a pleasure. How a necessity? Because if he could not smoke he would be in great torment.

The hard drinker does not take the alcohol because he likes it, but for the same reason that the tobacco slave takes that drug; viz, if he did not he would be in agony. The alcoholic slave has brought himself by degrees into his wretched condition, precisely in the same way that the tobacco slave has lost his liberty, but with far more excuse or rather with far less liability to the contempt of men of independent minds and independent ways of life and action. Why? Because all alcoholic drinks can be easily made extremely pleasant to the taste of beginners in the downward road, which is never the case with tobacco. This is so loathsome and disgusting and repulsive to the system, that in acquiring the tobacco habit, the novice is desperately sick for days, sometimes for many weeks. There is scarcely any other sickness so dreadful as that caused by the tobacco to beginners. There is dreadful vomiting, with splitting headache, livid lips, parched tongue, and eyes like those of dead fish.

Then why do these poor fools persevere? Because they are such very poor fools as to believe it to be manly to smoke or chew! Why? Because others do it. They do it because others do it. Men or boys, even of independent minds, judge for themselves as to what is right and proper or otherwise, and will not be led into any habit or way of life, blindly, simply because others do it.

But now the young man has "conquered his prejudices" and has "learned to smoke." What has he acquired by it? Nothing but the tobacco habit. Is there no good in it whatever, no pleasure? None; it is simply the tobacco habit which

has such a mastery over its victim that he must yield to its demands under the penalty of intolerable pain and suffering, pains so great that it is very difficult for the strongest men to endure them.

I called at a gentleman's office one day and found him smoking. I said to him:—

“What would you give if you had never learned to smoke?” He paused a moment, and replied:—

“Every dollar I have in the world.”

“Then why do you not abandon the habit?”

“I cannot now do that, I could not endure the suffering it would cause me.”

Ask any man of forty years, and he will tell you he is very sorry he learned to use tobacco, but cannot now abandon the habit. A friend of mine was a tobacco slave for many years, and had made frequent vain attempts to emancipate himself. At last, he resolved that come what might, he would be a wretched slave to tobacco no longer. He told me, afterward, that the struggle with the habit was more fearful than he could describe, and added, that all the money in the Bank of England would not tempt him to endure the like again.

Can a smoker be an honest and honorable man? Can he? I do not answer, I ask the question. In the street, on steamboat, in public places, in railway cars, everywhere, in fact, except in smoking cars or in smoking rooms, we have a right, all of us, to the free, fresh, pure air. This is as much our right as the purse in our pockets. No one has more right to take it from us than to pick our pockets. Has he? I ask the question; its my view that he has not. Am I mistaken? To pick a pocket is stealing, robbery; what is it to take away the pure air from another and to put stinking, poisoned air in its place?

To sit beside another at the table, and sprinkle his food with cayenne pepper or thick with mustard, or flavor it with *assa-fœtida*,—what would such a procedure be called? What word is there in our language by which to characterize it? How would that differ from infusing a disgust-

ing stench into the air for others to breathe? To flavor or poison another's food in that way, would be called an intolerable abomination, and the doing of it would expose the party to a summary expulsion from decent society. But the poisoning of the air which others must breathe is so common a thing to do, so many persons practice it who would not pick a pocket, or poison other people's food, that most persons do not look upon it in its true light.

I have often seen in the streets, ladies and others, walk very slowly or stop upon the sidewalk to allow the smoke to pass on out of smelling distance. I have also seen people cross the street to avoid the stench of tobacco, which to many persons is intolerable. Have these people an undoubted right to the free, fresh air as they walk the streets? Then what term are we to apply to the act of poisoning—for tobacco smoke is a poison—the air for them to breathe? How may we justly stigmatize those who do it?

“But people *can* endure the tobacco smoke, they *can* pass along the streets in spite of it. Then why make a fuss about it?” Yes, so they *could* pass the sidewalks somehow, if piled up with boxes, bales, and hands, and intersected with ditches and holes; but for all that, people have a *right* to unencumbered passage ways. Am I wrong?

HEALTHFUL LUXURY.

“Do you believe in luxury?” will you say? I do. It depends, my friend, a good deal upon what idea you have of luxury. Your idea and mine may not be the same. There is the luxury which consists in over-feeding the natural appetite. I don't believe in that—in gorging one's self with dainty meats, sitting at banquets, craving for richer and rarer wines, until one's whole life turns on sensuous physical enjoyment. I don't believe in that; but I also don't believe that it makes no difference what a man chooses to eat and drink. I believe that there is a difference—all the difference

between the Kingdom of Heaven and the Kingdom of the Devil. One man eats intelligently and moderately of properly prepared, well chosen food, and has grace; the other of abominable food fried in fat, and has the devil. I tell you indigestion is the kingdom of darkness in this world, and good health is next akin to grace. I think when the reformation comes in that cleans up all the odds and ends of society it will very likely come in at the kitchen. We shall learn how to get wholesome food in moderate amounts, and above all, properly prepared food, and we shall no longer bolt it as though we were shoveling coal into a coal cellar. I sometimes contend about men not being dainty in their food. I would that they were more dainty, and that they would feed the sight as well in a daintier manner on the Beautiful.

What do I consider luxury? is then a proper question. In a Christian sense it is the development through our property of those elements of the beautiful and pleasurable that feed the higher senses instead of the lower. An old farmer may complain "My children are all the time wanting all sorts of things that I've done very well without. My daughters stand by, and they are wanting pictures, and books, and one thing and another, and I don't see as they need 'em. I'm perfectly willing to give my family all the substantials they want; but these frol-dereols I don't believe in." What does the man mean by "substantials" when he says that he is willing to give them all the necessaries of life? Why, he means beef, pork and cabbage, bread, a comfortable bed, warm clothes. That's pig fare. It's just what he gives his pigs. He's willing to feed his animals and he's willing to feed his family; but when it comes to things higher than those of mere animal life—when beautiful clothes are desired as well as warm clothing, when beautiful things are craved for in the house as well as the house itself that turns the rain and snow—why, then, "he has no idea of that sort." He speaks the truth; there are

some men who have no idea of anything higher than the mouth. I say that there is hunger of greater imperiousness than that of the mouth; there is the hunger of the ear for all that is sweet in sound; the hunger of the eye for all that is blessed in beauty throughout the realm of God; there is the hunger of the affections for love and sympathy in our daily lives; the hunger of the tastes, the moral sensibilities, as well as the appetites. "Well," says he, "You have all the necessaries of life, and what do you want more?" Don't you want to feed the higher qualities as well as the corporeal? Are they the parts you want to starve? There is many a man in whom the great upper chambers of a vast inner spiritual life lie unswept, neglected, and ungarnished. All that is divinest and noblest in his nature has lapsed through desuetude. Willing, prompt, and eager, there is none to hear its cries of hunger; naught that feeds it—the man is too busied with his bodily self.

That is luxury which feeds the spiritual man. With it man is fed with higher reason and higher spiritual sense. It is all that is noble and pure in the higher range of externals. That is what I call luxury.—*Beecher.*

WRITTEN FOR GOOD HEALTH.

THE NEED OF TEMPERANCE STUDIES.

BY JULIA COLMAN.

TEMPERANCE is supposed to be a subject well understood by all the people. Every tyro of an orator has a lecture on temperance, and public speakers of all descriptions usually consider themselves loaded and primed for a discharge in that line. Even with schoolboys it is a favorite theme for "Composition," the burden of which is "Temperance is a very nice thing. It is awful mean to get drunk."

This prevailing delusion is one of the most serious hindrances to that careful, thorough study of the subject in all its bearings which is essential to success in its treatment. Most people who are well informed on other topics, will say of this, as a minister's wife did recently when

solicited to aid in starting a Temperance School, "What is it for? To teach the nature and effects of alcoholic drinks? Will it require more than one lesson?" The spontaneous remark of many of the workers is, "The people know enough about that already. They know that alcohol is bad and that it hurts people every time they take it. They have only to look about them and see the mischief it does." These good people do not seem to be aware that in saying this they mix things sadly.

People can and do see enough of the mischief alcohol does to *others*, but, with some happy exceptions, they believe that a little is good for themselves. If you can get their confidence, they will very likely give you some remarkably good results which have come from its use in their own case. I recollect very well an instance of this kind that came to my knowledge many years ago when a most excellent and devout woman, a long-time friend, came to me with one of the saddest stories about her oldest son whom I had once known as a promising lad in Sabbath-school when his father was superintendent. It was the old weird story of wasted property and blighted manhood and slighted family, of sad night-watching, ended only by the still sadder homecoming of him who should have been the joy and pride of both wife and mother, and their futile efforts to get the stupid drunkard decently to bed. Still worse was the fact that every lovable characteristic was dying out of him before their faces, so that even when not actually drunk, he was hardly endurable excepting for the memory of what he had been. But when I proposed some sweeping measure, this broken-hearted mother stood up valiantly in defense of him! Nobody could persuade her that beer had not done *her* good. Why she could tell by her feelings, and she spoke as if that was evidence no one could gainsay. What could be done about it? The terrible thing that she cherished as a panacea, was killing her son. This helped greatly to open my eyes, and I found out that

people cannot tell by their feelings that alcoholic drinks do them good, because alcohol tampers with the feelings. Let us see how that comes about.

Alcohol is greedy of water which it takes up whenever it comes in contact with it. If "fourth proof" alcohol (containing from 10 to 25 per cent water) be kept in the mouth a few minutes, it will raise a blister, so great is its attraction for the water which it sucks out of the moist mucous membrane. When taken into the stomach it is quickly drawn off into the blood (through the portal veins), which carries it all through the system, and everywhere it goes it absorbs water and therefore deranges the natural working of the parts. This is especially true of the nervous substance (the contents of the slender tubes we call the nerves) which is almost as moist as the white of an egg. To this moist condition is due its delicate susceptibility to impressions. The nerves are what we feel with, and if the nicety of their balance is destroyed, they no longer report correctly to the brain. The brain itself, being also tampered with in the same way, no longer takes correct note of the reports which are brought, and so the man is doubly deceived. He *cannot* "tell by his feelings," for he feels with his nerves and they have been tampered with and partially paralyzed. Duternufant (quoted in Reid's Temperance Cyclopaedia, page 20) says it instantly contracts the extremities of the nerves it touches and deprives them of sense and motion, by this means easing them of pain, but at the same time destroying their use."

Here, then, is the secret of alcoholic power! By this explanation we find how the individual and hence all the world has been deceived by alcohol, and why it is still deceived, and why they cannot understand and solve this problem thoroughly until they are undeceived. More than 3000 years ago Solomon said, "Wine is a mocher, and whosoever is *deceived* thereby is not wise." Some have accepted the statement though they did not fully understand it, but the majority were so

thoroughly deceived that they did not even surmise the deception. But now in these latter days science turns its electric light upon this declaration of divine Will, and translating it to the people, shows us *how* those who drink are deceived and how highly favored are those who have never been under the influence of this deceiver. This reasoning leads us inevitably to the conclusion that the study of the effects of alcohol upon others, combined with total abstinence in the observer, is essential to the mastery of the Temperance problem.

In order to get the best results of such teaching it should be imparted before the learner has been subjected to the delusions of the drink; in other words, before he has taken it at all. Hence the best subjects for this teaching are the children. "Prevention is better than cure" most emphatically in this case. Hence the value of Temperance work among the children, especially in that phase outlined in "The Temperance School."

This is not a technical term. We include in it all Juvenile Unions, Bands of Hope, etc., which make their special objects of study the facts about the nature and effects of alcoholic drinks and the modes for getting rid of their use in the community. These institutions are fast becoming popular. We will outline their methods in another article.

DISEASES OF THE LIVER.

In ancient times derangements of the liver were supposed to be a fundamental condition in nearly all diseases. In the humoral theory of disease, great stress was laid upon the condition of the bile, yellow bile being supposed to produce inflammation, while black bile induced opposite conditions, together with hypochondria and insanity. In modern times, the tendency has been to the opposite extreme. When it became thoroughly established that the liver was not the seat of the mind, as was once supposed, and especially when Harvey made the discovery that the heart instead of the liver was the center of the circulation, medical men began to look upon the liver as of far less importance than it

had for ages been supposed to be. Even among the common people the liver has come to be regarded as merely an organ for making bile, and it is rare that any diseased condition, besides structural derangements, is attributed to it except such as depend upon some disturbance of secretion. The most recent investigations have shown that the ancient theory was more nearly correct than the modern one, and that while the liver is neither the seat of the mind nor the center of circulation of the blood, it performs at least two other important functions besides that of secreting the bile; namely, elaboration of certain elements of the food, by which process they are fitted to form blood; and the destruction, for the purpose of removal from the system, of worn-out particles which become sources of disease, if retained. The last-named function is independent of the secretion proper, which is both a secretory and an excretory product, being the process of digestion, and at the same time containing poisonous elements which must be eliminated from the system. Thus it will be seen that the function of the liver is an extremely complicated one, and hence it is in the highest degree reasonable to suppose that its functions should be easily deranged and that such derangement should produce a great variety of symptoms. Diseases of the liver, like those of most of the other organs of the body, are chiefly of two classes: functional and structural; that is, those which are chiefly dependent on disturbed action, and those in which the morbid condition of the tissues of the organ is the most prominent condition.

FUNCTIONAL DISEASES OF THE LIVER.

In the light of modern investigations in pathology and physiology, there is little reason to doubt but that disordered action of the liver is a morbid condition to which may be attributed a great variety of symptoms which have often been attributed to other organs. The ordinary classification of functional disorders of the liver is as follows: first, diminished secretion; second, increased secretion; third, secretion of morbid bile. As this classification is not in accordance with the most modern views

of physiology, it must be discarded. In treating this subject we shall follow very closely the classification of Murchison, one of the most recent, and by far the most able writer on diseases of the liver.

TORPID LIVER.

Symptoms.—Bowels irregular, generally costive; discharges yellow, whitish, or drab; disagreeable taste in the mouth, usually in the morning; furred tongue, yellowish or white; loss of appetite; sallow or dingy skin; patches on the skin known as "liver spots;" white of the eye yellow or dingy; flatulence; headache in the front part of the head; dullness and heaviness most of the time; lassitude and drowsiness after meals; great depression of spirits; sediment in the urine when cold; vertigo; noises in the ears; disturbed sleep.

CAUSES.

Errors in diet may justly be said to be the most frequent of all the numerous causes of torpidity of the liver. Fashionable dinners, late suppers, overeating, especially the excessive use of fats, sugar, pastry, condiments, alcoholic drinks, and tea and coffee, may be charged with being the most common causes of inactivity of this organ. The free use of mustard, ginger, pepper, curry powder, and other irritating condiments in many tropical countries, leads to the almost universal prevalence of this disease. In addition, sedentary habits, the use of tobacco and other narcotics, restriction of the liver by wearing tight clothing, and malaria should also be mentioned as important causes of this very common affection. We should also remark that the prolonged use of laxative medicines, "after-dinner pills," and the various drugs that are recommended for constipation, are most prolific sources of torpid liver. The same may be said of mercury, although this drug is less frequently used than formerly, and is seldom employed to such an extent as twenty years ago. The liver possesses the curious property of being able to retain in its structure metallic poisons which may be brought to it in the circulation, so that the

effect of injuries received from a mercurial course is apt to be more or less permanent.

TREATMENT.

In severe chronic cases of this affection the patient must studiously avoid the use of fats, sugar, condiments, and alcoholic drinks. Regulation of the diet is a positive necessity in the radical treatment of this disease. Tobacco, if used, must also be discontinued. If the patient's habits are sedentary, he must begin a course of regular, systematic exercise, and should in every way possible, build up his general health. Food should be taken in moderate quantities, and should consist chiefly of grains and acid fruits. Some patients are obliged to avoid the use of milk; with others it does not seem to disagree. In addition to these general measures, the patient, if not emaciated, may take with advantage for two or three weeks two or three vapor baths or packs a week. The wet girdle, or *umschlag*, should be worn night and day. The use of the hot and cold douche over the liver is very efficient. Central galvanization may also be applied with advantage. The use of mercury with various laxatives, purgatives, and the hosts of liver medicines which are recommended for this very common affection, will do more harm than good. The best that any of these drugs could do would be to whip up the flagging energies of the already overworked organ without in any way lightening its burdens or giving it increased strength to perform the labor required of it. The repeated use of remedies of this kind greatly aggravates the trouble, increasing the inactivity of the organ. Careful experiments scientifically conducted have also shown that mercury and various other remedies which have been most relied on to stimulate the organ to activity, either decrease the amount of bile secreted or have no effect upon it whatever. The apparent evidences of benefits derived from their use are entirely due to the fact that they poison the bile which is poured out into the intestines, thus rendering it unfit for absorption, so that an unusual amount is discharged from the bowels, although

the amount secreted is not increased, but, as has been shown to be the case with mercury, is actually decreased. The liver pads which have attained such an enormous sale within the last few years are utterly devoid of merit on the ground claimed; namely, that they extract the disease from the system by absorption. It is possible that they do some little good by retaining the heat and moisture of the skin, and thus acting as a poultice; but for this purpose they are far inferior to the wet bandage.—*Home Hand-Book.*

A FOWL PROCEEDING.

BY HELEN ANGELL GOODWIN.

WHAT ails the black Rooster? He seems very sick.
His comb is all bloodless, his wings drag the ground.
Run, little white Bantam! He must have help quick.
Perhaps Dr. Parrot will bring him around.
If not, he's a gone case. Alas and alack O!
Hiss, hiss—gobble, gobble—cut, cut da cut—quack, quack O!

In trips Dr. Parrot, in glossy green suit,
With violet trimmings and cardinal hat.
"Hum! Haw! Been eating bad meat or green fruit?"
What it was I can't tell, but 't was nothing like that.
Here's the rest of the mouthful which gave me the trouble."
Cut, cut da cut—hiss, hiss—quack, quack—gobble, gobble.

Dr. P. put his specs on his big Roman nose
And lifted a bit on the tip of a stick.
"You swallowed a morsel of this, I suppose?
Hum! haw! No wonder you're terribly sick.
Do n't you know any more than to swallow tobacco?"
Cut, cut da cut—hiss, hiss—gobble, gobble—quack, quack O!

"An emetic. Lobelia. Down there by the wall.
Now nip off the buds and the blossoms at once.
No biped save man takes tobacco at all
Without serious damage; so do n't be a dunce
And call me again for the very same trouble."
"What do men use it for?" Hiss—quack—cut, cut
—gobble!

"No head that wears feathers has ever made out
Why men chew tobacco and spit out the juice:
Or choke us with sickening smoke, though, no doubt,
They have powerful motives and pure for its use,
Else why should wise creatures like men touch tobacco?"
Hiss, hiss—cut, cut da cut—gobble, gobble—quack, quack, O!

Continued the Doctor: "I have heard, indeed,
Of nervous derangement, dyspepsia, and thirst
For more than cold water brought on by the weed;
But, however that is, mind what I said first:
Let all feathered bipeds keep clear of tobacco."
Gobble, gobble—hiss, hiss—cut, cut da cut—quack, quack, O!
—*Sel.*

THE OPIUM TRAFFIC.

[THIS article which we quote from the "Alliance," although so lengthy that we are obliged to divide it, is so interesting that it is well worthy a careful perusal.—*Ed.*]

More than two hundred years have passed since the daughter of the Great Mogul of Agra was cured of a grave disease by the skill of Dr. Boughton, an English physician, at that time located in India. This Mogul was the ruler of ten millions of subjects. To show his appreciation of the service rendered, the grateful father rewarded the doctor with the privilege of trading throughout his territory. A transfer of this privilege laid the foundation for that vast commercial enterprise known to history and literature as the East India Company. This company was chartered by the English crown, and given the exclusive privilege of trading in the far East, and was entitled to call for English soldiers to maintain its position against any and all opposing forces.

The dealings of the English government with the East Indian have not differed materially from its treatment of the American Indian. As long as the natives on either hemisphere have submitted gracefully and willingly to the superior financial ability of the English, peace has been preserved; but even barbarians grow weary at length of playing the one-sided game. Then they resort to bloodshed, but the same failure invariably follows an appeal to arms. In 1756 the East Indians thought to drive away the encroaching English by a general massacre of the few thousands there, but Lord Clive, with 900 men, routed and overthrew an army of 20,000 natives, and firmly established the authority of the English government in the East Indies; and when the rival claimants for the Bengal throne called on him to arbitrate between them, he decided against both and took the prize himself. In this way the East India Company, supported by the English army, has gained the ascendancy in the East, just as the white race has subjugated the aborigines on this Western continent; but as there has been no general European emigration to India, there is not likely to be so total an annihilation of the Indian in the East as in the West.

The fertile plains of India are especially adapted to the cultivation of the *papaver somni ferum*, or sleep-bringing poppy,

from which is derived that "drowsy syrup of the East" called opium, a drug which has been considered invaluable by physicians since the days of Hippocrates in alleviating acute human suffering. Like many another of God's greatest blessings to mankind, opium must be used with reason and moderation, or it will be found to be one of man's greatest curses. We are familiar with it in two forms—as a fluid extract called "laudanum," and as a solid crystal called "morphine," one-eighth grain of the latter being equal in effect to twenty-five drops of the former, an ordinary dose for an adult. I need not explain its uses as a medicine, since it has given the name of opiates to a whole class of drugs. Little more than a hundred years since it was discovered, how or where we know not, that a slight overdose of opium in some people produced sensations of ecstatic pleasure. The sleep produced by opium was full of beautiful dreams—how beautiful let the classic writings of De Quincy illustrate. But the beautiful dreams cannot be purchased so cheaply the second time; the dose must be increased. Besides, after a few weeks of dreaming, the system will not be content to return to common everyday life, but demands the narcotic with the voice of absolute necessity. The condition of a man possessed of a habit which he can neither continue nor give up without misery and almost certain death, is not a pleasing subject to contemplate.

I can best describe the effects of opium by a few quotations from those familiar with its use, or rather abuse, by opium-eaters and opium-smokers, the effects being more powerful when taken into the stomach than when the fumes are taken into the lungs. "The habitual opium-eater," says Dr. Oppenheim, "is instantly recognized by his appearance. A total attenuation of body, a withered, yellow countenance, a lame gait, a bending of the spine, frequently to such a degree as to assume a circular form, and glossy, deep-sunken eyes betray him at the first glance. The digestive organs are in the highest degree disturbed; the sufferer eats scarcely anything; his mental and bodily powers are destroyed. By degrees, as the habit becomes more confirmed, his strength continues decreasing; the craving for the stimulant becomes even greater, and to produce the desired effect, the dose must constantly be augmented. After long indulgence the opium-eater becomes subject

to nervous or neuralgic pains, to which opium itself brings no relief. These people seldom attain the age of forty, if they have begun to use opium at an early age. When this baneful habit has become confirmed, it is almost impossible to break it off; the torments of the opium-eater when deprived of his stimulant are as dreadful as his bliss is complete when he has taken it; to him night brings the torments of hell, day the bliss of Paradise."

The Rev. Griffith John says: "The moral effects of opium-smoking are of the most pernicious kind. It seems to paralyze the moral nature. It bedims the moral vision, blunts the moral instincts, and extinguishes every virtue. Strong drink may upset the balance of the mind for the time, but opium seems to absorb all its virtues and leave it a dead, emotionless thing. The Chinese say that an opium-smoker is always devising some mischief, and that not the slightest confidence can be safely reposed in him. Whilst in affluent circumstances, the danger is not so great; but the moment penury sets in, he becomes an object of suspicion and aversion to all around him. There is nothing too mean or too corrupt for him to attempt, in order to allay the insufferable craving for the drug. He will ruin his parents and even sell his wife and children to procure the necessary supply."

Another author says: "The moderate use of opium is baneful, but what is worse, it is impossible to take it in moderation. The smoker is never satisfied with less than the intoxicating effects of the drug. He smokes with the view of making himself drunk, and his cravings are never appeased until he gets drunk."

Another says: "With the exception of some rare smokers, all others advance rapidly toward death, after passing through successive stages of idleness, debauchery, poverty, the ruin of their physical strength, and the complete prostration of their intellectual and moral faculties. Nothing can stop a smoker who has made much progress in the habit."

We read in Holy Writ that he shall be cursed who putteth the bottle to his neighbor's lips. What then shall be the fate of him who putteth before his fellow man a poison tenfold more destructive to soul and body than alcohol? When the directors of the East India Company superseded the power of the Moguls, they took, as by inheritance, a monopoly of

salt and opium. The income derived from these two sources was set apart to make up the revenue which the Company was obliged to pay over to the English crown for the exclusive privilege of trading in the East. It is well known that the Chinese have always been very exclusive and have not encouraged commercial intercourse with other nations.

The English, however, were admitted to Canton in 1685, and to Amoy and Ningpo in 1736. Previous to 1767 the Company had shipped some 200 chests or 26,000 lbs. of opium annually to China, for medicinal purposes. In that year Col. Watson, an officer of the Company, learning that opium-smoking was indulged in to some extent as a luxury in China, proposed to ship larger quantities, and 130,000 lbs. were sent. The introduction of large quantities of opium had so encouraged the habit of smoking, and the baleful effects had become so apparent, that in 1796 the Chinese government refused to admit it as formerly, on payment of a small duty, but wholly prohibited the trade, and from that year forward they have persistently objected to the introduction of opium into China, and in our last treaty the opium traffic was interdicted to all American citizens in China.

There can be no doubt of the right of any nation to prohibit the entry of any article of commerce into its ports, and no one denies the right of China to prohibit the introduction of opium. The usual method by which prohibition is attained is by imposing a duty which will make the trade unprofitable, but the Chinese have peculiar views on that subject. They have always been accustomed to the idea of a paternal government issuing edicts which are sermons as well as laws, and are intended to repress vice by moral suasion as well as by material penalties. It is true that since 1857 China admits opium on payment of a duty of about ten per cent, but it required two bloody wars by England to force the treaty upon China in which the trade is legalized; and in the report on which the treaty is based it is distinctly stated that "China still retains her objections to the use of the drug on moral grounds."

After the opium war of 1840, in concluding a treaty of peace, the English government made strenuous exertions to have the opium traffic legalized; but in reply to the propositions for admitting opium on payment of duty, the Emperor

replied: "It is true I cannot prevent the introduction of the flowing poison; gain-seeking and corrupt men will, for profit and sensuality, defeat my wishes; but nothing will induce me to derive a revenue from the vice and misery of my people."

The old laws against the use of the drug are still in force, but are for the most part allowed to sleep, something after the manner of our laws against gambling and kindred vices. The penalty for dealing in opium was death, and it was enforced frequently enough to deter the trade to some extent. In this country we know how difficult it is to convict on charges of gambling, and in China the consumers of opium are so wedded to their vice that they will not disclose the names of the dealers even under torture. Let us go back and trace the growth of the traffic after the importation into China was prohibited about the beginning of this century. The annual importation, as we have seen, had been some 200 chests, or 13 tons, prior to 1767, when it suddenly increased to 1,000 chests, and from that time it has continued increasing.

SMOKING.

A BROOKLYN teacher told of a little fellow who was killing himself with tobacco, and cried piteously when the doctor said he must give it up. A minister applied to Dr. Gray for relief. "I can cure you if you will give up tobacco." Said the man of God, "Do the best you can for me, doctor; save me if you can, but I can't stop smoking."

Every day we meet smokers and chewers with the mark of death upon their faces. The late Siro Delmonico was warned by the best physician of New York that he must die or quit smoking.—He quit when he died. Do not condemn the mother overmuch. Those who use soothing-syrups, or feed children on confectionery and rich pastry, are little wiser. When we see how much tobacco, patent medicines, and alcoholic drinks are used, we cannot but think of Carlyle's remark about most of the population being of the sort that Solomon says may be brayed in a mortar with a pestle without undergoing any change. Carlyle, writing in a great hurry, perhaps, said 20,000,000 of people, mostly "fools."—*The Christian Intelligencer*.



TEMPERANCE AND MISCELLANY.



Devoted to Temperance, Mental and Moral Culture, Social Science,
Natural History, and other interesting Topics.

THE NEGLECTED PATTERN.

A WEAVER sat one day at his loom,
Among the colors bright,
With the pattern for his copying
Hung fair and plain in sight.

But the weaver's thoughts were wandering
Away on a distant track,
As he threw the shuttle in his hand
Wearily forward and back.

And he turned his dim eyes to the ground,
And his tears fell on the woof,
For his thoughts, alas! were not with his home,
Nor the wife beneath its roof.

When her voice recalled him suddenly
To himself, as she sadly said:
"Ah! woe is me! for your work is spoiled,
And what will we do for bread?"

And then the weaver looked and saw
His work must be undone;
For the threads were wrong, and the colors dimmed
Where the bitter tears had run.

"Alack, alack!" said the weaver,
"And this had all been right
If I had not looked at my work, but kept
The pattern in my sight!"

Ah! sad it was for the weaver,
And sad for his luckless wife;
And sad will it be for us if we say,
At the end of our task in life,

The colors that we had to weave
Were bright in our early years;
But we wove the tissue wrong, and stained
The woof with bitter tears.

We wove a web of doubt and fear—
Not faith, and hope, and love,
Because we looked at our work, and not
At our Pattern up above.

—Phæbe Cary.

RUTH HAWLEY'S COTTAGE.

BY MRS. CLARA E. MCDONNELL.

PART II.

WHEN Ruth had been married nine years, she had her fifth baby in her arms. Poor child, she felt sometimes as if she had almost more than her share of care and toil in this world; but she took them all as God's gifts, patiently doing her allotted work from day to day. To put it mildly, there were times when Ruth felt a trifle discouraged, inclined as she was by nature to look always on the

bright side. They had had a hard winter. It was as much as ever that they kept out of debt. Only Ruth's wonderful financiering saved them. To "pay as you go" was a principle she early adopted and always adhered to. She managed to keep the children comfortably clothed; as for herself, she had made over garments year after year till now there was positively nothing left to make over. She had not a respectable suit in which to appear on the street. John had gone without an overcoat all winter, although Ruth knew that the money he spent during a single month, for which there was nothing to show, except perhaps impaired health and an increasing irritability of disposition, would have paid for one; but she refrained from telling him so.

Her anxiety about John was like a continual cloud hanging over her sky, obscuring all the brightness from her daily life. She felt that associations outside of his home were constantly gaining an influence over him.

It was while her thoughts were occupied in this direction one day that Uncle Joshua came in. He was looking grave and disturbed. He had become one of the most rabid of temperance advocates.

"A terrible thing has just happened," he said. Ruth looked up in sudden terror while he went on. "A man by the name of Riley out in the south part of the town has just whipped his child to death while crazed with liquor, so they say."

"O, Uncle!" Ruth turned white to the lips. She thought of John, how one day he had struck little Rose, because the child innocently and unintentionally gave him some annoyance. When the little one came to her with its grieved face, she silently took it in her arms, kissing the tears away while her own fell upon the little head.

"And so this man is the murderer of his own child?" she said, shuddering.

"Yes, a little girl ten years old. The circumstances I have n't learned. The whole community is roused, for a wonder, dead as it has seemed to the sin and crime of this rum traffic. I only hope it will lead to some decisive action in this place. I came in to tell you there's a woman somewhere—I don't mind now—here lecturing on temperance.

I heard her last night. I believe they say she's a lawyer. She certainly has a sound and logical head. She waked up my ideas with her arguments, but she had a small audience. She'll have a full house to-night you may depend. There was something said about organizing a temperance society in this place. Something ought to be done."

"What can be done?" said Ruth.

"That remains for you women to determine. I believe, as the speaker said last night, that it is woman's work to remove this rum curse from our land. The sooner you bestir yourselves, the better. You'll go to the lecture to-night, Ruth?" he said.

"I don't know," she answered; and she thought, "I have nothing to wear, and nobody to take care of the baby;" then she said aloud, "I will if possible."

The more she thought about it the more she determined to go. When evening came she had made arrangements with the daughter of a neighbor to stay with the children. She had decided that a veil pinned over a bonnet that had done service for two or three seasons, would do, and a shawl would hide the shabbiness of a dress that would not be noticed in the night.

John was invited to accompany her; but he plead an engagement, so she went alone. She was careful to take a seat where she could listen unobserved. She was fortunate in having come early, for by the time the speaker arrived the last inch of space was taken, and many were obliged to turn back for want of standing room. The tragedy of the morning had truly paved the way for the inauguration of the reform movement which the lecturer had come to establish. The death of little Nellie Riley, the child-martyr, at the hands of a drunken father, marked an epoch in the history of this village of dram-shops. A society was speedily organized. The Christian women of the town went to work in dead earnest.

One day Ruth astonished John by the announcement that she had joined the Woman's Christian Temperance Union, and intended to become a temperance worker. John looked at her.

"I did n't know that you set yourself up as having any intellectual ability, any gifts for public life," he said.

"Well, if I have n't, I can do something," replied Ruth with determination.

"Not that I think my wife is in any way lacking," John went on. "On the contrary, I think she's a woman for any man to be proud of. I never fancied strong-minded women. If you'd been made of the stuff

these women who start reforms are, I never should have married you, Ruth. But where do you expect to get the time to take part in this work you speak of? You never think you have any to spare. I can't even get you to go to a social party."

"Well, I shall take time. I never thought before that there could be any demands upon me so important as those of my family; but I've changed my mind," said Ruth quietly; and truly a change had come "o'er the spirit of her dream."

With Ruth, to undertake a thing was to go through it. She never started till she saw her way clear. It was wonderful, the time she managed to steal from her cooking and sewing and sweeping and dusting. It was wonderful, the books and papers that found their way from somewhere into the house, and were lying about on tables ready to be snatched up and devoured at a moment's notice. Then pen and ink were brought into frequent requisition. It really looked as if Ruth were becoming literary. One day John had no pie for his dinner.

"How's this, Ruth?" said he. She was always so mindful of his wants.

"Oh, I was reading the *Agitator*, and forgot my baking till it was too late."

"The alligator!"

"The *Agitator*, a copy of the new temperance paper."

"O! you relieve me. There's no danger of your being swallowed alive by one of them, I suppose."

One night he surprised Ruth with ink-stained fingers, bending closely over a manuscript, no signs of supper visible. She jumped up frightened.

"O John, I did n't realize the time, I was so busy making out my report while baby slept. Did I tell you they made me secretary of the 'Union' last week?"

Now, you must admit that John was not a bad man, for instead of finding any fault with Ruth he sat down without comment to read his paper, while she with rapid hands spread the supper table.

Ruth had suddenly acquired a desire to investigate into certain scientific truths, that was truly marvelous. Books were before her as she knit or sewed. Even as she stood at her ironing table a book might be seen lying open on one corner, if perchance she could snatch a sentence, or even a whole paragraph, now and then. If her housekeeping could not be pronounced as perfect now as it might formerly have been, it was just as well for the house, and better for the mistress. She had begun to realize the grave responsi-

bilities resting upon her as the mother of sons to be trained for a career of good or evil. It was for her to mold the character of future law-makers. Most solemnly had she undertaken the work of fitting herself for the task. Sorely she felt the need of wider culture and higher wisdom, and with a strong purpose she set herself to obtain it.

Whether the fact of his wife's having become a "temperance fanatic," as many ignorant people were wont to call the members of the W. C. T. U. of Krangton, had any influence in restraining John's growing appetite for strong drink, I cannot say. He never failed to allow himself the usual amount of spending money, and Ruth, thanks to Uncle Joshua's continued exhortation, had never failed to put aside her allowance for some future use. Ruth was assured that her money was in safe keeping and bringing good interest. One day Uncle Joshua had informed her that she would soon be able to buy a home of her own, and so "put a stop to this rent business."

"I have my eye on something now," he said. "If I succeed I'll let you know," with a very knowing look in his eye.

In truth, he did not tell her how far he had already gone in his negotiations. A few days after, he came in.

"Well Ruth, I came to tell you that the Stewart place is for sale. What do you think about buying it?"

"Why, how could I, Uncle? It must be expensive."

"It is under a mortgage, and has to be sold. I can get it for a thousand dollars."

"You don't tell me!" said Ruth. "That lovely cottage, with a varanda running all round it, and those pretty grounds?"

"Yes. You know since the old man Stewart died, his son, into whose hands the property fell, has been dissipating at a terrible rate. He seems to be utterly reckless in regard to the loss of the place. Why, the house itself never cost less than two thousand."

"Why, I shall feel like a rich woman, with such a sudden acquisition of property. How fortunate I happened to have that money just now. One don't get a chance like this every day."

"Didn't I tell you, Ruth, it's always well to have something laid by ready to catch these chances?"

Ruth must be excused for being unusually elated over her piece of good fortune. With her quick, practical brain she already saw a dozen ways in which it would help her in

the reform movement with which she had become identified.

It was on the tenth anniversary of her marriage that Uncle Joshua placed in her hands the deed of a home all her own, without incumbrance.

After supper that night John did not go out, but after playing awhile with little Robbie, who was now over a year old and beginning to walk, he took his newspaper. He was altogether himself that night. Ruth was glad, for she had something to say to him. After clearing away the table, she came and sat down.

"Do you know what day this is, John?" she began.

"I don't remember." He looked up inquiringly.

"Ten years ago to-day we began life together."

"I ought to remember," laying down his paper, "for I thought myself the happiest man alive. Well, Ruth, you have n't disappointed me. You have been all that I expected, all that any man could ask. Ten years," he echoed, "and yet we're as poor as ever, unless we can be counted rich in the number of our children."

"Well" said Ruth, "I don't think we'll go to the poor-house just yet, for I bought a house to-day."

"You bought a house! How could you buy a house, Ruth?"

"Well, I bought it with my cigar money."

"Cigar money!"

"Well, an appropriation would perhaps better express it, which I preferred to use for another purpose than the gratification of an appetite. You know since we were married you have been in the habit of reserving a certain amount from our weekly income, which you told me was 'for the cigars.' Well, I conceived the idea of following your example, only I concluded to put the money to another use."

"I understand," said John. "Well, how much have you been in the habit of 'appropriating' for this purpose?"

"At the rate of twenty-five cents per day, or one dollar and seventy-five cents every week, which was not nearly so much as you have used, for I have been particular always to take the same amount—no more, and no less."

"I see," said John, "for if I began by reserving two dollars, I ended by reserving four."

"Yes. You see, the habit did not increase with me that way. You are not angry

with me, John," as he sat very silent, with his head bowed down.

"At you, Ruth? Why don't you ask if I am angry with myself?"

"You see, I thought if I denied myself the pleasure of smoking cigars and drinking beer all these years, that I had a right to take the money I might have used for those luxuries and buy a house."

"You have a right to the house, Ruth. I'm glad you've got it. I'm ashamed of myself. I don't feel as if I deserved to occupy it with you."

"Besides," continued Ruth, "during all these years I have denied myself everything in the shape of luxuries, and a great deal in the way of necessary clothing."

"Enough, Ruth; say no more to remind me of the selfish brute I have been."

"O, no, John; I never thought you that. At the worst, I have only called you thoughtless and inconsiderate where the interests of your family were concerned. But we will say no more about that now. The next thing to be considered is the moving into our own house."

Now, of course, you will expect me to inform you that after this extraordinary example on the part of his wife, John Hawley proceeded forthwith to reform his habits. Then, I must beg leave to tell you, that you know next to nothing of the wants and necessities of that complex creature called man. Since I set out to tell you the truth in this matter, it is my intention to adhere strictly to first principles, and I believe it is on record that he absolutely abstained from entering a saloon for three days after the event above narrated—absolutely three days. I need not tell you of the numerous other attempts, also unsuccessful, which he has made to "break off" the habit of the daily use of stimulants. He found it a very much more difficult thing to do than he had supposed. Once he would have told you that he could stop any day if he chose. After repeated failures, he has learned his mistake. He is at length pretty thoroughly converted to the idea that the thing to be done is to remove the temptation, and, inconsistent as his course may seem to you, although while he still continues to help support the liquor traffic, to a very moderate extent, he encourages his wife in her continued efforts to have it suppressed.

As for Ruth, she is as hopeful as ever, and entirely confident of the ultimate success of this great moral reform, undertaken by a band of courageous women. She is continually surprised at the number of hours she

manages to steal from her domestic duties for mental improvement. It is true she has learned to slight her work in some cases, where the over-nice housekeeper might disapprove, but she is quite indifferent to the criticisms of such. She is becoming more and more brave, more and more regardless of the opinion of others, relying solely upon her own convictions as to the course of action she should or should not pursue.

And so we bid thee "God-speed," little woman; with thy noble sisters, brave and true, working, praying, waiting for the day when that curse to our homes—the licensed dram-shop—shall be no more.—*The Signal*.

THE WORLD'S CHARACTERS.

THERE are persons who represent pest-houses: they treasure the faults and misfortunes of mankind; no smile breaks the perpetual gloom of their brows; if they open their ears, it is to hear some tale of frailty or misery, and if they open their lips, it is to repeat it; they love to echo the groans of the diseased, and the sighs of the dying. Some persons are windmills: their arms are always stretching aloft into the thin air of a visionary existence; and the noise of grinding is loud, but the grist is small. Some persons are monuments: they are full of memories; they are garrulous about the past, but they have no present work to perform; their chief task is to mourn for the days that are gone. Some persons are factories: their minds know nothing but busy activity; they have no leisure from morning to night; and they have no care for the amenities of life, which yield but slight reward in silver and gold. Some persons are art-galleries, full of gorgeous fancies and poetic feeling, standing apart from the common walks of mankind. Some persons are museums, stored with curious lore—mysteries to the multitude, but helpful to the few. Some persons are hospitals, in whose ample charities every son and daughter of want finds sympathy and cheer. Some persons are homes: the moment you approach them is one of delight; they remind you of father and mother, brother and sister; in their conversation there is the charm of good sense well trained; and you discover nothing too low or too high for your constant appreciation. Some persons are temples: they have received our most holy faith, and it is imbedded in their deepest convictions; and they have built upon it characters so pure and so beneficent, that you speak of them with reverence, as of a shrine where God

dwells; all their strength and grace are consecrated to Heaven; anthems of praise and prayer ascend from their hearts, good angels visit them, and the Holy Spirit chooses them for his abode. What will you be? Behold the many possibilities before you. Make no foolish determination, and rear no walls which you will wish overthrown.—*Franklin Johnson in True Womanhood.*

WHERE BUTTONS COME FROM.

THE button trade of New York is estimated at from eight to ten million dollars a year. Last year the importation of buttons exceeded three and a half million dollars, the aggregate for the four years just passed being but a little short of thirteen million dollars. At American rates of wages many of the imported buttons could not be put upon their cards for the price they sell for.

Glass buttons are made mostly in Bohemia, and children are largely employed at the work, which they do as quickly and as neatly as adults. The children get ten cents a day, men from forty to fifty cents, and women a little less. Pearl buttons are imported from Vienna, where they are almost exclusively manufactured; and the all-important shirt buttons are received mostly from Birmingham, England, where the majority of metal buttons are likewise produced. The most extensive of all the button manufactories, however, is that of the Parisian and Berlin novelties. In one manufacturing village near Paris, where there are from 5,000 to 6,000 inhabitants, all the working people are engaged in making the agate button, which, even with thirty per cent duty added to the cost, sells, when imported into this country, at the extremely low figure of thirty-one cents per great gross. The material alone, it is reported, could not be procured here for double that amount.—*Scientific American.*

PRACTICAL EDUCATION.

PROF. ADLER, in a recent lecture on the subject of "Woman," made the following statements concerning the education of the girls of the present generation:—

"Our system of educating girls as a rule is radically false. There are notable exceptions, but the rule is the following, that the object sought is to be gained in accomplishments rather than solid knowledge. Women are taught to play the piano, and to use the French language. They get a smattering of many subjects, an intellectual grip on hardly

any. Even knowledge is given them as an accomplishment—that is, not for its own sake, but to make them appear pleasing. To be blunt, women are educated so they may please men. The fault is less with the teachers than with the parents who create the demand and obtain the supply in our fashionable schools. All this ought not to be. Our education of girls should be more practical, more solidly useful than it is. Every woman, whether she needs to enter a profession or not, should be so trained that she can enter one, or at least perform some useful service for which society will remunerate her. Every girl should know that she can support herself if she desires to do so. If this were the case, women would have greater independence and freedom in choosing their husbands than they now have, and the knowledge that there is an alternative open to them would cause them to enter married life on a footing of greater equality than is now accorded to them. There would then be fewer of those unhappy marriages into which young women allow themselves to be hurried for fear of falling a burden upon their fathers or their brothers; fewer of those cases in which a woman says "Yes" at the altar when her whole soul means "No."

STRENGTHENED BY EXAMPLE.

AT a large boarding-house in the South, a guest was asked at dinner if she would have some plum pudding with wine sauce. "I will have some of the plum pudding but none of the wine sauce," was her reply. Her friends laughed at her, and insisted that she should take some, but she replied, "I decline upon principle; I take no alcohol in any form."

The conversation turned to other topics, but after dinner a young man whom she had noticed sitting opposite her at dinner, approached her, and requesting a word with her, said, "I want to tell you how much good you did me to-day by your prompt and decided rejection of the wine pudding sauce. I had been deliberating what I would do, being strongly tempted by the smell of it, which reached me. I think I should have yielded to my desire and the solicitations of my friends, who called my resolution a whim, if I had not heard your refusal. That gave me the courage to resist the temptation. I have an inherited appetite for liquor, but by the grace of God I have been enabled to control it; but if I had got a taste of wine to-day, I feel confident I should have fallen again."

It was a very light thing for that woman to put aside an indulgence which cost her no sacrifice whatever, but by so doing she gave strength and courage to one whose feet had well-nigh slipped. We need to look at these things, not merely in the light of personal desires or personal experience, but with reference to the condition and dangers of others around us. We know not what eyes are watching us; we know not who may be benefited or injured by our actions. Our decision, which may be but a passing, transient choice, may forge the fetter which shall bind some other soul in bonds never to be broken. "It is good neither to eat flesh, nor to *drink wine*, nor anything whereby thy brother stumbleth, or is offended, or is made *weak*."—*The Christian*.

RULE OF LIFE.

Would'st thou be a happy liver,
Let the past be past for ever!
Fret not when prigs and pedants bore you;
Enjoy the good that's set before you;
But chiefly hate no man; the rest
Leave thou to God, who knows what's best.

—*Goethe*.

ABSTINENCE.

Most children have an instinctive dislike to alcohol in any shape; unless, indeed, there be a hereditary predisposition toward it—of all predispositions the most fatal. Any one who knows the strong pureness of a good constitution which has received from two or three temperate generations an absolute indifference to stimulants, can hardly overvalue the blessing it is to a child, boy or girl, to bring it up from babyhood in the firm faith that wine, beer, and spirits are only medicines, not drinks; that when you are thirsty, be you man, woman, or child, the right and natural beverage for you is water, and only water. If you require them, if you have been so corrupted by the evil influences of your youth or by the luxurious taste of your after years, that you "cannot drink water," either there is something radically diseased in your constitution, or you will soon bring yourself to that condition. * * *

To "drink no wine or strong drink," to be absolutely independent of the need for it or the temptation to it—any young man or woman brought up on this principle, has not only a defense against many moral evils, but a physical stronghold always in reserve to fall back upon, when accidental sickness and the certain feebleness of old age call for that resource, which I do not deny is at times a

most valuable one. But the advice I would give to the young and healthy is this: Save yourselves from all spirituous drinks, as drinks, as long as ever you can; even as you would resist using a crutch as long as you had your own two legs to walk upon. If you like wine—well, say honestly you take it because you like it, that you prefer indulging your palate at the expense of your health; but never delude yourself, nor suffer others to delude you, that alcohol is a necessity, any more than stays, or strong medicinal poisons, or other sad helps which nature and science provide to sustain us in our slow but sure decay.—*Miss Mulock*.

MADE HIM "SO NERVOUS" TO BE WITHOUT IT.

Of all the poor excuses for using tobacco is that of the man who says he left it off once or twice, but his wife urged him to take it up again, because it made him "so nervous" to be without it; and the wife's added comment is that her husband was "really so ill-natured without his tobacco that there was no living in the house with him." It is bad enough for a poor working woman to be compelled to give soothing syrup to her crying baby, so that she can have a quiet time at her washing or sewing; but when a husband is beyond all hope of decency unless his ill-nature is kept within bounds by his being half stupified by the fumes of tobacco, why, —well, that tobacco fills its place a great deal better than that husband does his.—*Sunday-School Times*.

Little Sins.—You need not break the glasses of a telescope nor coat them over with paint, in order to prevent you from seeing through them. Just breathe upon them, and the dew of your breath will shut out all the stars. So it does not require a great crime to hide the light of God's countenance, or shut out every star of promise. Little faults can do it just as well. Take a shield, and cast a spear upon it, and it will leave in it one great dent; but peck it all over with a million little needle-shots, and they take the polish off far more than the piercing of the spear. So it is not so much the great sins that take the freshness from our consciences as the numberless petty faults which we are all the while committing.—*Beecher*.

—Health, public and private, is valued when lost, cheap when found.

THE BEST DIET FOR CHILDREN.

"MY experience is, that children who have the most neurotic temperaments and diathesis, and who show the greatest tendencies to instability of brain, are, as a rule, flesh-eaters, having a craving for animal food too often and in too great quantities. I have found, also, that a large portion of the adolescent insane had been flesh-eaters, consuming and having a craving for much animal food. I have seen a change of diet to milk, fish, and farinaceous food produce marked improvement in regard to the nervous irritability of such children. I most thoroughly agree with Dr. Keith, who, in Edinburgh, for many years, has preached an anti-flesh crusade in the bringing up of all children up to eight or ten years of age."—
Dr. F. S. CLOUSTON, *Lecturer on Mental Diseases in the University of Edinburgh.*

—A writer in the *N. Y. Herald* thus designates Mr. Post's bill to reduce the internal revenue tax on cigarettes: "Mr. Post must be an enemy of the human race. He could not, if he tried, hit upon a more certain method of killing off a large portion of the rising generation and of making idiots of the one that is to follow it. The cigarette annually kills thousands and thousands of children and young men; and those whom it does not destroy physically, it mentally ruins. The tax on it should be increased, not reduced. It would be well to place it so high as to put these poisonous packages beyond the reach of the small boy."

POPULAR SCIENCE.

—A bottle of fifty gallons capacity, the largest ever blown in this country, was lately made at Millville, N. J.

—It appears to be settled now beyond doubt that "red snow" about which there has long been dispute and uncertainty is due to the presence of a one-celled plant called *protococcus invalis*, which reproduces itself by subdivision.

—Recent excavations at Cairo have resulted in the discovery of a monolith belonging to Apries the Pharaoh Hophra of the Old Testament, bearing the inscription "The beloved of Ptah of Memphis, giving life forever, the good god Ra-aa-ab, lord of the two lands, Apries."

—Electricity has been put to a new use. A member of the Italian Parliament has devised a simple and practical method of voting by electricity. Each member has in front of him a metal plate bearing his name on which are three buttons, marked respectively "Ay," "Nay," and "Abstain." These buttons are connected with a printing apparatus which prints the vote in three columns according to the button touched by the member and in addition automatically records the sum of the votes in each column.

—A recent article in *La Nature* gives a description of a remarkable appearance of seeds in the atmosphere, which was observed during eight consecutive days last February, in Guatemala. At a certain distance from the ground bodies resembling snow flakes were perceived. These appeared and disappeared instantaneously, usually going in the same direction, being visible only when passing between the observer and the sun. They were variegated in color, moved gracefully, falling and then rising out of sight, like snow flakes melting away in air; at other times being borne along by the wind. The common people thought that fire was falling from the sun. More intelligent persons considered the phenomenon due to the fact that snow had been formed in consequence of the cooling of the atmosphere, some of which had fallen without melting till it came in sight. It was finally discovered, however, that the particles were floating seeds.

In the *North American Review* for May, Carl Schurz, treating of "Party Schisms and Future Problems," presents many well-considered observations which cannot fail to interest in the highest degree that large and growing class of citizens who refuse to be influenced by obsolete party cries. "Days with Longfellow," by Samuel Ward, contains personal reminiscences of the beloved poet just deceased, extending over a period of forty-five years. Elizabeth Stuart Phelps, in an article entitled "What does Revelation Reveal?" seeks to prove that the objections brought against the Bible by modern unbelievers are based upon a misconception of the true intent and scope of the sacred volume. Lieutenant-Commander Gorringer writes of "The Navy," with abundant knowledge of its needs, and with a degree of frankness almost, if not quite, unprecedented in the naval service. W. H. Mallock, the well-known English essayist, in the first of a series of "Conversations with a Solitary," very ingeniously contrives to put the advocates of democracy and modern progress on the defen-

sive. Finally, Gail Hamilton contributes a paper, "The Spent Bullet," in which science, the pulpit, and the law are with exquisite wit taken to task for the part they respectively played in the Guiteau-Garfield tragedy.

Lines on the Planet Mars.—A very curious and interesting question is at present under consideration among scientists, which involves the possibility of the planet Mars being inhabited. It is based upon a discovery of Prof. Schiapparelli, Director of the Royal Observatory at Milan, who has made the planet an object of careful study for many years. In the winter of 1877-78 he noticed dark bands crossing the disk of the planet. He observed them again the next year and also last winter, and has mapped out more than seventy of these dark lines which he believes to be canals cut across the planet.

The Horse in America.—It has been generally believed that the horse was introduced into America by the Spaniards. Professor Marsh, on the other hand, has found abundant remains of probable ancestors of the horse in our Western geological formations; so that, if there were no horses before the Spaniards came, there must have occurred a failure of the race. Mr. E. L. Berthoud, of Golden, Colorado, believes that he has evidence that the Spaniards found horses in South America when they first visited it. Among the maps which he has recently received from Paris, in a collection of the fifteenth and sixteenth centuries, is one which Sebastian Cabot drew for the Emperor Charles V., representing his explorations of the La Plata and Paraná Rivers, and containing symbols of the animals and plants that he found. Among these symbols was that of the horse represented near the plains of the Gran Chaco, where the immense herds of that animal range to-day. He claims that this affords a fair presumption of the native origin of the race, for neither the Spaniards nor the Portuguese had then been long enough in the country (in 1527) for their horses to have escaped from Peru to the head of the Paraguay and Paraná Rivers and to have increased in numbers sufficiently to attract attention.—*Sel.*

Forms of Aurora Borealis.—Lieutenant Weyprecht, in his recent work on the observation of the aurora borealis, distinguishes between seven forms in which the light appears in the polar regions. The first form is that of almost regular arches rising or sinking from the magnetic south or north to or away from the zenith, and generally extend-

ing to both sides of the horizon. Second, are streamers of irregular form and varied appearance, appearing like bands much longer than broad, moving in the atmosphere, and nearly always bent in folds and twists; they consist either of masses of light unequally distributed along the length of the band, or of single beams of the breadth of the band closely arranged together in a direction toward the magnetic zenith, and having their intervals filled with light-masses. This form is cut away on every side, or at most touches the horizon on only one side. Of the third form are threads, extremely fine beams of light of various lengths, some of them reaching from near the magnetic zenith to near the horizon, and grouped in such a manner as to resemble a fan covering a part of the firmament. The beams are not united, but are separated by dark spaces of greater or less width. Generally, they are prolongations of a streamer, which in such case answers to the continuous lower border of the fan. Fourth, is the corona, in which the beams or light-masses are joined in a common center near the magnetic zenith, and a constant movement is maintained toward or around the same. Fifth, haze—dim, unformed accumulations of light-masses illy defined, at some point in the firmament. Sixth, the dark segment, a darker appearance, forming a segment of a circle, in the magnetic north or south, bounded by a fixed and low-seated bow of light. Seventh, the polar shine, an illumination of the polar sky, the form in which the light generally appears in middle latitudes, but which is not observed in its home. Its characteristic feature is that the rays diverge from the horizon up, while the divergence in all the other forms, if their rays can be distinguished, is in the reverse direction. The movements of the mass consist either of a rising and sinking of the rays and arches with reference to the horizon, a lengthening, and shortening, and sidewise motion of the threads, or a general change of place. The mass has also motions within itself, which may consist of undulations or flashes of the light. The undulations are waves, streamers, or partial arches, which pass along generally from the magnetic east or west, toward the opposite end of the phenomenon, and then appear to spring out from it. The flashes are the shooting of short, broad beams, with the velocity of lightning, from the streamers toward or from the zenith. They are the fore-runners or accompaniments of intensive coronas, and originate in particular when a stream of rays merges into the corona.—*Popular Science Monthly.*

GOOD HEALTH.

BATTLE CREEK, MICH., JUNE, 1882.

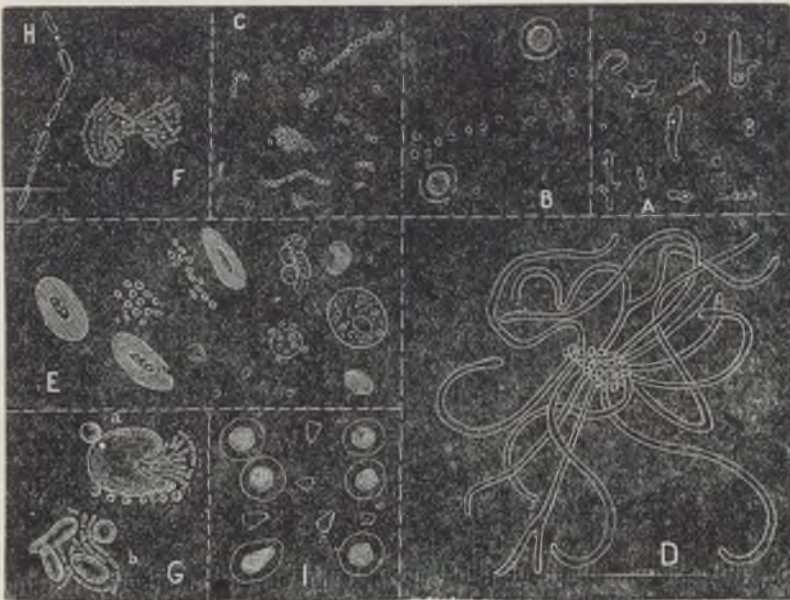
J. H. KELLOGG, M. D., EDITOR.

TERMS, \$1.00 A YEAR.

SWINE PLAGUE AND FOWL CHOLERA.

For a number of years, farmers who have devoted themselves specially to the business of hog-raising, have been liable to great loss through an epidemic and contagious disease which is generally known as "swine plague" or "hog cholera." A similar disease known as "fowl cholera"

The "Department of Agriculture" have recently published their Report for 1880, in which is an account of a very extensive series of experiments undertaken for the purpose of determining the truth respecting some of the principal points at issue between the various theories on the disease. The investigation has shown pretty



has prevailed among fowls, frequently destroying hundreds of them in a few days in a single neighborhood. The peculiar nature of the disease and its extremely fatal character have excited much interest in its investigation, and the interest in the investigation has been enhanced by the suspicion which has existed that there is some relation between these diseases and disease in human beings.

clearly that the disease is produced by germs which find their way into the blood and tissues, and by their multiplication there occasioning the various symptoms which accompany these two diseases. We have not space to enter into the details of the investigation, but give in the accompanying cut representations of a few of the numerous disease-producing organisms which are so frequently found in the live

and dead bodies of diseased swine and fowls.

A, C, D, and H, represent the virus of hog cholera in various forms and stages of development. B and I represent portions of blood of diseased animals, B indicating the large number of disease spores in proportion to the number of blood corpuscles. E represents a portion of blood from a fowl suffering with fowl cholera; showing the disease germs mingled with the oval corpuscles of the fowl. F represents the virus of fowl cholera. G represents the manner in which the blood corpuscles are destroyed in fowl cholera.

THE "OZONE" HUMBUG AGAIN.

By dint of ingenious advertising and the grossest misrepresentation, the manufacturers of the so-called "Ozone" Preserving Compound have succeeded in building up quite a business in the sale of their cheap mixture of sulphur and charcoal. They have several times been exposed through the analysis of their compound by eminent chemists in various parts of the country, but still they find plenty of people ready and willing to be duped, and anxious to pay a considerable sum for the pleasure of the deception. As we have before shown, the compound does not contain a particle of ozone, not even a homeopathic dose, so that there is no excuse whatever for the palpable fraud of naming it after a substance of which it does not contain the faintest trace.

Any one who wants to try the antiseptic virtues of "ozone" can do so at much less expense than by paying the sharks who manufacture the article \$2.00 a pound for material which did not cost them more than ten cents, probably less. Buy half a pound of sulphur at the drug store, and add about two ounces of powdered charcoal, which can be obtained free of cost; mix well, and the compound is ready for use. Whatever other ingredients are added by the manufacturers are useful only as a sort of blind. Put the vegetables, meats, or other articles to be preserved, in a tight

box, and burn a small quantity of the sulphur in the box, taking care to arrange the burning apparatus so that there will be no danger of setting fire to the box. This is practically the same method which has long been in use for the purpose of preserving hams. Several years ago the same recipe was sold about the country quite extensively at five dollars for a family right to make and use the compound. The "ozone" schemers propose to make all they can out of the business, and so try to keep their pretended secret, selling only the material itself, all ready for use.

The fact that the compound will preserve, does not relieve it of the odium of being a humbug of the grossest sort. It is a fraud, 1. Because it is not what it pretends to be; 2. Because it makes a pretended secret of an article commonly known; 3. Because it will not accomplish what is claimed for it. The assertions that it will repel "the insidious influence of poisonous miasma," that it will "absolutely cure any case of diphtheria," and that it will "prevent the taking of any infectious disease," are falsehoods which must be intentional on the part of those who are responsible for them.

If sulphur were not seriously objectionable as an antiseptic for the preservation of food, it would have come into general use long ere this. Its antiseptic and disinfectant properties have long been known, but the injurious properties of sulphur were also so well known that it could not become popular as a food preservative.

A NEW THEORY OF CONSUMPTION.

PROF. TYNDALL, the noted English physicist, who, a few years ago, devoted considerable attention to the demonstration of the germ character of typhoid fever, has been investigating the nature of consumption and has arrived at conclusions which, if tenable, are of the utmost importance to the human race. The following article from the *Boston Weekly Journal* gives a very good summary of the investigations and the conclusions drawn therefrom:—

Prof. Tyndall writes to the *London Times* to direct attention to some important results which may flow from the investigations and experiments of a German scientist, Dr. Koch. The result of these researches is to prove that tubercular consumption is caused by a parasite, which is described as rod-shaped and which discloses itself in every case on the microscopic examination of the diseased organs of men and animals. Transferring directly, by inoculation, the tuberculous matter from diseased animals to healthy ones, Dr. Koch in every case reproduced the disease. To prove that the real contagion came from these bacilli he cultivated them artificially for long periods of time and through many successive generations. In every case inoculation was followed by the reproduction and spread of the parasite and the generation of the original disease. It is not easy to exaggerate the importance of these discoveries. About one-seventh of the human race, it is estimated on the basis of reliable statistics, die from some form of tubercular disease, and fully one-third of those who die in active middle life die from this cause. It had been already demonstrated that the disease was communicable, but Dr. Koch's aim has been to determine the precise character of the contagion which previous experiments had proved to be capable of indefinite transfer and reproduction. The result of his experiments tends to show that there is an essential similarity between tubercular diseases and the common eruptive fevers previously shown to be due to the growth within the body of the minute parasites termed bacilli. It is a characteristic of many, and probably of all, the disease producing bacilli that they can be so altered by cultivation as to produce a mild disease instead of a severe one, and that the designed communication of the former will afford protection against the latter, as in the case of small-pox and the splenic fever of cattle. The next step will be the attempt to cultivate the bacilli in diminished intensity. What has already been accomplished, in the opinion of the

London Times, affords a reasonable hope that an antidote to consumption and to tuberculous diseases generally may soon be brought within our reach; and the *London Medical News* expresses a like anticipation thus:—

“If Pasteur's culture experiments have led to the discovery of a method by which the poison of splenic fever is rendered harmless and the disease prevented by the timely inoculation of the modified virus, may we not hope that the time is not distant when the ravages of consumption will be prevented by the inoculation of a modified bacillus? The medical profession of the whole civilized world will now await with the keenest interest the developments which may be expected from further study of the bacillus tuberculosis.”

MORE PERIHELION FOLLY.

EVER since it was discovered that the present decade was to be characterised by an epidemic of perihelions, an astronomical cause has been found for every famine, cholera outbreak, earthquake, volcanic eruption, and almost every other phenomenon of an unpleasant character. The latest discovery in this line is set forth in a recent pamphlet which explains the cause of the assassination of our late President. According to the author of the pamphlet, poor Guiteau was not at all responsible for the murderous act, as he was only the unfortunate instrument of the fickle planet Mercury, which took a notion to go into aphelion just at this time and could not help making some sort of trouble, of course. Unfortunately for the country, the malign influence happened to strike in such a way as to deprive us of a good President and to make poor Guiteau appear before the court in the unpleasant attitude of an assassin. It seems to be a great pity that the discovery was not made before the trial was concluded, so that the villain Mercury could have received his just deserts and saved the unhappy victim of an evil star from the

ignominious death which at present seems to be inevitable. It is barely possible, however, that if the real offender can be brought to justice, the country may yet be saved the disgrace of executing an innocent man. All believers in the perihelion fanaticism ought to feel a solemn obligation to intercede for the release of poor Guiteau, and should interest themselves in the apprehension of the guilty party. They could undoubtedly render invaluable service to the government in the latter measure, if it should be attempted, on account of their superior knowledge of the habits and dispositions of the celestial villains, not one of whom have been able to stir a half inch for more than two years back without having his movements watched with suspicion and all sorts of evil prognostications based thereon.

THE LUXURY OF BEING HUMBUGGED.

THAT the present is an age of humbuggery is a saying which has become too trite to require repetition. When expostulated with, quacks and charlatans reply, "people love to be humbugged, and will be, and I might as well reap the harvest as any one else." Unfortunately there is too much truth in the assertion that people love to be humbugged. Never in the history of the world was there so good a chance to detect humbuggery and charlatanism, as the means of detection were never so perfect as now, so there is less excuse for being deceived than there might have been a century or two ago, yet never did quacks and charlatans abound and flourish as at the present time.

Probably one of the most successful of recent frauds is that known as "Compound Oxygen." We have so often met persons who had spent large sums of money for this worthless stuff without being in the slightest degree benefited that we have felt it to be a duty we owed our fellow men to investigate the matter thoroughly and publish the results. We accordingly obtained fresh samples of

"Compound Oxygen" and "Oxygen Aquae" which had just been received from the manufactures in Philadelphia, and sent them for analysis to Prof. A. B. Prescott, M. D., professor of chemistry in the University of Michigan, which possesses one of the largest and most complete chemical laboratories in the country and probably in the world. After subjecting the compound oxygen, so-called, to a careful analysis, Prof. Prescott reports to us as follows:—

"A solution of nitrate of ammonium and nitrate of lead in water, in not far from equal proportions, and together forming just three per cent of the liquid."

It should be recollected that this solution is to be used by inhalation, a teaspoonful being added to a small quantity of warm water through which air is drawn by means of a glass tube. Neither of the substances contained in the solution are volatile at the temperature at which the solution is used, so that it is impossible for any medicinal property whatever to be imparted by this boasted remedy, except what comes from the warm water, which is itself very healing when used in this way as we have demonstrated in hundreds of cases. Prof. Prescott also tested the vapor given off from the pure solution when it was boiled, but found nothing more than the vapor of water.

The "Compound Oxygen" is usually accompanied by what the manufacturers are pleased to call "Oxygen Aquae," which they recommend their patients to take as an aid to digestion. The analysis of this showed it to contain nothing but water. The most careful tests revealed nothing else.

Now we have done our duty. If any of our readers wish to pay sixteen dollars a pint for water, they are at liberty to do so. There are some people who enjoy the the luxury of being humbugged to such a degree that we have no doubt some will be induced to squander a few of their hard-earned dollars by seeing this exposure of this wretched fraud.

SYLVESTER GRAHAM'S STOMACH.

A WRITER in a late number of the *Country Gentleman* offers some new arguments for meat-eating which are so amusing that we give them to our readers as an aid to good digestion. The arguments are as follows:—

“Meat contains in a solid form substances which are necessary to the growth and development of the body. Deprive us entirely of these substances, and we should die. Vegetables contain these elements, but in such small proportions that in the attempt to meet the demands of the system, we have to take in so much bulk that the stomach, which naturally holds about three pints, is distended, and the foundation of dyspepsia laid.

“Dr. Graham, from whom graham flour derived its name, would not taste meat of any kind, or allow his family to do so. He died at the age of about fifty years, and after his death it was discovered that his stomach instead of holding three pints held a little over four. Had he used meat in judicious quantities, he might have prolonged his life to a green old age. Therefore I beseech the readers of the *Country Gentleman*, lest in following the advice of J. W. P., they meet with a similar fate, to eat not altogether bread and vegetables, but to take a little meat for the stomach's sake.”

It is obvious that the writer was as wholly ignorant of the chemistry of foods as of the principles of dietetics. The statement made respecting the presence in meat of certain solid elements necessary to perfect nutrition and their absence in proper proportion in vegetable foods, is correct only when the word vegetable is confined to such foods as potatoes, cabbages, turnips, and the like; but no one has ever advocated the exclusive use of this class of foods. The grains contain all the elements of nutrition in exactly the right proportion. This is true at least of such grains as wheat, oats, and rye. A person can subsist an indefinite length of time upon a diet wholly composed of grains. Meat, on the other hand, contains a great

excess of certain of the elements of nutrition, so that what the writer undertook to prove concerning a vegetarian diet proves to be true of meat instead.

But the most ludicrous part of the argument we have not yet noticed. It is asserted that when Dr. Graham died, a post-mortem examination was held, and the awful fact was revealed that his stomach held a whole pint more than it should. And it is gravely intimated that this was the cause of his death, and a solemn warning is given all vegetarians to eat meat and avoid a similar fate. The writer also asserts that if Mr. Graham had not been a vegetarian, he might have lived to a green old age, evidently not knowing that Mr. G. was an invalid, and greatly broken in health before he adopted the vegetarian mode of eating. He asserted that his health was greatly improved and his life prolonged by his change of diet. We are not at all sure that the new bit of information respecting Mr. Graham's stomach is authentic, but it is quite a new idea that an extra pint of stomach capacity is a fatal condition. The argument that vegetarians are in danger of starvation on account of not being able to get a sufficient amount of nutriment in their food certainly could not apply to Mr. G., as his capacious stomach was large enough to hold all his system required.

We once made a post-mortem examination of a man who had for a long time subsisted upon meat almost exclusively. We found the stomach contracted to such an extent that it held only a half pint. Meat-eaters, look out! If your stomach should become so contracted as that, starvation would stare you in the face.

—Dr. Cameron, of Dublin, has made the discovery that the colored crayons which are often given children as playthings are colored with poisonous coloring matters. In a case of all but fatal poisoning, he found that the child had eaten or swallowed a portion of a green crayon which was colored with arsenite of copper.

A NEW VICE—MORPHIO MANIA.

Few persons are aware of the enormous extent of the morphia-habit in this and other civilized countries at the present day. There is no doubt that the wretched army of morphia and opium eaters in this country alone numbers at least a hundred thousand. The habit is very rapidly established, and the daily dose cannot be repeated but a very few times without making such an impression upon the system that a loss is felt when it is withdrawn. Persons of feeble will power are unable to resist the craving thus established, and the drug will be obtained in some way if possible. Usually the most convenient method is to insist that the pain or other condition for which it was administered is as bad as ever, having returned in consequence of a little exertion or some trivial cause of similar character. We have often met patients who had by this means been led into the use of the drug and had become so accustomed to its effects that very large doses were required to produce the desired results. In one case a lady patient was taking, at the time she came under treatment, the enormous amount of ninety-six grains of morphia daily, although one-eighth of a grain is the dose for a person unaccustomed to its use.

The following from the *London Truth* is an excellent statement of the facts concerning the habit in England:—

When physicians discovered that pain could be subdued by inserting under the skin a small, pointed instrument provided with a tube containing morphia, they little thought that they were paving the way for a new vice. Yet so it was. There are, in our merry England, beings who are as wholly under the domination of morphia as ever was Chinese under that of opium. Women have yielded by degrees to its fatal fascination, until at last they prick the skin a dozen times a day with the tiny syringe that has such terrible results. The operation is almost painless; the immediate effects pleasant. A delicious languor supervenes. Happy thoughts and bright

imaginations fill the mind. Some see beautiful visions, others feel only a pervading sensation of comfort and well-being. On a few, the effect of morphia is to excite to some intellectual effort, if effort that can be called which is pure delight, a glorious feeling of untrammelled power, of uncrippled exercise of the highest faculties. It is as though the mind had suddenly developed wings. But at the very height of the enchantment the influence of morphia begins to subside. The glory fades. The wings trail, and the feet that are their sorry substitute become weighted as with lead. As with the workers, so with the dreamers. The visions are obscured. The sensation of comfort gives place to one of discomfort, irritation, even pain. The mental vision that had just now looked through a rosy mist sees all things as through a crape veil or a November fog. Can it be wondered at that the dose is renewed, that the poison is absorbed again and again, that the intervals become shorter and shorter between the reign of the potent drug?

And the end? The punishment is terrible indeed. By degrees the mind becomes darkened. Hideous hallucinations seize upon it. Self-control is lost. Imbecility overtakes the weak. Madness threatens the strong.

These are the personal consequences. There are others to be bequeathed to sons and daughters and to later generations. These can be guessed at. The new vice has not reigned sufficiently long for the world to have seen them exemplified, but a dark array of possibilities suggests itself but too readily. The heritage of insanity, of inebriety, of imbecility, will in future be traced back to those tiny tubes which hold but a drop or two, and to which men once looked as a blessed means of relieving pain, forgetting that blessings and curses go hand in hand in a crooked world. Dip-somania has now a powerful rival, speedier in its results than its own revolting process, and eventually as degrading. The name of the latter born sister fiend is Morphio mania.

TOBACCO SUICIDES.

SUICIDE by the use of tobacco is becoming one of the most frequent means of self-destruction. It is not always quite so sudden a process as hanging or drowning, but is equally as certain in its results. Almost every week one or more cases of death by the pipe, the quid, or the cigar, are recorded in the public prints. One of the latest is that of Delmonico, the last of the three Italians by that name who established the famous restaurant in New York, at which so many royal visitors have been feasted, and so many Americans made dyspeptics. His brother died a few months ago of the same cause, and it has long been predicted by Dr. Wood, Mr. Delmonico's physician, that he must die as did his brother. Dr. Wood states that he has often known him to smoke one hundred cigars in a day. His system was completely saturated with nicotine, and his lungs were so seriously affected that he frequently suffered spells of choking so severe that he was in imminent danger of death. He finally died in one of these attacks, as had been predicted by his physician.

An exchange contains the following account of another suicide from the same cause:—

Mr. Richard A. McDow, a native of the British Provinces, was recently found dead upon the floor at the hotel where he boarded, in Milford, N. H. Various rumors of foul play and suicide were started, but upon a post-mortem examination made by two leading physicians, it appeared that the heart was in such a diseased condition that the coroner's jury brought in a verdict of "death from paralysis of the heart, induced by the inordinate use of tobacco." He was not a drinking man, and this appears to be the sole cause. Three pipes were found in his room.

Prevention of Hydrophobia.—M. Pasteur, the eminent French scientist, whose researches into the nature of germs have been of almost inestimable value in several departments of agriculture and other prac-

tical branch sciences, has recently determined the important fact that hydrophobia is a germ disease and that one attack is protection from another. He has also made a series of investigations respecting the possibility of protection from the disease by inoculation after the manner of vaccination for protection from small-pox, and has attained success. Sheep, which are very susceptible to the disease, after having been inoculated cannot be made to take the disease even by the most thorough exposure. There are those who think that the time will come when nearly all diseases may be prevented by this plan. We hope we may never live to see the day when it will be considered the duty of every man to see that his children have all been properly vaccinated for each one of the various dangerous maladies which afflict the human race. Such a course of vaccination repeated as often as would be necessary to insure safety every time a new epidemic made its appearance, would occupy a good share of one's lifetime.

FRAUDULENT INFANT FOODS.

NOT content with humbugging their parents, human sharks, greedy after gain, have taken to cheating the babies,—little helpless innocents, who ought to be honestly treated if fair dealing is to be received by anybody. The little one gets its digestion deranged by a slight cold or some other cause, perhaps overfeeding, or feeding too frequently. The doctor at once orders that its natural food be discontinued, and recommends the use of some popular "infant food." A patent food, put up in nice packages and sold at from fifty to seventy-five cents a pound, is procured at the store. The little one gets no better, and so some other "food" is tried. One kind after another is experimented with until often the whole list of twenty or thirty patent "baby foods" have been tried. Each one is recommended by a long list of physicians as the very best thing of the kind which has been, or can be made, a perfect substitute for, or a little better

than, mother's milk; when the fact is, not one of them, or at least not more than one or two of the whole list, is fit to go into an infant's stomach at all, and all are vastly inferior to almost any one of the usual substitutes which mothers and nurses are accustomed to prepare for infants who are unable to take their natural food, such as oatmeal or graham gruel, barley gruel, etc.

The following criticism on the general fraud practiced in this line, we quote from the *N. Y. Times*:—

“There are about twenty European preparations styled infant foods, beginning with that of Nestle, and at least twice as many American, all of which profess to furnish a complete nutrition for the infant during the first few months of its existence, while yet the conversion of starch into dextrine and sugar is beyond the capacity of the untrained digestive function. The examination of these with the microscope, assisted by such simple tests as iodine, which turns starch cells blue, and gluten (or albuminous) granules yellow, has engaged the careful attention of Dr. Ephraim Cutter, of Cambridge, and his results will startle most mothers who have relied upon the extravagant pretenses set forth in the circulars of manufacturers.

“Eliza Mc Donough, who preceded Dr. Cutter in this field, has been in a measure discredited; but it appears that her assertion—that the starch, so far from being transformed into dextrine, was not sufficiently altered to render the recognition of its source difficult, whether from wheat, rye, corn, or barley—was strictly true, and that these pretentious foods are, without exception, nearly valueless for dietetic purposes. All of them consist of baked flour mainly, either alone or mixed with sugar, milk, or salts. In some cases, the baking has been very inadequately performed, and the doctor found one that consisted merely of wheat and oats whose starch cells were proximately in their natural condition.

“The general result of Dr. Cutter's examination may be stated in brief terms as follows: There was scarcely a single one of the so-called infant foods that contained a quantity of gluten as large as that contained in ordinary wheat flour. That is to say, a well-compounded wheat gruel is superior to any of them, particularly when

boiled with a little milk; and mothers are in error who place the slightest dependence upon them. As respects one very expensive article, professing to possess 270 parts in every 1,000 of phosphatic salts in connection with gluten, Dr. Cutter was unable to find any gluten at all. The thing was nearly pure starch, sold at an exorbitant price as a nerve and brain food and a great remedy for rickets. So all through the list. Sometimes a trace of gluten was present; more frequently none at all. In one case there were 90 parts of starch to 10 of gluten; but this was exceptional, and the majority were less valuable, ounce for ounce, than ordinary wheat flour. Considering the semi-philanthropic pretensions that have been put forth by the manufacturers of these foods, some of them sustained by the certificates of eminent physicians, the report of Dr. Cutter is one of the dreariest comments upon human nature that has recently fallen under the notice of the journalist. But if the revelations he has made of fraud and pretense on the part of manufacturers in this field shall serve to protect mothers from further betrayal and to rescue infant life from quack articles of nutriment, his work, though giving a tremendous shock to our sensibilities and to our faith in medical certificates, will not have been done in vain.”

Recognizing the necessity for a reliable food for infants, we some time ago undertook a series of experiments in this line, and succeeded in preparing what we believe to be a very superior article for this purpose, which is manufactured and sold by the Sanitarium Food Co., of this place. The whole advertisement will be found elsewhere in this number.

Bologna Victims.—Half a dozen persons were recently made sick in a little town in Massachusetts by eating bologna sausage obtained from Springfield. One of the cases ended fatally. It was suspected that the sausage was made from the flesh of hogs which had died of hog cholera. More persons die every year from pork and tobacco than from war and pestilence, and still the slaughter goes on, and the masses are blind to the dangers to which they are daily, even hourly, exposed.

Sassafras - Pith Mucilage.—Everybody does not know that the pith of the common sassafras contains a fine quality of mucilage which may be easily extracted and made useful as an emollient application. It is particularly serviceable as a remedy in simple inflammations of the eye in which cooling and soothing applications are especially needed. About a heaping table-spoonful of the pith in small pieces should be placed in a glass and covered with cold water. In the course of an hour the water will have dissolved out enough of the mucilage to make a viscid solution, and it is ready for use.

Good Suggestions.—The *Sanitarian*, the leading sanitary journal of the country, makes the following good suggestions, which many sick persons will do well to attend to:—

“Courage is a wonderful agent in throwing off disease. A walk of five miles would cure many an occupant of the lounge. Will-power will surpass pill-power in nine cases out of ten, if not in every one. To hold a bottle of smelling salts in the hand on account of head-ache may be just the thing at times, but to fling a pound of fruit cake into the alley, and then walk a furlong as a reward for not eating the compound, is nearly always a much better thing.”

Good Advice in Rhyme.—A quaint poet has crowded a deal of good sense into the following few lines:—

“If thou to health and vigor wouldst attain,
Shun weighty cares, all anger deem profane,
From heavy suppers and much wine abstain.
Nor trivial count it after pompous fare,
To rise from table and to take the air.
Shun idle noonday slumbers, nor delay
The urgent calls of nature to obey.
These rules, if thou wilt follow to the end,
Thy life to greater length thou mayst extend.
Shouldst doctors need? Be this in doctors stead,
Rest, cheerfulness, and table thinly spread.”

—A Western distiller acknowledges that about the only liquor which is not pretty certain to be adulterated is whisky, and everybody knows there is plenty of bad whisky, so what are whisky users going to do?

—A happy thought has occurred to the civil authorities of Brussels which is well worth the consideration of the city fathers of this country. Whenever the birth of a child is registered in that city, the parents at once receive a pamphlet containing plain and concise directions for the care and hygienic management of children. Here is a grand field of work for State and local boards of health.

—The New York State Charity and Aid Association proposes to found a school in which persons shall be educated to meet the various emergencies which frequently demand medical attention when a physician cannot be at once obtained. The school is to be conducted after the same plan as a London school for the same purpose.

—The managers of the Pennsylvania Railroad have issued an order prohibiting the sale of tickets to persons who are under the influence of liquor. Their object is to avoid suits for damages to persons who are injured by their own carelessness while under the influence of liquor.

LITERARY NOTICES.

ADVENT HAROLDEN. Battle Creek, Mich. This monthly journal, of sixteen pages, published in the Swedish language, is chiefly devoted to the exposition of Biblical prophecies relating to our times. Every number contains matter of vital interest to all. A specimen copy can be obtained by writing to the above address.

THE TEACHER.—This is an educational monthly, full of fresh, interesting items on educational topics, and hints as to the best and most practical methods of teaching. It presents a very neat appearance, and cannot but prove an excellent aid to teachers. Subscription, 50 cts. per annum. Published by Eldredge and Brother, No. 17 North Seventh St., Phila., Pa.

WISCONSIN SCHOOL REPORT.—We have just received a copy of the Annual Report of Prof. W. C. Whitford, the State Superintendent of Schools for Wisconsin. It is a very interesting volume, and deserving of a careful perusal by all. It contains a large number of valuable plans and specifications for the building, heat-

ing, furnishing, and ventilating of school-houses in country districts and villages, together with reports from the various County Superintendents of the State, and many valuable statistics and summaries.

SECOND EDITION OF MICHIGAN AND ITS RESOURCES.—The second edition of this pamphlet, which was noticed in a recent number of this Journal, contains several pages of matter additional to those which appeared in the first issue, and very considerably later statistics. Copies will be sent to persons seeking new homes upon receipt of name and address. Address, Commissioner of Immigration, Detroit, Mich.

LONGFELLOW MEMORIAL ASSOCIATION.—We have received a circular from the above-named Association, the object of which is the solicitations of funds to provide a lasting memorial for the poet, Longfellow. It asks for contributions of one dollar each from every one interested in the project for which a certificate of honorary membership in the Association will be given. The character of the memorial will be determined by a competent committee. The Association hopes to raise money sufficient to secure that part of Mr. Longfellow's grounds which lie between his house and the Charles River, there to erect an enduring memorial to the beloved poet, and to keep the spot forever open to the people.

Money for this purpose should be sent to John Bartlett, treasurer, P. O. Box 1590, Boston, Mass.

THE STUDENT'S JOURNAL.—744 Broadway, N. Y., Andrew J. Graham, Publisher. For many years Mr. Graham has been recognized as the leading publisher of works on Phonography, and the industry and enterprise which he has manifested in his particular line of business has placed him deservedly in the front ranks of the promoters of this useful art. We think we do not say too much when we assert that Mr. Graham has done more than any one else in this country to make short-hand writing a practical and generally useful art. The *Student's Journal* is indispensable to all interested in the subject. Those who are already acquainted with Mr. Graham's publications, should address him for circulars and a copy of the *Student's Journal*.

SUNDHEDSBLADET.—Every month we receive a neat little eight page magazine, in the Danish language, devoted to the same objects as **GOOD HEALTH**. The editor, Elder J. H. Matteson, in charge of the mission in Norway, has undertaken to enlighten the Scandinavian people on the subject of health through the medium of a monthly magazine, an attempt never before

made, to our knowledge. He has succeeded far beyond our most sanguine expectations, though we had great confidence in his ability and pluck, and believed that he could make it go if anybody could. The journal, although but a few months have elapsed since the first number was issued, already has a paying list of subscribers which is constantly increasing. Elder Matteson has also issued a number of health tracts, chiefly translations of our English health tracts. We are exceedingly pleased with the prospect for the health cause in Norway.

MARRIAGE AND PARENTAGE, by a Physician and Sanitarian: N. Y.: M. L. Holbrook and Co. This little work of 170 pages is replete with useful information on the subjects indicated by its title. It does not consider the whole field of Sexual Science, which is too much for the limits of so small a work, but considers very thoroughly and satisfactorily a portion of the subject named. The large number of quotations from eminent authorities and those who have made a careful study of the subject in its various aspects, shows that the author has devoted a large amount of research and pains-taking study to the preparation of this work, and we take pleasure in recommending it. The subject treated is, certainly, one not inferior in importance to any other within the scope of physiological science, and we are glad that there seems to be a waking up to its vital importance on the part of intelligent people everywhere. The present work is a valuable contribution to our small stock of reliable literature on the subject, and, we trust, will serve a useful purpose in increasing the interest in the subject.

In the *North American Review* for June, Senator W. B. Allison has a paper on "The Currency of the Future," in which he indicates the measures that will have to be taken by Congress for insuring a stable currency after the national debt has been extinguished. "A Memorandum at a Venture," by Walt Whitman is an explanation of his purpose and point of view in trenching upon topics not usually regarded as amenable to literary treatment. "Andover and Creed Subscription," by Rev. Dr. Leonard Woolsey Bacon, is a philosophical review of the present state of dogmatic belief in the churches. Hon. George F. Seward, late minister to China, in an article entitled, "Mongolian Immigration," makes an argument against the proposed anti-Chinese legislation. Dr. John W. Dowling, Dean of the New York Homeopathic Medical College, comes to the defence of the Hahnemannian School of medicine, against a recent attack upon its principles and methods. O. B. Frothingham has a sympathetic article on Swedenborg. Not the least important paper is one entitled, "Has Land a Value?" by Isaac L. Rice, it being a criticism of one of the fundamental postulates of Henry George's political economy. Finally, Charles F. Lydecker essays to prove that a "National Militia" is a constitutional impossibility.

Publishers' Page.

—This number of GOOD HEALTH has been unpleasantly delayed by a painful accident, suffered by the editor, in consequence of which he was deprived of the use of his eyes for nearly two weeks. He is now rapidly recovering, and expects to be as well as usual again in a few days.

—We have just issued the first edition of ten thousand copies of our new health paper, THE HEALTH AND TEMPERANCE BEACON. As previously explained, this journal is not intended to take the place of GOOD HEALTH, but to be a sort of pioneer of Health and Temperance Reform. It is a four-page sheet, 10x13 inches in size, and wears a neat but plain dress. Each number will contain a choice assortment of short bits relating to health and temperance work; and we trust will be found just the thing for missionary purposes. The first number contains a sketch, with portrait, of Capt. Joseph Bates, as a temperance reformer. It makes this number alone worth more than the price of the paper for a year, which is only TEN CENTS, postage prepaid. A sample copy will be sent on application to any address. To those who wish to send the journal to their friends, we will furnish it at the rate of one hundred copies for Five Dollars. When it is considered that the new paper is mailed direct to the subscriber every month in the year, for the small sum of ten cents, or five cents in clubs of one hundred, it will be at once admitted that this is a proposition unparalleled for cheapness.

—We take pleasure in calling attention to the article in this number by the Hon. Neal Dow, the noted apostle of prohibition. Mr. Dow, our readers will be glad to know, is a temperance reformer in the fullest sense of the word. He is as vigorous an opponent of tobacco using as whisky drinking. We hope to be able to present our readers in the near future with his portrait and a sketch of his life. Mr. Dow is himself a splendid specimen of the results of temperance. Notwithstanding his advanced age, he is still hale and hearty "and lively as a cricket." We never saw a boy of sixteen more nimble and agile in his movements than this veteran pioneer of temperance reform. We hope to have the pleasure of giving our readers frequent contributions from his vigorous pen.

—We have just received from the CHICAGO SCALE COMPANY one of their "Little Detective Scales," which is a perfect gem. It weighs accurately from one-fourth of an ounce to twenty-five pounds, so that it will weigh anything from a letter to a sack of flour. From a personal acquaintance with the manager of the company, Mr. W. W. Nutting, we are sure that the "Little Detective" will be found to be, in every case, just what it is represented to be. The same firm manufactures scales of every description, from the "Little Detective" to the largest size wagon scales. We will send the "Little Detective" and GOOD HEALTH, for one year, for \$3.00.

—We would call special attention to the article in this number by Miss Julia Colman on "Temperance Education." This is a subject which is being widely

agitated at the present time, and is one which well deserves the thoughtful attention of all intelligent people. It is of the utmost importance that the rising generation should be educated respecting the physical evils entailed upon the race by alcohol, and there is no better place for this work to be done than in the school-room. We may add, also, that in our opinion there is no better work to which the school-room can be devoted than this. We know of no branch of human knowledge which can be of greater value to the race than this. Miss Julia Colman, the writer of the article referred to, is the author of an excellent Temperance Lesson Book, exactly adapted to use in schools. It states the important facts of the subject in a concise and simple manner, with a wealth of illustration, which cannot fail to make a deep impression.

—We shall begin with the next number a new department in the journal, entitled "THE SICK-ROOM," which we intend to make an important feature of the journal hereafter. This department will be devoted to subjects which naturally come under the heading given it. Special attention will be given to the home treatment of simple maladies, nursing, hints for the sick-room, and similar topics. We shall be glad to receive suggestions from any who have them to offer. "Talks to Correspondents" will be transferred to this department.

—Many improvements have been in progress at the Sanitarium within the last few weeks. A large amount of new machinery for the application of mechanical movements has been introduced; some of the most important of which have been devised and constructed purposely for use in that institution, not being in use elsewhere. Other machinery for administering vacuum treatment, and for use in the treatment of diseases of the throat and lungs, has also been introduced. Among the most noticeable improvements is the construction of a new boiler house outside of the main building, and a commodious gymnasium 36x46 feet in size, which will be fitted up in a very complete manner. Other improvements of an important character are in progress. Ever since its erection the Sanitarium has taken the lead of all other establishments of the sort in the United States, in completeness of facilities for the treatment of every form of disease, and its managers are bound to maintain its established reputation. The present prospect is that the patronage during the summer for 1882 will be much larger than at any previous season.

—The citizens of Battle Creek were favored a few evenings since with a lecture by Mrs. M. A. Hunt, of Hyde Park, Mass., whose reputation as a temperance speaker is too well established to need any comment from us. Mrs. Hunt is devoting herself to the interests of temperance education. She advocates very warmly the introduction of the subject of temperance as a regular course of study in our public schools. That she succeeds in convincing her hearers of the importance of such a step, was demonstrated by the fact that a motion in favor of such a movement in our own city was unanimously carried by the audience, after listening to her lecture. Mrs. H. was entertained at the Sanitarium, and expressed herself as having greatly enjoyed her visit there.

—We are glad to learn that the new school established in New England, at South Lancaster, Mass., is prospering beyond all expectations. Physiology and Hygiene is made a prominent feature of the school. We learned by letter from Prof. Bell, recently, that the physiology class numbers forty members.

—The new Temperance Charts are in readiness, and orders will be filled on short notice. The price for the complete set of ten, mounted on cloth rollers, for lecturing purposes, is \$15.00. A discount will be made to temperance clubs and missionary societies.