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Nature's Laws, God's Laws; Obey and Live.

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Wine and the Bible.—No. 1.

PERVERSION OF SCRIPTURE.

AMONG civilized nations the Bible is almost universally admitted to be at least an admirable code of morals, even by those who do not regard it as an inspired book. An authority held in such high esteem would necessarily have very great influence in molding the judgments of men and forming their opinions. It is for the purpose of gaining the support of this generally accepted authority that the adherents of any special theory or doctrine appeal to the Scriptures for testimony in favor of the same. It need not be at all surprising, then, that the language of Holy Writ should often be grossly perverted by enthusiasts and unscrupulous persons in their attempts to find for their pet theories the needed indorsement. Illustrations of this use of the Scriptures are very abundant. A large class of modern agitators who call themselves "social reformers" and have made themselves notorious by the laxity of morals advocated and practiced by them, claim to find in the Word of God license for their immorality. Polygamists, likewise, appeal to inspiration in support of their unchristian practice. Only a few years ago, American slavery received from thousands of pulpits a most vigorous support which claimed to have the sanction of divine authority.

At the present time, there is a powerful party who claim that the use of fermented, or intoxicating, liquors is permitted and even sanctioned by the Bible. This party is headed by a few eminent scholars and clergymen, who are chiefly supported by a promiscuous throng of respectable moderate drinkers, rich rumsellers, and gutter drunkards.

If it can be proven that the Bible favors the use of intoxicating drinks in any degree, then the infidel has placed in his hands a most powerful weapon with which to attack the authenticity and sacredness of the Scriptures. If, on the other hand, it can be shown that there is no such conflict between science and common sense, and inspiration, then the difficulty vanishes. A careful examination of the subject will convince any candid man that the support which the advocates of the use of liquor claim to derive from the Bible is wholly imaginary, and that the use which is made of the Scriptures in defense of intemperance is a most flagrant perversion of the language and import of inspiration.

THE BIBLE IN HARMONY WITH SCIENCE.

Inspiration, true science, and sound common sense always agree. Any apparent conflict arises either from a misunderstanding of the meaning of the language employed, or from an imperfect knowledge of the scientific facts supposed to necessitate a disagreement. Science says distinctly and unequivocally, All fermented drinks contain alcohol; alcohol is a poison *under all circumstances and in all doses.* The decision of science is sustained by that of reason; for common sense teaches that a substance with properties like those possessed by alcohol can be nothing else than poisonous. If it is true that the Bible teaches that alcohol—in the form of wine or otherwise—is good and harmless, then it will be made to appear that inspiration is less wise than reason and science; that man, the creature, has outstripped the Creator in knowledge.

Such a conclusion, though correctly drawn from the premises, is too absurd for belief by one who has a modicum of faith in inspiration; and its manifest falsity would seem to be sufficient to fully expose the weakness of those who would make the Bible responsible for intemperance. The utter worthlessness of all arguments in favor of the use of alcoholic drinks founded on the Bible becomes still more apparent by a careful examination of the character of the wines mentioned in the Bible, and a consideration in detail of the

texts which are claimed to be favorable to the use of alcoholic liquors.

TWO KINDS OF WINE RECOGNIZED IN THE BIBLE.

It is undoubtedly true that intoxicating liquors are mentioned in the Bible; and it is equally true that a kind of liquor or wine is recognized and often mentioned which is not intoxicating. Ancient historians preserve the same distinction, making frequent reference to intoxicating wine and its effects, and also to unintoxicating wine and its wholesome properties.

UNINTOXICATING WINE.—The intoxicating property of wine is due to the alcohol which it contains. Wine which contains no alcohol is unintoxicating. Alcohol is produced only by fermentation. Wine which has not undergone fermentation, then, is unintoxicating, since it contains no alcohol. All that is required to preserve wine free from alcohol, and thus from intoxicating properties, is to prevent fermentation. That the ancients were acquainted with several modes of preventing fermentation is clearly shown by reference to history. Ancient historians describe four principal methods of effecting this, which were as follows:—

1. *Boiling.* In order that sweet fluids should ferment, it is necessary that a certain amount of water should be present. If a portion of the water is removed, fermentation cannot take place. This is easily effected by boiling; and this method was very commonly practiced among the ancients. The fresh juice of the grape was boiled until a considerable portion of the water was evaporated. Sometimes the boiling was continued until the juice acquired the consistency of sirup. This same method is employed now in the preservation of cider, and the sweet juice of the maple-tree and the sugar-cane, which would speedily ferment and produce alcohol if left to themselves.

According to Pliny and Virgil, the Romans preserved wine in this way. Pliny mentioned wine which had been preserved in this manner and was perfectly sweet, and of the consistency of honey, though two centuries old.

Aristotle states that "the wine of Arcadia was so thick that it was necessary to scrape it from the skin bottles in which it was contained and to dissolve the scrapings in water."

"The Mishna [a collection of ancient Jewish writings held in the highest esteem by the Jews] states that the Jews were in the habit of using boiled wine."—*Kitto.*

2. *Filtration.* The fermentation which develops alcohol in a sweet fluid by decomposing its sugar, is largely dependent upon the presence of albumen and certain impurities. These were carefully removed by repeated filtration, after which the purified juice was placed in bottles or casks which were carefully sealed and buried in the earth, or submerged in water and thus kept cool and sweet.

3. *Subsidence.* The ingredients of fresh juice which aid in exciting fermentation were also removed by keeping the juice sufficiently cool to prevent fermentation until they had settled to the bottom, when the clear liquid was poured off and carefully bottled as after filtration.

4. *Fumigation.* Sulphur is a powerful antiseptic. The ancients were familiar with this fact, and often preserved the juice of the grape from fermentation by subjecting it to the fumes of sulphur, or by adding to it the yolk of eggs, mustard seed, or other substances containing sulphur. The same method is now in use for preserving cider.

The fresh juice of the grape, or any other sweet fruit, when treated in any one of the above ways, is entirely free from any intoxicating property, and is not only harmless but palatable and nutritious. Says Prof. M. Stuart, "Facts show that the ancients not only preserved their wine unfermented, but regarded it as of a higher flavor and finer quality than fermented wine.

INTOXICATING WINE.—As already stated, the intoxicating element of wine is alcohol, which is produced by the decomposition of sugar in the process of fermentation. Alcohol can be made from any juice which contains sugar. The ancients made intoxicating drinks from millet, dates, beans, palm juice, pears, figs, pomegranates, and other fruits, besides the grape. These liquors were known to the Jews, and are frequently referred to in the Scriptures. In Prov. 23:31, we have a striking reference to the fermentation of wine, as follows, according to Dr. Kitto's translation: "Look not thou upon the wine when it is turbid, when it giveth its bubble in the cup, when it moveth itself upright."

SCRIPTURAL DISTINCTIONS OF WINES.

In the English version of the Scriptures the distinctions made in the original are often obscured or wholly lost. This is especially true in the present instance. In the Hebrew, the language in which the Old Testament was written, different kinds of wine are indicated by different words, which are all rendered in the English translation by the one word wine. The principal words thus employed are *yayin*, *shakar*, and *tirosh*.

Yayin, according to Biblical critics, refers to the juice of the grape in any form. It might be sweet or sour, fermented or unfermented.

Shakar, or *shechar*, was the term applied to any sweet juice derived from any other source besides the grape. It is sometimes translated honey. It usually refers to the juice of the palm tree or of its fruit, the date; and, like *yayin*, it included the fermented as well as the unfermented condition of the juice.

Tirosh was applied to the ripe fruit of the vine, and to the fresh juice of the grape before fermentation had begun. It is often translated "new wine."

In brief, then, *yayin* means fermented or unfermented wine or juice of grapes; *shakar* means fermented or unfermented wine or juice of the palm tree, of dates or other sweet fruit. *Tirosh* means the sweet unfermented juice of the grape, or new wine.

The Hebrews used the term *yayin* for wine made from grapes, in any of its stages, just as we apply the term cider to the fresh juice of the apple, or to the same juice after it has fermented or become "hard" by age. The Greek οἶνος, *oinos* corresponds exactly with the Hebrew *yayin*.

The foregoing is certainly sufficient to show beyond all chance for reasonable doubt that there are two kinds of wine recognized in the Bible, one of which was sweet, unfermented, and unintoxicating, and the other fermented and intoxicating. The same term is often used for both kinds. If, then, we find the Bible in some instances speaking of wine in terms of commendation, and in others condemning it in the most forcible manner, would it not be most reasonable to suppose that in those cases in which wine is commended, the unfermented kind is referred to; and in those in which it is condemned, that which had undergone fermentation is meant? Any one who has confidence in the inspired character of the Scriptures will have no hesitancy in answering in the affirmative.

Tea Topers, Attention!

BY ELD. D. M. CANRIGHT.

If all the tea drinkers in this Christian land should give attention, I would have a large audience indeed; but I should expect to meet a good many scowls as soon as I announce that I have nothing favorable to say of tea, but a good deal to produce against it. I fancy I hear a host of old ladies exclaim, "Oh! my, I never could live without my tea; I never could keep awake, and I should die of headache." I have no doubt quite a number of young ladies would smile their assent; and, I am sorry to say, not a few of the gentlemen would think their arguments very sound. But please listen to what facts I have to present in the case. It is my solemn conviction that tea is evil and only evil.

1. *Tea is only a stimulant.* I suppose that everybody is ready to admit this right upon the start. I never heard any one deny it. It never builds up the system, never makes blood, flesh, muscle, or bone. It simply passes through the system as a foreign substance. Its direct effect is to stimulate the system to unnatural activity. Here is a lady who arises on wash day, tired, weak, and dreading the day's work. She must have an extra cup this morning. After two or three strong cups, how differently she feels. Her aches and pains, her weakness and weariness, are all gone. She feels as stout as an Amazon. She goes into her washing and does it up with a might. Now has not the tea helped her? Wait till the day's work is ended, and the excitement over. How does she feel now? Clear done out. She has not strength left to lift her hand. Just as far as her stimulant lifted her above her natural strength, just so far below it has she now fallen. Can anybody believe that such treatment as this in the long run is gain to the system? is gain to health? is addition to strength? No; it is the hight of absurdity to believe it.

The liquor drinker goes upon the same principle in taking his dram. For a moment it stimulates him, arouses all the strength of his system, and he feels like a giant. He is happy as a king; but as soon as the effect of his dram is past, he is weak and sore, gloomy, melancholy, and cross. In the same manner, though in a less degree, tea affects tea users.

2. *Tea is a great source of headache.* But the strong argument always used in favor of tea is, that it cures the headache. This is an argument ever ready at hand with all tea topers. Every one appears to have had a long experience in this direction, so that they are qualified to testify. But it strikes my mind that it is a little peculiar that every tea drinker is so subject to the headache! How does this happen? Other people do not seem to be so afflicted. But if it is so effectual in curing headache, why does it not stay cured? How does it happen that it comes on so often, so persistently, and so continuously? No, dear friends, the real fact is, that it is the one prolific cause of a great share of this headache. It may allay the pain for the time; but it only aggravates the cause in the end. It excites

the nerves, creates a fever, and this immediately brings on the headache again. Look at the drinker. After he has had a regular spree, see how he looks, how he feels. His head aches badly enough to burst with pain. Now just give him a glass of liquor, and he is all right, and his headache is gone. Does not whisky cure the headache then? But what caused that headache? Was it not liquor? You know it was.

It is just so with tea. While it allays the pain for the moment, it really causes it in the beginning and brings it on again. The very fact that your headache comes right on as soon as you leave off your tea, is proof that that is the cause of it. Let any tea toper be without his tea one meal, or a day or two at the most, and he is certain to be all out of sorts, and to have a bad headache. How many times I have seen this at meeting. Where these slaves to tea cannot get it for a meal or two, I notice that they are soon used up, and have to go off to bed. But those who do not use tea are not affected that way. They can go without tea for weeks and months without having the headache. Why cannot tea-users? The reason is evident.

I have known a good many persons who were habitually afflicted with the headache. They thought they could not live without their tea; but when they were persuaded to leave it off, in the course of a few weeks their headache was gone; and this not simply in one case, nor two, but many. If any should read this article who are so afflicted, we recommend them to try it.

3. *Tea is adulterated, and is poison.* Probably there is no article used which is so easily adulterated as tea; and as tea is a very costly article, the inducement to adulterate it is very great. Actual experiments show that but a very small proportion of tea is genuine and unadulterated. The cheaper class of tea, such as the great majority of people drink, is the very worst kind. Only the higher priced is pure. Abundance of proof can be given upon this point. A chemist in Portland, Maine, makes the following statement:—

"My attention having been called to some samples of tea exposed for sale in this city that had the appearance of containing some other ingredients than pure tea leaves, I was led to examine some specimens. Accordingly, I procured a number of samples from several leading grocers in the city. These I subjected to a rigid chemical examination. The result was rather astonishing, and fully confirmed my suspicions. The investigation was continued until several samples had been analyzed, with the following results as to numbers, kinds, prices, and adulterations:—

"No. 1. Oolong, price 40 cents, contained old tea grounds, colored with logwood.

"No. 2. Oolong, 50c., same as above, with addition of sloe leaves.

"No. 3. Oolong, 50c., sand, old leaves, sulphur, lime, colored with Prussian blue.

"No. 4. Japan, 50c., sloe leaves, colored with turmeric, and old tea leaves.

"No. 5. Green, 50c., colored with turmeric.

"No. 6. Black, 60c., genuine.

"No. 7. Oolong, 60c., contained other leaves colored with logwood.

"No. 8. Oolong, 70c., logwood, sulphur, lime, colored with Prussian blue, and containing powdered quartz rock.

"No. 9. Japan, $1.00, colored with logwood.

"Several other samples analyzed contained more or less coloring matter, and other ingredients to increase the weight. But one or two samples were found genuine in the whole number."

"A sanitary committee has been sitting upon the tea of China in the city of London, and pronounced it a teetotal fraud of the most desperate character. There are in the warehouses of that metropolis no less than 10,000,000 pounds of tea so utterly adulterated as to be unfit for use."

The *San Francisco Chronicle*, Dec. 9, 1874, says:—

"Green tea is colored by a mixture of gypsum and indigo, which renders it more stringent and aromatic. . . . It is estimated that the Chinese employ no less than 543 different substances for the adulteration of tea."

What startling facts these ought to be for tea users. Instead of tea, you are drinking logwood, sloe leaves, sulphur, lime, quartz rock, and the like, beside old, rotten tea leaves which have already been once used. That many of these articles are poison, all know.

The following extract is taken from Miss Beecher's Domestic Receipt Book:—

"On this subject Dr. Lee remarks, '*Green* tea undoubtedly possesses very active medicinal properties; for a very strong decoction of it, or the extract, speedily destroys life in the inferior animals, even when given in very small doses.'"

"That which destroys life in the inferior animals is a medicine. That which will kill a dog, therefore, is the very thing to restore the sick to health! Wisdom would say, Let the dogs have the medicines rather than rational, intelligent beings.

"A gentleman in China is reported as saying, 'There is no such thing as green tea.' 'I notice,' he said, 'a great amount of Prussian blue among the articles sent up the river to a certain gentleman of this city, and it

goes back in another form. It comes on the leaves of your green tea.'

"The London *Quarterly Review* says there is a manufactory near Canton, in China, where the worst kinds of coarse black tea are converted into green tea, by heating the leaves moderately on iron, and mixing with it, in the mean time, a composition of turmeric, indigo, and white lead, by which process it acquires a blooming blue color, not unlike that of plums, and that crispy appearance which is supposed to indicate the fine green teas. The writer says he saw 50,000 chests of this spurious article ready for shipping, and on inquiring for what market it was intended, was told it was for the American."

Poor slaves to tea; what doses of poison they will swallow daily in order to get a small per cent. of their precious tea! Can anybody believe that poison of this kind can be poured into the system day after day, month after month, through long years, without affecting the system unfavorably? It is not possible. If you must have warm drink, make it out of something else, such as a preparation of bran, clover, parched corn, parched peas, barley, carrots, etc. There are many ways to have warm drink without buying these miserable adulterated poisons.

4. *Tea is filthy.* Another serious objection to the use of tea, at least with cleanly people, those who are not particularly fond of filth, is that most of the teas are very filthy. Tea comes from China, as all know; and it is equally well known that the Chinese, living in a very warm country, are a dirty, filthy race. They have the whole of the picking, drying, coloring, and packing of all the teas to do. A minister, lately writing from San Francisco, California, says:—

"A gentleman of undoubted veracity, who has spent fifteen years in China as tea agent, gives some startling facts concerning the habits of the Chinamen in connection with packing tea in boxes for the market. The Chinamen, he says, go nearly naked, and are covered with filth and scrofulous sores. They eat every filthy animal, even when found dead, and partly decayed. Puppies, rats, and pigs, are counted luxuries with them.

"The tea chests are placed in a row alongside the great bins or reservoirs, and while the tea is being shoveled in, these filthy heathens get into the tea chests with their feet to stamp it down. Thus they work until the sweat runs down in streams over their dirty, greasy bodies, into the tea. The fine, poisonous dust, rising from the tea, lodges on their naked bodies, and causes an almost intolerable itching, so that when they stop to rest, they stand there in the boxes and scratch these scrofulous sores over the tea.

"This agent has witnessed such sights hundreds of times. Many of the Chinese paintings here in San Francisco illustrate and confirm the above."

And a missionary writing from China makes this remark:—

"You notice a large jar beneath the table, and that the boy turns the grounds from your cup into it. When it is full, it is taken outdoors and the contents dried in the sun. Then they are taken into the preparing-room, where they are colored with Prussian blue, turmeric, gypsum, and other things, dried in the pans, trampled a second time beneath the heels of a coolie, and sent over for us to drink!"

A very delightful beverage this for delicate ladies! Of course I would not recommend you to remember these facts when you are sipping your tea; for it might spoil the flavor a little.

5. *Five thousand seven hundred years without tea.* It has only been about two hundred years since tea has come to be used to any extent, so that our race actually lived some 5,700 years without its use. Just think of that! What untold misery, with terrible headaches they must have endured for the want of a little tea! They must have been very short-lived and sickly in those days. I just remember now of having read in a certain old book how they used to die at the early age of 700 and 800 years. It is terrible to think of. But since tea has been introduced, how life has been prolonged! The average age of man in civilized countries is now said to be nearly forty years. I wonder how all those millions of people, particularly the old ladies with the headache, did manage to do before tea was discovered!

But seriously, dear reader, who complains most of nervousness, poor appetite, loss of sleep, headache, dyspepsia, cold feet, loss of memory, and general ill health? Are they not the very ones who claim that tea is the sovereign remedy for all these ills, and who use it constantly to cure themselves? By actual observation I know this to be the fact. It shows that the advocates of tea are utterly deceived. They are drunken, not with wine, but with strong tea.

Intestinal Worms.

BY W. B. SPRAGUE.

THERE are two distinct classes of intestinal worms, the *helminthes nematoides*, or cylindrical worms, and *cestoidea*, or tape-worms; and

there are several varieties of each class. The most common varieties, and those which infest young children, especially, are of the first class; viz., the *ascaris lumbricoides* and *ascaris vermicularis* or pin-worm.

The *ascaris lumbricoides*, as its name indicates, resembles an earth-worm. It is cylindrical in form, tapering toward each extremity, and is from six to sixteen inches in length. It is of a whitish or yellowish color. It inhabits the small intestine, and is most common in children between the ages of three and ten years. It rarely exists alone, and as many as a thousand have been found in a *post mortem* examination. These worms rarely give rise to serious results unless they migrate into the biliary, pancreatic, or hepatic ducts, or the Eustachian tube or larynx, which seldom happens, and the morbid effects have doubtless been greatly exaggerated. There is no foundation for the opinion that they cause *worm* fever, and their presence in fever is probably incidental.

The symptoms are generally colic pains, swelling of the abdomen, itching of the nose, disturbed sleep, grinding of the teeth in sleep, loss of appetite, and offensive breath; but a positive diagnosis can only be made by examining the feces, either by the naked eye for the worms, or microscopically for the ova. The ova are always present in the feces when these worms exist, and it is by them that the worms are propagated. After being discharged, they are washed into wells or other sources of drinking water, and, as they retain their vitality for many months, as soon as they are taken into the stomach they hatch into worms. Yet it is supposed that certain special conditions are necessary for their development. It is stated that these worms are not common in Paris, a fact which is attributed to the use of filtered water there.

A vermifuge is generally necessary for their expulsion. A dram of the fluid extract of spigelii and senna given night and morning for three or four days will generally expel them in a child three or four years old, by poisoning the worm so that it will relinquish its hold of the mucous membrane, and be expelled. The dose must be increased to half an ounce for an adult.

The pin-worm chiefly inhabits the lower part of the large intestine. It is very small, less than half an inch in length, and frequently exists in large numbers. It is sometimes found in adults, but occurs mostly in children. The symptoms are pain in the rectum, tenesmus, and itching at the anus. This last is quite symptomatic. Diagnosis is easy, as the worms may be found adhering to the feces or the verge of the anus. The chief morbid effect is impairment of the health by irritation or loss of sleep.

The same treatment as for the *lumbricoides* is sometimes used; but, since the worms are chiefly in the rectum, enemas are preferable. Simple water or salt and water may prove effectual; if not, wormwood, chamomile, or other bitter substance, should be injected. The irritation about the anus may be allayed by applying almond or sweet oil.

Tæniæ, or tape-worms, are not likely to infest those who discard flesh-meats from their diet, as their origin has been discovered to be the *cystocerci*, or entozoa, imbedded in the tissues of other animals. Their manner of development is peculiar, and has only recently been discovered. The eggs, cast off with the feces, find their way into the food of some herbivorous or omnivorous animal, and, being conveyed into the circulation, are imbedded in the tissues, where they are partially developed and remain inclosed in little cysts till the death of the animal, and are called *cysticerci*. There are many varieties, and each variety finds its home in a particular tissue of a particular animal. Again, the *cysticercus* is developed into a tænia only when it is taken into the alimentary canal of another particular animal. Thus, a variety found in the intestine of the cat, originates in the liver of the rat; one found in the dog has its *cysticercus* in the brain of the sheep; and the several varieties found in man come from pork, beef, and mutton.

This worm consists of segments, and has no mouth or alimentary canal. Its head is very small and is provided with organs for attachment to the mucous membrane. It is nourished by osmosis of the digested food as it passes along the alimentary canal. Its length varies from five to thirty-five feet. The inferior joints are being almost constantly dropped off, and are found in the stools. These contain the ova in great numbers. The number in the tape-worm of the cat has been estimated at 12,500,000.

Filix mas, or male fern, is said to be a specific. It is to be administered while fasting. Common pumpkin seeds are a more simple medicine, and are said to be very effective. Two ounces constitute a dose. The seeds should be peeled and pounded in a mortar with a half pint of water, being then strained and drank. Repeat the remedy for several days in succession. Unless the head is removed, the worm will grow again, though all the segments are removed.

—To see what is right and not to do it is want of courage.—*Confucius.*

A Byway to Health.

[THE following, under the above heading, from *Tinsley's Magazine*, I think worthy a place in the columns of the REFORMER.

While all thorough health reformers probably would disagree with this aged gentleman in regard to quality of food, all will, I think, very fully agree with him as to quantity. But if his rule can rightly be called *one* of the "*by*ways" to health, another certainly must be, *Never eat unhealthful food;* and both must lie along the main thoroughfare, and run in the same direction. And as this main thoroughfare to health would comprise all the laws of health, and, consequently, possess all the advantages of any of the "byways," we advise all to find their way as quickly as possible into the direct road. At the same time, we would speak well of all byways that lead in the direction this one does. E. W. WHITNEY.]

"'Nobody ever repented of eating too little' was the sage remark of an old gentleman on the verge of ninety, next to whom the writer had the pleasure of sitting at dinner the other night. The host was pressing him to take more, and urging him in the usual phrase, 'Why you have eaten scarcely anything!' Now it is to be assumed that the old gentleman's words indicated one of the byways to good health along which he had traveled through his long life, and to which he owed his present remarkably hearty condition; so it was suggested to him, interrogatively, that he had always been a small feeder. 'Yes,' he answered, 'ever since I was two or three and twenty; up to that time I was a weakly fellow enough, and I used to make the great mistake of trying to eat and drink as much as I could, in the hope of becoming strong. All my friends and the doctors backed me up in my error; but fortunately I found it out in time, and "knocked off"—as your modern slang has it—more than half my usual amount of food and stimulants. I gave up the idea of making myself strong, and merely strove to make myself well, and so I was contented with eating just as much as I could digest and no more. Of course it took a little time and experience to discover the precise limits; I could not adopt the golden rule of always leaving off with an appetite, because I never began with one, but by persistently erring on the right side, I got hold of one of the great secrets of life—the secret of knowing when one has had enough, and after a year or two I became so much better that I used to find myself keenly ready to eat at meal-time, and by degrees actually acquired an appetite. Then, once found, I never destroyed it, but always determinately rose with a feeling that I should like to eat more. Naturally the temptation for a while grew greater as my digestion grew stronger; but I was firm; I did not behave ungratefully to my stomach, and immediately presume upon its increased powers by overloading it. I did not live to eat, but only ate to live; and behold me! I have no need to be very particular as to what I eat, even at my time of life; I have only to be careful not to eat too much.'"

Too Much Tobacco.—Prof. Chevalier reports the case of a young man who had laid a wager that he would smoke twelve cigars. He felt decidedly uncomfortable at the end of the eighth, and when he had finished the ninth, he was attacked by giddiness and shiverings. These symptoms became worse after the tenth. He refused to leave off smoking, but went home in charge of some friends. He was there attacked by severe pain, and a medical man was called in, who could not, however, stop the progress of the attack, and the patient died in the night.

In the British medical naval report just issued, a fatal case of poisoning by tobacco is mentioned. A boy on the *Implacable* had frequently been reproved for chewing tobacco, and on several occasions swallowed pieces to prevent detection. On the night of his death he was heard breathing stertorously, and efforts to arouse him being in vain, he was taken to the sick bay. His pupils were insensible to the light, and his pulse beat feebly. He died in two or three minutes after. Two small pieces of tobacco were found in his stomach.—*Sel.*

Bad for the Pigs.—An exchange gives the following significant item which may be interesting to some of the "old boys" who make swill tubs of themselves:—

"A publican was sending back some empty casks to his brewer, when the men who put them on the dray noticed that one of them contained a little beer. A suggestion that it should be drank was negatived in favor of an amendment that the stuff should be given to the pigs. This was done, and four well-bred porkers partook of the colonial. The result was the reverse of reassuring to the admirers of the local product. Two pigs died almost immediately; the others were so ill that they were only got round with great difficulty and after very careful nursing on the part of the landlady, who was a great pig-doctor."

LITERARY MISCELLANY.

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

Scrutable Providences.

When, the other day, a juror in one of the Westfield suits refused to award damages against the steamboat company, on the ground that the disaster could have happened only by the direct will of God, and was simply an inscrutable Providence, the community heard him with a suppressed titter, which, if it implied tolerance for his convictions, implied equal contempt for his understanding. For it was patent to every mind but his own that a worn-out boiler must explode at the very instant when all conditions favored that catastrophe, and that the men who knew that that instant was imminent, yet hourly solicited travelers to a possible death, were morally guilty, not only of criminal neglect and deceit, but of murder.

But many candid men who saw clearly the accountability of the Westfield owners and managers, shake their heads just now (1872) over what seems to them a really mysterious visitation of God—the Persian famine. And because all great and inexplicable calamities pain loving hearts, and sadden, if they do not obscure, the faith of many souls, it seems worth while to look a moment at this subject of Inscrutable Providences.

Here is this case of the Persian famine. For unknown years the Persians have been cutting off their trees, and diminishing their rainfall thereby. Nay, not only has the removal of the forests decreased the supply, but it has wasted whatever rain fell. For the roots of the trees, and of all the innumerable shrubs and bushes and vines and ferns that thrive in their shadow, kept the ground open and held the water in countless natural wells for the use of the soil in droughts. But all the undergrowth dying when its protecting forests were felled, the scanty showers percolated into the streams at once, causing rare floods and frequent droughts. The droughts yielded no harvests, and no harvests were followed by pestilence, famine, and death. Now, for three years no rain has fallen on the blistered fields, and a nation, apparently, is dying. The very first drought was the kindly warning of Heaven against the violation of natural laws. Men were too heedless or too ignorant to accept it; and the sins of the fathers are to-day visited on the children, not in the vengeance of an awful Power, but in the discipline of relentless law. Is not this a Providence so scrutable that he who runs may read?

When, in Chicago, a night's fire undid a generation's toil, spreading misery and death broadcast, was that horror in the least degree inexplicable? Every man who, within thirty years, had put up a wooden house in a city whose familiar breezes were gales, and whose gales were hurricanes, solicited that rain of fire. They who, hasting to be rich, fell into the snare of cheap and dangerous buildings, digged every man a pit for his neighbor's feet as well as for his own. The inscrutable aspect of the calamity was that it had not come years before. And the providential lesson would seem to be that laws of matter are laws of God, and cannot be violated with impunity.

When the earthquake well-nigh swallowed up Peru, five or six years ago, men stood aghast at the mysterious dispensation. But Heaven has not only always declared that tropical countries are liable to earthquakes, but has taught the Peruvians through hundreds of years to expect two earthquakes in a century, traveling in cycles from forty to sixty years apart. The citizens of Africa have not only this general instruction, but that special warning which nature always gives. A great light appeared to the southeast. Hollow sounds were heard. The dogs, the goats, even the swine, foresaw the evil, and hid themselves. But the simple men passed on and were punished.

Before the Alpine freshets come, the streams are coffee-colored. Even the tornadoes of the tropics, which are instantaneous in their swoop, so plainly announce themselves to old sailors that they reef sails and save ship and life, while only the heedless perish. The simoom gives such certain and invariable warnings that the caravan is safe if it be wary.

Herculaneum and Pompeii were built too far up the mountain. And that the builders knew quite as well as the excavators of the splendid ruins know it now. But they chose to take the risk. And to-day their cheerful compatriots gather their heedless vintage and sit beneath their perilous vines still nearer to the deadly crater. St. Petersburg has been

three times inundated, and after each most fatal calamity, processions filled the streets, and masses were said to propitiate the mysterious anger of God. Peter the Great, who built the city, was the successor of Canute. He ordered the Gulf of Kronstadt to retire, and then set down his capital in the swamps on the verge of the Neva. Whenever the river breaks up with the spring floods, the trembling citizens are at sea in a bowl. Only three times has the bowl broken, so much money and skill have been expended upon it. But when a March gale shall drive the tide back upon the river, swollen and terrible with drifting ice, drowned St. Petersburg will be the pendant for burned Chicago.

Modern science has brought the world a fifth gospel. In it we read that God commands us to give him our whole heads as well as our whole hearts, for that we cannot know him nor obey him till we discern him in every minutest fact, and every immutable law of the physical universe, as in every fact and law of the moral. It is barely two hundred years since the great Cotton Mather preached a famous sermon called "Burnings Bewailed," wherein he attributed a terrible conflagration to the wrath of God kindled against Sabbath-breaking and the accursed fashion of monstrous periwigs! For years after his time the Puritan colonies held fasts for mildew, for small-pox, for caterpillars, for grasshoppers, for loss of cattle by cold and visitation of God. They saw an inscrutable Providence in all these things. But, when their children had learned a better husbandry and better sanitary conditions, the "visitations" ceased.

In the perfect providence of God there are no surprises. If there seem to be, it is that we have suffered ourselves to be taken unawares. We must work out our own salvation. The book of natural phenomena is opened wide before every man, and he is set to learn it for his own good. If he will not study it through reverence and love, he is taught it through pain. But the pain itself is the beneficence of a perfect law, and it is a constant testimony to the goodness and tenderness of God that calamity—not less than prosperity—is a scrutable Providence.—*Christian Union.*

Relation of the Will to the Mind.

BETWEEN our mental operations and our will there is something of that kind of relation which exists between a well-trained horse and its rider. The will has the same kind of influence over the mind, or ought to have, that the rider has upon his horse. This is the case if it is rightly exercised in early infancy in directing and controlling the mental operations, in restraining the feelings when unduly excited, and in putting a check upon the passions. But the powers and activities of the mind are to a very great degree independent of the will. The horse will go in the way it has been accustomed to go with merely the smallest impulse given by the voice, or the hand, or the foot of the rider, and every now and then a very slight check (if it is a well-trained horse), or guidance from the bridle, or from a touch of the spur, and will follow exactly the course that the rider desires, but by its own independent power. So the mind will act without more than just the starting of the will. And as there are occasions on which a horse is best left to itself, so there are times when the operations of the mind are really disturbed by being continually checked, and guided, and pulled up by the action of the will, the result being less satisfactory than when the mind, previously trained and disciplined in that particular course of activity, is left to itself.

There are some curious illustrations of this in occurrences which have taken place in that form of dreaming which we call somnambulism. In some cases, a legal opinion has been given, or a mathematical problem resolved, in the state of sleep-waking, the action of the mind going on of itself without any direction or control from the will, but the bodily activity obeying the direction of the mind. This activity very often works out most important results without our being conscious that any operations are taking place. And some of these results are most valuable to us in bringing, at last, to our consciousness, ideas for which we have been vainly searching, as in the case where we have endeavored to remember something that we have not at first been able to retrace, and which has flashed into our minds in a few hours, or it may be a day or two afterward. Sometimes, too, when we have been directing our minds to the solution of some difficult problem which we have put aside in a sort of despair, in the course of a little time that solution has presented itself while our wills have been wholly inactive, as in sleep, or have been directed into some entirely different channel of action.

When you go out with a new horse, it may be to a certain degree restive; but if the horse finds that you keep a tight hand upon him, and that his master knows well how to keep him under control, after a slight struggle he becomes perfectly docile and obedient. But if, on the other hand, the horse finds that he is the master, even for a short time,

no end of trouble is given afterward to the rider in acquiring that power which he desires to possess.

Now that is just the case with our minds; we may follow out the parallel very closely indeed. We find that if our minds once acquire habits—habits of thought, habits of feeling—which are independent of the will, which the will has not kept under adequate regulation, these habits gain control of us; and then we find that it is very difficult indeed to recover that power of self-direction at which we have been aiming, and which the well-trained, well-disciplined mind will make its highest object.

So, again, we find there are states in which, from some defect in the physical condition of the body, or it may be from some great shock which has affected the mind and weakened for a time the power of the will, very slight impulses—just like the slight things that will make a horse shy—will disturb us unduly. We feel that our emotions are excited in a way that we cannot explain, and we wonder that such a little thing should worry and vex us in the way that it does. Even the best of us know, within our own personal experience, that when we are excessively fatigued in body, or over-strained in mind, our power of self-control is very much weakened, so that particular ideas will take possession of us, and for a time will guide our whole course of thought in a way which our sober judgment makes us feel to be very undesirable.

There are states of mind that lead to more serious results, but these will receive attention in another article.—Condensed from *Popular Science Monthly.*

The Boomerang.

A TRAVELER tells us something of the singular weapon used by the natives of Australia, the boomerang. They ranged from two feet to thirty-eight inches in length, and were of various shapes, all curved a little, but looking, as he describes them, something like a wooden new moon. They were made of a dark, heavy wood, and weighed from one to three pounds. In thickness they varied from half an inch to an inch, and taper to a point at each end. One of the natives picked up the piece of wood, and poising it an instant, threw it, giving it a rotary motion. For the first hundred feet or more it went straight ahead. Then it tacked to the left and rose slightly, still rotating. It kept this latter course for a hundred feet more, perhaps, but soon veered to the left again, describing a broader curve, and, a moment later, fell to the earth six or eight feet in front of the thrower, having described nearly a circle in the air.

Carnaboo, a native, then selected from the heap of boomerangs another one, and cast it with a sort of a jerk. It flew very quickly for forty or fifty yards, whirling like a top. Then it darted into the air, mounting fully one hundred feet, and came down over our heads, where it seemed to hang stationary for a moment, then settled slowly, still whirling, till he caught it. Two others of the blacks then did the same thing.

Burleigh then walked to a distance of two hundred feet or more from the blacks and bid Carnaboo throw at him. The native looked at him a moment rather curiously, then comprehending what was wanted, he selected one of the heaviest of the missiles, and, turning half round, threw it with great force in a direction almost opposite from that where Burleigh stood. The weapon sped smartly for sixty or seventy feet, and then tacked in an instant and flew directly at Burleigh, and had he not most expeditiously ducked, he would have received a hard thump, if nothing worse. It struck the ground twenty or thirty paces beyond. This feat brought out a broad grin and something like a chuckle from the whole of them. Carnaboo even intimated that he would like to try another cast, but Burleigh expressed himself fully satisfied.

Mr. K. (another one of our party) however offered to "take a shot," but not at too short a range. We were standing in front of one of the store-houses. Carnaboo placed Mr. K. in front of the door, and stood with his back to him, with K.'s hand on his shoulder. None of us knew what sort of a maneuver he had in mind, not even Myers. Standing in this position, the black threw the boomerang straight ahead. Immediately it curved in the air. Then it disappeared around the corner of the building, and, before he had time to guess what was meant, it came round the other end (having passed completely around the store-house) and gave him a sounding slap on the back, which made his eyes snap.—*Sel.*

Life in Other Worlds.

SAYS Proctor, the astronomer, The question whether or not the planets and stars are inhabited, and, if so, by what sort of beings, has long agitated the minds of astronomers as well as of common people. The latter, with the utility argument, reasoned that the heavenly bodies must be peopled by some sort of inhabitants, since it was contrary to

the economy of nature to suppose that thousands of worlds have been created, not one of which, excepting our own, is suitable for organic existence. To this it might be answered that facts, and not theories, must be taken as data from which to proceed. Planets and stars are in a continual state of change. From the nebulous stage onward, the matter of which they are composed is never at rest.

In more closely considering the various planets of the solar system, we find that none of them, except perhaps Venus, affords those conditions which are essential to life. Organic life on Mercury would be impossible on account of the extreme heat, since there water cannot exist save in the form of steam. Mars has oceans, and at certain times of the year these are liquid, but in general they are frozen, and snows prevail over almost the whole planet. Jupiter and Saturn are out of the question. Every indication points to the certainty that they are themselves secondary suns, diffusing intense light and heat to their minor satellites. While Mars has passed the life-bearing stage, Jupiter and Saturn have not yet reached it. Venus, having a year nearly equal to our own, having seasons similar to ours, and a day and night, is probably the only planet that is now at the stage in which life is possible.—*Sel.*

Cure by Preoccupation.

THE maladies that afflict empty minds are innumerable. They react upon the body, and make many thus afflicted think that some disease is preying upon their physical frames. Thousands of people are starving for intellectual food, for noble aspirations, for high impulses toward what is true and pure, and know not what it is that ails them. Chronic dissatisfaction with the circumstances and surroundings of life is so common with all classes that the lot of the man and the woman who seem really contented and happy is envied by all who know them. This chronic dissatisfaction is simply moral, intellectual, or spiritual hunger in various forms, and shows itself in a great many different ways. One very common phase of it is gossip. This is the amusement of the emptiest of all minds. People who have nothing else to think about or talk about must necessarily think and talk about their neighbors. Any one who reads the popular magazines or the leading newspapers, or who studies standard works in current literature, cannot lack for topics of interesting and profitable conversation. Women are popularly credited with suffering more acutely from this mental disease than men, but the careful observer cannot fail to perceive that one sex is as deeply to be compassionated in this respect as the other. The cure for gossip, as Dr. Holland wisely suggests in one of his "Cabinet" talks, is culture.

Many a heart falls a prey to deep grief which consumes the life and prostrates the whole being. Disappointment, loss, bereavement, lie in wait for all; they are the common lot. If all thus afflicted could afford to travel and find diversion in unfamiliar scenes, many an aching heart might receive consolation. But most people must continue to tread the narrow round of life in which their lot is cast, and if they derive consolation, must find it within themselves or immediately around them. But the resources possible to the cultured mind are infinite. In "The Sylvan Year" Mr. Hamerton shows how the shadows of deepest bereavement may be lightened, how external nature may so occupy the mind and "steal into its darker musings" that their sharpness, unawares, is taken away. The artist in the creations of his pencil loses for a time his sense of sorrow; the poet soars to the mountain tops of inspiration that are bathed in perpetual sunshine; the scientist, in pursuing his investigations forgets all else; the lover of books finds nepenthe in the exhaustless stores of ancient and modern literature; and the Christian, in the hope of infinite and eternal blessedness to come, may well count all earthly tribulation as but for a moment. Just as one clothes and feeds the body and fortifies it against physical disease, so should he defend the mind against those far more potent influences that tend to intellectual death. Here the food-cure is all but omnipotent. He that can find amusement, recreation, pabulum, in music, in art, in science, in literature, in philosophy, and by mental hygiene preserve a vigorous intellectual appetite, is proof against almost every form of mental disease. With him even old age will scarcely dim the brightness of the etherial flame. Look at Bryant writing the centennial history, himself almost a centenarian; look at Humboldt doing his greatest work when past the limit assigned to human life; look at Mrs. Sommerville in like manner treading the highest path of authorship when nearly ninety years of age. To those in middle life who have missed the supreme advantages of early and broad culture, these suggestions may seem to come too late. But if they perceive the inestimable gains which result from planting in the spring such seeds as shall grow and blossom and bear fruit through all the years, it is not too late for them to give their children what they themselves have missed.

There are many mechanical arts that afford delightful rest and recreation to weary and suffering minds. A turning lathe, a scroll saw, graving tools, will cause many a lingering hour to pass quickly; embroidery, wax-work, crochet, and the innumerable little accomplishments that occupy feminine fingers may give wings to the passing hour and preoccupy a mind hardened with pain. Probably there is nothing that more entirely absorbs all one's higher nature than devotion to some great charitable or philanthropic purpose. John Howard had no time to nurse private griefs, and all who follow in his footsteps forget there are sorrows while ministering to the wants of their fellows, and find a satisfaction in their work that produces immeasurable content.—*N. Y. Tribune.*

A World of Suicides.—Prof. Faraday has given it as his opinion that all who die before they are a hundred years old may be justly charged with self-murder; that Providence, having originally intended man to live a century, would allow him to live a century did he not kill himself by eating unwholesome food, allowing himself to be annoyed by trifles, giving license to passion, and exposing himself to accident. The French savan, Flourin, advanced the theory that the duration of life is measured by the time of growth. When the epiphyses of the bones are united, the body grows no more, and it is at twenty years that this union is effected in man. The natural termination of life is five removes from the several points. Man, being twenty years in growing, lives, or should live, five times twenty years; the camel is eight years in growing, and lives five times eight years; the horse is five years in growing, and lives twenty-five years, and so on with other animals.—*Sel.*

German Crows.

THE German agriculturalist has waged so bitter warfare against the crows during many generations as to have induced, by the natural struggle for existence and survival of the fittest, a remarkable intellectual superiority on the part of the birds over those of other countries. For example, in the early days of agriculture it was sufficient for the farmer to build a "blind" near his field and hide therein, in order to catch or shoot his crow. The survivors of the early crows were those who learned to post sentinels which should watch their enemy until he left his concealment before notifying the rest that it was safe to partake of the seed-grain he had provided for them. The farmer next took a man or two into the blind with himself and then sent them away one after the other, which caused a surprising cultivation of the arithmetical faculty on the part of the crows, until now we are assured that he who would shoot a German crow must take with him six others, and send them away one by one. They will be carefully counted in and counted out again by the watchful sentinels up to six, which seems to be the limit as yet. When this number have departed from the blind, the sentry cries, "All's well," and the hungry flock fly down to dinner and death. Since there are said to be some savage tribes of men which can count only to five (the numerical limit of a single perceptive act of cognition according to the metaphysicians), this superiority on the part of a bird seems as remarkable as it is interesting, and opens a wide field of speculation as to the possible intellectual advance of birds in the future. A writer to a Portland paper states that from long observation he has satisfied himself that the crows of Maine can only count three, four men being sufficient to stock a blind in the neighborhood of fields in that State, where the less number of generations of crows that have come into competition with the devices of agricultural man, has given less time for the development of an arithmetical faculty. The anatomical question suggested would apply to the relative complexity of cerebral convolution in these two races of crows. Its investigation may throw some light upon the dispute as to the portion of the cerebrum to which the faculty of counting may be referred.—*N. Y. World.*

Study Beneficial to Health.—The London *Globe* editorially presents the following: "True study is an eminently leisurely process, the great condition of success in it being deliberation, and though it always sufficiently interests the student to keep his faculties lively, it seldom excites him to any dangerous degree. Hence I believe that genuine study is much less injurious to health than is often supposed—certainly much less injurious than many things that are scarcely reputed injurious at all. The processes of genuine and well-directed study positively save the brain by their rational and orderly sequences, by the safe advance from step to step. Study of this kind is like a well-built staircase, by which you can climb to a great hight with a minimum of fatigue, never lifting the body more than a few inches at a time. But as there might be such a thing as racing up a staircase, so when we study against time,

there is a strain in the more speed, however good may be the system we are following. There may also be a strain on the faculties in the direction of them toward a kind of study which is not adapted to our natural gifts. If we learn what nature qualified us to learn, and learn it step by step, without hurry, we incur a minimum of cerebral fatigue and gain a maximum of acquirement. Study of this kind gently stimulates and does not fatigue, unless prolonged for an unreasonable length of time. It is positively favorable to health, because it is favorable to cheerfulness; it makes life pleasanter and more interesting, and so far from being injurious to the nervous system, gives it tone and vigor, just as manly exercises give tone and vigor to the muscular system. There can be no doubt that men were intended to bear intellectual labor without injury to their health; we are constituted to think and learn, just as a fish is constituted to swim, or a bird to fly.—*Sel.*

Principles.—A lad drove his team four miles to a mill to get a load of flour to haul to the canal. When he arrived at the mill, the miller told him they had no loadings; the mill was out of repair, but he would help him to a load, so that he might not lose his half day's work, which would amount to one dollar. Said he, "You may drive across the way to the distillery, and load, and I will pay you just the same price for hauling the load of whisky that we do for hauling a load of flour."

The lad thought a moment, and said, "I don't know what father will say, but our horses don't haul whisky," and he wheeled them off and drove home and told his father.

"Right," said the father; "you've done right, John. It's money well spent, John. Support your principles anywhere and everywhere, and be kind about it but decided."

A Dog's Remorse.—Being accustomed to walk out before breakfast with two sky terriers, it was my custom to wash their feet in a tub kept for the purpose in the garden, whenever the weather was wet. One morning when I took up one dog to carry him to the tub, he bit me so severely that I was obliged to let him go. No sooner was the dog at liberty than he refused food, declined to go out with any of the family, and appeared very dejected, with a distressed and unusual expression of countenance.

On the third morning, however, upon returning with the other dog, I found him sitting by the tub, and upon coming toward him he immediately jumped into it and sat down in the water. After pretending to wash his legs, he jumped out as happy as possible, and from that moment recovered his usual spirits.

"There appears, in this instance, to have been a clear process of reasoning, accompanied with acute feeling, going on in the dog's mind from the moment he bit me until he hit upon a plan of showing his regret and making reparation for his fault. It evidently occurred to him that I attached great importance to this foot-bath, and if he could convince me that his contrition was sincere, and that he was willing to submit to the process without a murmur, I should be satisfied. The dog, in this case, reasoned with perfect accuracy, and from his own premises deduced a legitimate conclusion which the result justified."—*London Spectator.*

Lord Bacon on Study.—Crafty men condemn studies; simple men admire them; and wise men use them, for they teach not their own use; but that is a wisdom without them, and above them, won by observation. Read not to contradict and refute; nor to believe and take for granted; nor to find talk and discourse; but to weigh and consider. Some books are to be tasted, others to be swallowed, and some few to be chewed and digested. That is, some books are to be read only in parts; others to be read, but not curiously; and some few to be read wholly, and with diligence and attention. Reading maketh a full man, conference, a ready man, and writing, an exact man. And therefore, if a man write little, he need have a great memory; if he confer little, he need have a present wit; and if he read little, he need have much cunning to seem to know that which he doth not.

Neglected Sciences.—There is an incessant clatter about modes of education—how best to teach American boys the classics or science or the rules of trade—but when are they taught reticence, decent, grave reserve of thought and speech, self-control; in short, that which makes an ordinary man greater than him who wins many battles? We have our jokes upon the cautious-tongued, canny Scotchman, and the taciturn Quaker, but they could teach us lessons which would increase our self-respect and enable us to cut a more decent figure in the eyes of the world.—*N. Y. Tribune.*

—It takes forty thousand acres of land to supply a single New York manufacturer with leaf tobacco.

DIETETICS.

"Eat ye that which Is Good." As a Man Eateth, so Is he.

Spring Foods.

ALL writers on diet agree that special kinds of food are adapted to special seasons and climates. This adaptation is due to the different constituents of different foods, or, rather, to the differing proportions in which the various elements of food are found. Thus, certain vegetable products, as nuts, corn, and beans, contain a considerable proportion of oil; while many others, as wheat, rice, the potato, the apple, and most fruits, contain almost no oil at all. Vegetable products which contain the most oil are the best suited for use in the cold season, since they are more productive of heat than articles which contain less. We need more heat in the cold season of the year than during the warmer seasons; consequently, we should eat, during the colder months, such articles as nuts, corn, and beans, more freely than at other times.

But what has this to do with "spring foods"? It has an important bearing, since it teaches us that on the approach of spring we should drop from our dietary foods calculated to produce heat. If this course is not pursued, serious injury may occur, the system being liable to become clogged with unused material.

The foods most appropriate for use in the spring are grains which are comparatively free from oil, acid fruits, and green vegetables. The craving for sour foods and fresh vegetables which many people experience at this season of the year is a natural instinct, and its indications should be regarded. One of the causes of spring sickness is a failure to regard the indications of nature in this respect. The following are a few recipes for dishes which are very appropriate during the spring and early summer months; they will do no harm at any time, for most hygienic foods are appropriate at any season :—

CABBAGE.

Select a sound head of cabbage, remove the soiled or dried leaves, cut into quarters, and place in boiling water. The water should be just sufficient in quantity so that when the cabbage is done it will be nearly evaporated. It is a wasteful proceeding to turn away the water once or twice during the boiling of cabbage, as some do, for much of the sweetness and nutritive qualities of the vegetable is thus lost. This may be necessary in some cases, however, on account of a bitter flavor in the leaves.

When the cabbage is boiled perfectly tender, it may be served in its own juices, or with some kind of sauce. A very good dressing may be prepared thus :—

To stewed tomatoes add a sufficient quantity of rusk or bread crumbs to thicken moderately. Boil in a stew pan five or ten minutes. A little graham flour or oatmeal may be used for thickening, instead of rusk, in which case a little longer cooking will be required. Serve with the cabbage.

Cabbage should be cooked in soft water, and is much easier of digestion without salt than with it. Salt and vinegar harden the tissues of this vegetable when added to it, especially during cooking, and render it much more difficult of digestion than it would otherwise be. The use of any kind of fat with it also makes it difficult of digestion, and is as unnecessary as it is unwholesome. Oatmeal milk makes a very good dressing for cabbage. It is prepared by straining well-boiled gruel through a fine sieve.

Cabbage and Tomatoes.—Chop very fine half a cabbage. Place in a stew pan with just sufficient water to prevent burning. When nearly cooked, add half the quantity of cooked tomatoes. Stew a few minutes longer, using great care to prevent burning.

Rhubarb.—This is the earliest of vegetables possessing acid juices, and is particularly valuable on that account. The stems should be cut into short lengths, placed in cold water in a porcelain-lined kettle, and stewed until thoroughly softened. The acid flavor of this plant is quite too strong for most tastes. If it is to be used as a sauce, it should be sweetened, either by the use of a moderate quantity of sugar, or by the admixture of dates, prunes, raisins, or other sweet fruit.

In this connection we would suggest that this plant pays as well for canning as any fruit; and provident housewives will do well to secure a liberal supply when the season arrives. The notion advanced some years since by some that rhubarb is poisonous, has no substantial foundation.

Salad.—Salads are not very much in favor among hygienists, but they may be freed from their most objectionable features by a little skill on the part of the cook. A very acceptable salad may be thus prepared :—

Wash a sufficient quantity of fresh lettuce, let it drain well, and then shred fine. Pour over it sweetened rhubarb juice or lemon juice. Some add, instead, any desired quantity of cooked tomato, allowing the mixture to stand an hour or two before serving. A few wintergreen leaves may be added to lettuce salad if desired.

Cranberries.—This acid fruit can be kept until quite late by immersion in cool water in a cool place. In cooking the berries they should be stewed until they break open and become soft, a spoon being used to mash them if they do not open readily of themselves. This fruit is too sour to be used alone, and should be rendered palatable by the admixture of other sweet fruits, or the use of a moderate quantity of the best sugar. A combination of equal parts of cranberries and prunes makes very excellent sauce. Raisins, dates, and sweet apples may be used to advantage. If sugar is employed, great care should be used to avoid excess in quantity, as such a mistake would more than counterbalance the benefit to be derived from the use of acid fruit.

Candy.

THERE has been so much said in favor of candy, recently, by those making some pretence to scientific authority, that we are glad to be able to quote the following from the pen of Dr. Cutter, one of the most eminent medical authorities of this country:—

So much has been written about the relations of candy to health, and particularly to diseased teeth, that it would seem presumptuous to add even a word. But supposing the question cannot be settled at once, there are some facts about candy, or sugar rather, which I have not seen mentioned in connection with the philippics against candy, or the arguments in its favor. As a *food*, it is a failure. The chemist tells us that the composition of cane sugar is C_{12} H_{22} O_{11}. The human body has some fourteen elements.

How can three elements make fourteen? Dogs fed on sugar died in forty days. Their eyes ulcerated and came out. Dogs fed on nothing lived just as long. (Kirkes and Paget's Physiology.) The system has a natural loathing for food containing nothing but sugar.

We pass, then, to the occasional use of sugar. Does it affect the condition of the organs of the body? Several years ago, Dr. S. Weir Mitchell, of Philadelphia, proved that he could produce cataract of both eyes in half an hour, by simply injecting a teaspoonful of a saturated solution of sugar beneath the skin of a frog or Guinea-pig. Dr. B. W. Richardson, of London, has confirmed this, and these results are received by the medical profession as satisfactory. Now if a teaspoonful of sugar solution will make a frog or Guinea-pig totally blind in half an hour, can sugar be regarded as an innocent substance for young and growing persons, especially when they diet so largely upon white flour, which is chiefly composed of starch, whose chemical formula is identical with that of sugar?

According to Dr. C. R. Agnew, of New York, out of one thousand children under eighteen years of age, in a large school in his vicinity, seven hundred and three were found with defective organs of vision when examined with the opthalmoscope. Have we a right to infer that sugar and starch diet have anything to do with this large percentage of deficient eyes? The experiments quoted show that sugar does act promptly, quickly, and terribly upon the substance of the crystalline lens of lower animals. Can we deny the probability of its action upon the eyes of human beings? Mark, we do not say it does thus act. We simply raise the question. We wish the State Board of Health would have it investigated, as it is a matter germane to their invaluable department of labor.

Now for candy and diseased teeth. Lime and phosphorus form the chief mineral ingredients of teeth. The organic matter (*i. e.*, that like sugar) amounts roughly to about twenty per cent. of the whole tooth. The mineral matter and water make the remaining eighty per cent. In other words, sugar gives the teeth, under the most favorable construction, twenty per cent. of its food only, when it is used as an aliment. But sugar cannot be used as an exclusive aliment, as death would ensue. Used occasionally when the other food has its normal amount of mineral ingredients, candy, when pure, probably does not harm the teeth. But used frequently, in connection with flour diet, there is no doubt that it will promote the decay of teeth. When organized substances are fed, they must receive all the elements that enter into their composition. Failing to receive these, their vitality is impaired, and decay results. Teeth fed with candy do not receive any mineral elements. No phosphorus and no lime are found in candy, but they constitute the main part of teeth. Hence we see that candy and teeth are not interchangeable things, and that candy-eaters must not be surprised if their teeth fail.

When we remember that starch, a colloid, has to become sugar, a crystalloid, before it enters the circulation, what has been said of candy may (excepting the subcutaneous injection experiments) be applied to starch.

Dr. Harriman, one of our Boston dentists, has given the writer an account of several marked cases where the disuse of fine flour was followed by restoration of the teeth and arrest of the decay, thus proving what a diet containing all the elements of the teeth will do for dental health. Those desiring sound

teeth will then be in the way of obtaining and keeping them, if they eschew the excessive use of the carbohydrates, starch, and sugar-candy.

Milk a Carrier of Infection.

AT Jarrow the outbreak [of typhoid fever] was characteristically sudden. Suddenly, on August 15, it was found that within the limited district of the urban medical officer's authority, no less than thirty-four cases of typhoid fever had occurred in twenty different families, more then half the cases being among children. The houses were, with two exceptions, clean, and supplied with good water from the mains of the water company. It soon, however, appeared that in pretty nearly every case the milk was supplied from the same source. The farm was at once visited. It was found that six of the farmer's family were laid up with typhoid fever. The water used in the dairy was derived from a well in immediate proximity to a cesspit; the water was evidently contaminated with filth by soakage, so much so, indeed, that it became putrid on standing two days. The dairy was used as a wash house; the linen from the infected persons was washed in it; and the person who milked the cows was in immediate attendance on those who were laid up with the fever. There was here, in fact, every disgusting circumstance combined which could make the milk the vehicle for carrying the fever. The unusual horror of these arrangements, and the violence of the first outbreak, together with the extreme promptitude with which the medical officer in a few hours traced out the causes of the fever and arrested its progress, make this little history more sharply instructive, and more immediately impressive than some of the more protracted and large epidemics to which we have referred. The whole facts are in a small compass, and the causes and effect are seen side by side, and in contemporaneous action.—*The Sanitary Record.*

An Unpleasant Discovery.—Dr. Klenke, a German physician, is convinced that by the fresh milk of consumptive cows the disease of consumption is transmitted, not only to the calves of such cows, but to human beings. Most people know, we suppose, that cows are subject to a disease of the lungs, much resembling if not identical with the tuberculous consumption of the human race. Dr. Klenke has no doubt that many persons suffering from the disease who have tried what is called the milk-cure, have imbibed death instead of remedial nutriment from the fluid. But in the judgment of veterinary physicians the disease of tuberculosis in cows is hereditary in certain breeds or herds of the animal. It is a family malady transmitted through the mother's milk, and the general introduction of registers of pedigree is recommended as a means of securing cows of sound blood for breeding or milk.—*Sel.*

Magnetized Food.—There is a peculiar fascination about magnetism which makes it one of the easiest means by which to impose upon the credulity of the public. Magnetic mineral springs, which have been so frequently exposed, have not yet been sufficient to break the charm of this magnetic delusion, and so we are now to be served with "magnetic food." This potent compound is made by mixing iron rust with eleven parts of dough, which is magnetized by passing it through a helix of copper wire through which a current of electricity is passing. Magnetized lozenges, cough drops, jujubes, and sweetmeats of all kinds are made after the same general plan.

The inventor of this new method of humbugging the public has secured the exclusive right to the proceeds by taking out a patent; so that we need have no fears that the practice of seasoning bread with iron will become very general for some time yet to come.

The *English Mechanic* says of this invention:—

"We presume that the patentees would have no objection to any one magnetizing legs of mutton, or chops and steaks, and using magnetic oxide in lieu of salt; but whether the chops and steaks should be magnetized before or after cooking we cannot say. We should think that, so far as any medicinal or curative results are concerned, it will not matter. Faith is all that is required—and the money to purchase the chops."

Insect Soup.—The obtuseness of the sense of taste is in some people truly amazing, especially when it is encouraged by ignorance. The English journals have recently contained an account of the results of an examination of the sanitary condition of the premises of an aristocratic family which had been afflicted with diphtheria. The chief water supply was found to be a cistern in the basement. Upon examination of the water it was discovered to be simply a decoction of dead vermin. It contained "the wings of hundreds of cockroaches, whose bodies, after being slowly macerated, had been consumed

by the household." It would be a wise plan for every man who has a cistern to subject it to thorough examination, and frequent c leansing. A large number of the most fatal m ladies originate in drinking water which is loaded with impurities.

The Diet of Frenchmen.—In an able article on kitchen management in France, the Boston *Journal of Chemistry* gives some interesting facts with reference to the diet of the French peasantry. It states that "dark bread, made from whole wheat and barley, is the only kind used." "Scarcely any butter or cheese find their way to the tables of the poorer classes." "A large piece of meat is rarely seen upon the tables of even the richer classes in France; the portion is usually small, and the meal is supplemented with a fair allowance of soup, bread, and vegetables. This management does not lessen the attractiveness of meals, nor indicate unpleasant parsimony." "They have learned that the sweetest and most nutritious bread is made from wheat, barley, and rye, ground finely, but unbolted. Their bread is dark, but of excellent quality."

"The average earnings of laborers in France do not exceed thirty cents a day, and yet from this pittance they continue to live comfortably. The average of health in the population is much higher than in most countries, and the average length of life is as high as thirty-eight years."

Light Bread Without Yeast.—A correspondent wishes to know how to make light bread without yeast. There are several methods. Baking powder, soda, and sour milk, and other chemical agents are very commonly used, to the immense detriment of people's stomachs; but these methods are as unnecessary as harmful, for there are several better ones. Here is one, which is taken from a little work entitled "Healthful Cookery," which every health reformer ought to have; it is for sale at this Office:—

Into one part of cold soft water stir two parts of rather coarsely ground graham flour made from the best white wheat. Sift slowly in with one hand while stirring with the other, thus endeavoring to get in as much air as possible. If the flour is made from red wheat, a little more than two parts of meal will be required. The batter should be just thick enough so that it will not settle flat. If it is too thin, the biscuit will be likely to be flat and blistered; if too thick, they will be tough and heavy. In the first case, the batter is not of sufficient firmness to retain the air, and in the second, it is too stiff and unyielding. Beating the batter after mixing does not materially increase its lightness. No salt should be used.

Cast-iron gem pans or patty pans are most convenient for baking. The pans should be heated very hot before dropping in the batter. A very hot oven is required. and the gems should be baked on the top first, to prevent the escape of the air and steam. The heat should not be sufficient to brown them in less than fifteen minutes, and they are better to bake twenty-five or thirty minutes; a longer time toughens the crust.

In order to prevent sticking, many people are in the habit of placing in the pans so large an amount of grease that the biscuits are rather fried than baked. This is a most pernicious practice, and is wholly useless. To prevent sticking, smear the baking iron with sweet oil or fresh butter. Heat it thoroughly, and then carefully wipe away as much as possible of the oil. This will leave the iron smooth; and if it is carefully wiped after each baking, and then laid away in a dry place without washing, no difficulty will be experienced from sticking, and if will require oiling only at long intervals. The pan must always be very hot when the batter is placed in it.

By combining other grains in various proportions, a great many different kinds of gems may be made. A mixture of equal parts of graham flour and corn meal makes a very nice article. Boiled rice may also be used. Take one part boiled rice to three parts of water, and stir in graham flour sufficient to make a batter a little thicker than when the meal is used alone. Hominy and pearl-barley may be used in the same manner. This will be found a very convenient method of utilizing portions of food which might otherwise be wasted.

Hygienic Mince Pie.—F. R. Richmond sends the following recipe for mince pie which is certainly less objectionable than the old-fashioned kind:—

"Two cups of chopped apple, one cup of chopped figs, one-half cup of chopped dates. If a little cinnamon be added it will give it a flavor very similar to the mince pies of by-gone days. The crusts may be shortened with grated Brazil nuts, or mashed butternut meats, one cup to two cups of flour. The butternuts make the tenderest and richest, but not the smoothest and whitest, crusts.

"In using any grated nuts it is much cheaper, and a much better article is obtained, to buy the nuts by the quantity, and grate them as used, than to buy the prepared article."

Horse Beef.—That the consumption of this kind of food is rapidly increasing in France is evidenced by the fact that Paris alone consumed last year 6,865 horses, mules, and asses, the aggregate weight of which was about 3,000,000 lbs. There is no accounting for the French taste, that can relish mule steak and assafœtida.

THE

HEALTH REFORMER

BATTLE CREEK, MICH., MAY, 1876.

J. H. KELLOGG, M. D., EDITOR. TERMS, $1.00 A YEAR.

Household Medicine.

ERYSIPELAS.

THIS disease is known by the names, rose and St. Anthony's fire. The first symptoms of the disease are those of a general fever, which may be introduced by a chill. The tongue is furred, the skin hot, and the pulse frequent. Loss of appetite, thirst, and sometimes nausea, vomiting, restlessness, and general weakness, are other symptoms. Soreness of the throat, and swelling and tenderness of the lymphatic glands in the region in which the eruption is about to appear, are not infrequent symptoms.

About the second or third day of the fever, a small, elevated, reddish spot makes its appearance upon the surface. The edges of the spot are usually very distinct, and it is tender to the touch. The redness disappears on pressure. It occurs more often upon the face than elsewhere, and gradually spreads in all directions. It is generally confined to a small portion of the body, but sometimes spreads very rapidly and covers the whole surface of the skin.

The eruption sometimes appears at the very outset of the disease, being the first symptom, in fact, and in other cases is very greatly delayed.

Before the eruption appears, it is usually impossible to distinguish the febrile disturbance attending this disease from an ordinary fever, or from a disturbance similar to that which attends the commencement of other febrile diseases. It has been claimed, however, that whenever a general fever continues for one or two days, and is accompanied by swelling and pain of the lymphatic glands of the neck, the erysipelatous eruption is certain to appear.

When the disease occurs upon the scalp, the brain is quite apt to be affected, delirium and even coma being induced. The greatest danger in this disease arises from its liability to a change of the chief seat of morbid action from the surface of the body to some internal organ; but this does not ordinarily occur, and with careful treatment a speedy termination of the disease may usually be looked for.

The cause of this disease is not very well understood, but it is almost always connected with grossness of the body or impurities of the blood. When a person's blood is filled with the unexpelled products of the disintegration of the tissues, with the grossness of diseased animals, or with irritating condiments, any slight exposure to cold, a scratch, a bruise, or a burn is often sufficient to prove the exciting cause of erysipelas. The use of pork, much animal food of any kind, and especially of lard and other animal fats, is perhaps the greatest cause of this disease. It rarely affects strict hygienists; though one who has been long subject to it cannot expect to become wholly freed from the disease without long continuance in well-doing, by right living.

Treatment. As the disease is constitutional as well as local, the chief means of cure must be applied to the general system, and are chiefly packs and sponge baths. If the patient is strong, and the fever is high, the pack may be administered three or four times in twenty-four hours. If the fever is of a typhoid character and the pulse weak, employ the tepid sponge bath instead of the pack, repeating it as frequently as necessary to make the patient comfortable and to subdue the unnatural heat. It should be given three or four times a day at least, and as often as every hour in severe cases accompanied by a great increase of temperature.

The feet must be kept warm and the head cool. The hot foot-bath, and the application of warm flannels, bottles filled with hot water,

bags of warm meal or salt, and other similar means to the feet and limbs should not be neglected if the natural heat of those parts is at all diminished.

Apply cool compresses to the head, changing *every few minutes* when the fever is high. If the heat is excessive, apply a compress wrung from iced water, or a towel with pounded ice or snow between the folds. Occasionally, cool water may be poured upon the head for five to fifteen minutes at a time. This treatment should only be employed when it adds to the comfort of the patient.

The local disease should receive a due amount of attention. Nothing should be applied with a view to repelling the eruption, as a fatal result might follow such a course. The applications should be such as will alleviate the burning, prickling pain as much as possible. For this purpose, linen cloths wet in cool water should be applied to the surface, being changed every few minutes. The compress should be composed of only two or three thicknesses, so that it will not gather heat. An infusion of flax-seed, or any other mucilaginous application, is often very soothing. Mashed cranberries are a very popular application, and are certainly entirely harmless.

The extension of the inflamed surface may sometimes be checked by the application of tincture of iodine with a camel's hair pencil. A line one inch wide should be drawn around the inflamed portion, one-half upon the diseased surface, and the other half upon the surrounding tissue. It is seldom necessary to employ this means, but it may be serviceable in some cases in which the disease is liable to involve the eyes or scalp.

The diet should be very simple and spare. The bowels should be regulated by enemas if necessary.

What Is Disease?—No. 2.

In a previous article we considered the ancient idea of disease, which has come down to modern times in a somewhat modified form, and regards sickness as an entity which seizes upon unfortunate humanity and subjects the victims to innumerable tortures. We also noticed the fact that the human body is shown by the microscope to be composed of minute cells, each of which possesses an independent life of its own, and that animal life is only the combined result of the working of all of these cells, all vital actions being the result of cell action.

In the human body these cells are separated into groups, forming organs, each of which has a certain definite and peculiar function to perform. Thus, one set of cells form the muscles, and by their united action produce all the movements of the body. Another set form the liver, and have the function of removing certain impurities from the blood. Still another collection of cells make up the brain, and by their action produce thought, while other cells form the nerves, which serve the purpose of conveying impressions to and fro between the brain and the external world.

When all of these cells are acting harmoniously, each performing properly the work belonging to it, the whole body is in a state of health. Hence we say, It is not only the business of the cell structures of the body to do all the work of life, but they are also required to keep themselves and the body in repair. Every thought of the brain, every transmission of an impression by a nerve, every contraction of a muscle, occasions the destruction of millions of the delicate constituents of brain, nerve, and muscle. If they were allowed to go unrepaired, those organs would soon lose their power of action, and death would result.

Health is that condition of the body in which each organ performs its proper function. It is the harmonious action of all the bodily organs.

Through the influence of various disturbing causes, the harmonious action of the constituents of the body is sometimes interfered with. The action of some may be accelerated, while that of others is impeded or wholly interrupted. This disturbance or derangement is accompanied by discomfort and unpleasant sensations.

This condition of the body is disease; which may be defined, in brief, as a derangement of the bodily functions, or inharmonious vital action.

Disease is the exact opposite of health The one is normal, the other abnormal. The one is harmonious action, the other is discord-

ant action. The first is physiological, the second is pathological.

DISEASE REMEDIAL EFFORT.

The abnormal action of an organ, occasioned by a disturbing cause, is in most cases—if not in every case—an effort on the part of the organ to recover its normal condition by removing, if possible, the cause of the disturbance. Viewed in this light, disease may be called *remedial effort*, since it is an effort to remedy an existing evil.

It may be interesting to consider somewhat in detail the different ways in which the remedial character of disease is manifested.

Snuff taken into the nose occasions sneezing; and how? Snuff is an acrid, irritating poison. When it touches the delicate membrane of the nose, it is at once recognized as something which ought to be ejected. By means of the nervous connection between the mucous membrane of the nose, and the muscles of respiration, the latter are induced to act in such a way as to forcibly eject the offending substance by a gust of air from the lungs. Thus the evil is removed; and the effort of removal was a remedial effort. Since it was an abnormal action, or one not performed in the regular and healthy action of the organs involved, it was disease.

If some offensive substance, as tobacco, ipecac, or sulphate of zinc, is introduced into the stomach, the stomach speedily recognizes its obnoxious character, and, acting with the abdominal muscles, expels it by a strong spasmodic effort, called vomiting. This action is a remedial one, and is really disease.

A person inhales the virus of small-pox, by which means his blood becomes filled with poisonous germs. In a few days he begins to suffer numerous disturbances, has a high fever, and presently a characteristic eruption of the skin. All this disturbance is an effort of nature to expel from the body the poisonous virus which was originally taken into the system, and which was generated therein by propagation.

Vegetarian Sentimentalism. — Some time since, a guest at one of our city hotels chanced to encounter a copy of the HEALTH REFORMER, which lay with other periodicals upon the parlor table. In glancing it through, his eye met a paragraph in which it was argued against the use of flesh as food that it involved the infliction of unnecessary pain upon animals. It was suggested that the idea of butchering and then devouring the patient ox was a repulsive one, and that the act would have a tendency to harden the feelings, and make an individual obtuse to the sufferings of his fellows. Our carniverous friend could see nothing in this argument but a ludicrous display of sentimentalism, and entertained his fellow-guests at the breakfast table with an account of his discovery of a sentimental fellow who "thought it wrong to slay the meek-eyed ox."

We imagine that Horace Walpole might have been in the company of individuals of tastes similar to those of our captious friend when he penned the following lines:—

"Only imagine that I here every day see men who are mountains of roast beef, and only seem just roughly hewn out into the outlines of human form, like the giant work of Pratolino! I shudder when I see them handle their knives in act to carve, and look upon them as savages that devour one another. I should not stare at all more than I do if yonder alderman at the end of the table were to strike a knife into his neighbor's jolly cheek and cut a brave slice of brawn and fat."

Chemical Food.—A French chemist has arrived at the conclusion that sour buttermilk is the elixir vitæ, or the next thing to it. He concludes that as it contains lactic acid, and since lactic acid will dissolve lime, it will prevent the calcareous degeneration which takes place in certain tissues and is one of the chief causes of death from old age.

If this theory is true, why may not the same benefit be derived from the use of the pure acid; or from the use of acetic, muriatic, nitric, or sulphuric acids, since each of these will dissolve lime even more readily than lactic acid? Sour buttermilk might do for food if nothing better could be obtained; but we prefer to prevent calcareous degeneration by correct habits of living, rather than by eating chemical solvents. In many old persons who had lived healthfully, the tissues have been found wholly free from this kind of degeneration.

PEOPLE'S DEPARTMENT.

Devoted to Brief Discussions of Health Topics, Individual Experiences, and Answers to Correspondents.

THE CODE OF HEALTH.

BY R. F. COTTRELL.

WOULD you be healthy? then make it your care
To breathe in abundance the purest of air.
To form the best tissue with purest of blood,
Eat with due moderation the purest of food.
Drink water, pure water, the freest you can
From minerals of earth, and the brewings of man.
Let your clothing be proper, adapted to weather,
By the shoulders upheld, and well fitted together.
Take exercise freely, digestion 't will aid,
And by it the stronger the muscles are made.
Connected with exercise, know it is best
To secure at due seasons the requisite rest;
At times, too, indulging, with due moderation,
In innocent, cheerful, and good recreation.
By frequently bathing, remove from the skin
Waste matter, and so keep the pores free and clean.
At all times with firmness the passions control,
Thus proving the claim of a rational soul.
Preserve correct postures, that each organ may
Perform its due functions, by having free play.
These simple rules practiced, you never need prove
The virtues of poisons disease to remove.
Oh, happy exemption! excused from a part
In the death-dealing dose of the drug-healing art!

Prof. Cook's Physiology.

UNDER the above title Mr. Ewing Summers, one of the assistant editors of the *Lansing Republican*, and a staunch friend of hygiene, published a circular some months since, the contents of which we give below. We give it a place in the REFORMER, not for the purpose of attacking Prof. Cook, for we have no doubt that he is a gentleman of high merit. We are quite certain, however, that he is mistaken on some points, as he can easily ascertain by consulting some of his fellow-professors who have been patients at the the same institution which he made the subject of derisive remarks, though he doubtless did so without malicious intent. We would cordially invite the professor to come and see us before he renders his verdict about this "queer place." There are many things about the Health Institute which seem very queer to most people. It is, for instance, to some "*very* queer" that those who have been accustomed to the most luxurious fare do not starve to death on our simple food, instead of growing more ruddy and healthy than they were before. It is exceedingly "queer" that men and women who have exhausted every other mode of treatment in vain attempts to recover health, so rapidly renew their youth and gain vigorous health by the aid of the simple means of treatment here employed. This *is* a *very queer* place.

"TO THE TEACHERS OF INGHAM COUNTY: At the session of your Institute at Mason, October 3, 1874, Professor A. J. Cook, of the State Agricultural College, urged the importance of the study of physiology, because, among other reasons, it would show the absurdity of vegetarianism—that man has teeth and an alimentary canal partly like those of cattle (vegetable-eating animals) and partly like those of tigers and lions (flesh-eating animals), and that, therefore, his diet should be a mixed one.

"Like all other advocates of a mixed diet, he drew a picture of only those two classes of animals, carefully excluding any reference to the monkey tribes. That is "scientific," I suppose! The hog is about the only animal presumed to be omnivorous, subsisting upon a mixed diet; so a man must be more like a hog than any other animal!

"But, seriously, nearly half the world, in the cold regions as well as in the warm, are either strict vegetarians or use so little meat that no account can be taken of it; and nearly all our railroads, canals, and other heavy public works are built, and ditch-digging done, by muscle of vegetarian ancestry—German and Irish. Now these are facts right under our eyes, and we are not obliged to go back into the dim past for some remarkable but mythical anecdote. Milo, the strong Greek in ancient times, was a Pythagorean, that is, a vegetarian; but so deeply set is the mixed-diet prejudice now-a-days that our college students are taught that Milo must have eaten flesh anyhow—he was so strong! See Smith's History of Greece. (It is not within my scope here to answer the many queries that may arise in the reader's mind.)

"Professor Cook traveled still further out of his way as a lecturer before a teacher's institute, and sneered at the Battle Creek health institution, saying that it was a 'queer place to call a cure.' The fact is, it is one of the best of all the so-called 'cures' in the United States; and the number of people who thank God for such places are now numbered

by hundreds of thousands in this country alone, while those who have attended them and afterward condemn them do not constitute more than seven or eight per cent. of the patrons. Instead of being queer places for cures, they are the only establishments worthy of the name, in the estimation of most people.

"He said also that even the physicians and the other persons who ran that institution were pale, lean, and sickly-looking. I went there a few weeks ago to see for myself, and I found it, as I have always found it at other cures—six out of the seven were as stout-*looking* as the average of laborers, and a great deal healthier in reality, although they are invalids snatched from the verge of the grave by hygiene. 'Vegetarians' are always much stronger and more enduring than they appear in the face to be—much healthier than they would otherwise be. But mere muscular strength is not the only thing desirable in physical development. I testify as an eye witness to many health institutions and the health of many 'hygienists.'

"The Professor also said that the inmates of the Battle Creek Health Institute were more sickly than other people. Why, my dear friend, that is a hospital!

"Again, Professor Cook recommended Dalton's Physiology instead of Cutter's, saying that the latter is 'full of errors.' I am prepared to show that Cutter's has fewer errors than Dalton's, and is a far more sensible and useful book.

"Lastly, he recommended every teacher of a common school to take into the school-room a living dog, cut a hole into his stomach, drain out some of the gastric juice, and experiment with it for the benefit of the pupils!"

Opposing the Doctors.—As a parallel to the case of Charles O'Connor, quoted in your April number, it may be instructive to notice a similar instance in the life of Lewis Cornaro. More than three hundred years ago (1550), he wrote as follows:—

"That even misfortunes themselves can do but very little mischief, or cause but very little pain, to bodies governed by temperance and regularity, I myself experienced at the age of seventy. I happened, as is often the case, to be in a coach which, going at a pretty smart rate, was overset, and in that condition drawn a considerable way by the horses before means could be found to stop them; whence I received so many shocks and bruises that I was taken out with my head and all the rest of my body terribly battered, and a dislocated leg and arm. When I was brought home, the family immediately sent for the physicians, who, on their arrival, seeing me in so bad a plight, concluded that within three days I should die; nevertheless, they would try what good two things would do me; one was to bleed me, the other was to purge me—and thereby prevent my humors altering, as they every moment expected, to such a degree as to ferment greatly and bring on a high fever.

"But I, on the contrary, who knew that the sober life I had led for many years past had so united, harmonized, and disposed my humors as not to leave it in their power to ferment to such a degree, refused to be either bled or purged. I just caused my leg and arm to be set, and suffered myself to be rubbed with some oils which they said were proper on the occasion.

"Thus, without using any other kind of remedy, I recovered, as I thought I should, without feeling the least alteration in myself, or any other bad effects from the accident; a thing which appeared miraculous even in the eyes of the physicians.

"Hence we are to infer that whoever leads a sober and regular life, and commits no excess in his diet, can suffer but very little from disorders of any kind, or external accidents."

W. CROSWELL.

Boston, Mass.

Labor Rewarded.—T. A. L. writes as follows:—

"It appears as though many people of this locality think they could scarcely live without hogs and medicine. The HEALTH REFORMER protests against these, and I feel thankful for the good and wholesome advice I have received from the same. I have a family of three children, and all of them healthy; and if any of them take cold, I have learned enough not to stuff them with patent medicines, and I do not become frightened when my friends become diseased, as those do who have their hopes built upon the slippery foundation, medicine.

"I first received the REFORMER by the kindness of a friend, who paid for the same and sent it to me; and I can truly say it was an act of kindness; for it has saved me dollars, and perhaps robust constitutions in my family. If I were able at present, I would cheerfully spend $20.00 for the benefit of my connections and neighbors. You will find enclosed fifty cents, for which you may send the journal to a friend who has paid heavy doctor bills and never grew better, but rather worse."

Hygienic Physician Wanted.

EDITOR OF THE HEALTH REFORMER: I beg leave to say through your journal that Tuscarawas Co., Ohio, is in great need of a good hydropathic physician. Ours is a large and wealthy county, but we have no physician of your school, although a good portion of our population are educated in its faith, and are desirous of securing a physician to whom we can intrust our sick. There is probably not another location in Ohio which can offer equal inducements to such a one. New Philadelphia, the county seat, is situated centrally, and in a beautiful valley. Upon its north, commencing at the incorporated limits, the land rises into hills, commanding an outlook over the city and entire valley, and offers fine sites for a healthy cure, should such be an object to a physician locating here.

I would take great pleasure in furnishing full particulars to any physican desirous of investigating this matter with a view to coming here. Very truly,

EDWIN BALTZLEY.

An Extraordinary Cure by the Use of Olives.—The following account was sent us by Dr. Chas. F. Zimpel, a physician residing in Italy, who became acquainted with the REFORMER a few months since :—

"A Protestant missionary, personally well-known to me, in Upper Egypt, was reduced by the climate in which he had labored for many years, by dysentery, etc., to a state of extreme debility. Finding all medical aid in vain, he went, for change of climate, to Mount Lebanon, above Beyroot, without, however, experiencing any great improvement. One day an Arab offered to sell him some birds for his table. Finding some of them exceedingly fat and others very lean, he inquired the reason and received the following reply: '*The lean ones have not been long enough in the country and have not, therefore, eaten enough of olives; otherwise, they would be like the rest.*' My thoughtful friend bought them all, and on opening the stomachs of the fat ones, he found therein, in fact, kernels of olives. He at once began to follow the example of the simple birds, eating, at morning, noon, and evening, a full plate of ripe olives, over which he sprinkled a little salt, abandoning at the same time all other food, except a little bread and wine. After about four weeks his health and vigor were not only restored, but he had actually become so fat that he found it somewhat difficult to button his coat round him. He confirmed this fact to me by letter.

"One of the most suitable places after the East for carrying out such a cure would be Italy; in the North, at Pan Remo, where I resided four years and a half; in the South, during the summer, at Corpo di Cava, near Naples, one hour by carriage road above the railway station of Cava dei Tirreni. It is near Salerno and distant two hours and a half by rail from Naples. At Corpo di Cava one finds the most grand and picturesque scenery. Mountains covered with chestnut trees, shady valleys with a view of the sea at a little distance, the purest water and air, and a luxuriant vegetation. There is a good hotel, kept by Guiseppe Scapdeticks, who in every respect, and most especially for his good character and attention to visitors, deserves the highest recommendation. I passed three summers at Corpo di Cava. Should any one prefer the much more low-lying town of Cava dei Tirreni, he would find, amongst many large hotels, the Pension Tuisse very recommendable.

"CHAS. F. ZIMPLE, M. D.

"*Naples, Italy.*"

What Hygienic Living Will Do.—Mrs. E. S., of Virginia, writes us as follows :—

"Your very valuable pamphlet has been sent to me by a brother. I see that the subscription has expired, and in renewing the same I feel that it is my duty to say a word in favor thereof. Three years ago, I was in very poor health, suffering from inflammation of the stomach and intestines. I was also troubled with tetter very bad in my hands. I employed a doctor who gave me drug medicine and salves until he grew tired and gave my case up. I then employed one of the most popular physicians of Petersburg, who gave me medicine four months, telling me all the time that I was *improving very fast.* At the end of the four months I found myself weighing eighty-four pounds, and so weak I could not stand up in the morning long enough to put on my clothes. It was about this time that I received a few numbers of the HEALTH REFORMER, sent me by a brother who was then living at Fort Scott, Kansas. I immediately dismissed my drugs, tea and coffee, and a number of unwholesome articles of diet. I have taken no medicine since, drank no tea nor coffee. I use graham flour, and weigh one hundred and ten pounds. Ten days of hygienic living, imperfectly practiced, cured my tetter of three years' standing. I have but a slight knowledge of hygiene, but this little light is better than entire darkness. Circumstances render it impracticable for me to live strictly hygienic at present, but I intend to improve as my

circumstances will admit. I have a cook book. There are many other books that I want, but having thrown away so much money for medicine, I shall not be able to get them for some time yet. I do not think that hygienists are extremists because they advocate the *best* way of living; and although I am compelled to live principally the *better* way, I strongly advocate the *best* way, and always feel better the nearer I live that way. I believe if I had not received the REFORMER I would now have been in my grave; whereas, I am now able to do the work for my family of four children and husband. I have also made some improvement in dress reform, and find it much better than the old way of swinging the skirts around the waist. In fact, all I see in the REFORMER is good; and as I do not like to intrude on your time, I will close by saying I heartily wish it much success."

Experience.—In renewing his subscription to the REFORMER, G. S. W. says:—

"I could hardly get along without it. It has been of inestimable value to me; through its teachings I have discovered the royal but neglected road to health and happiness. I have had hard work to get out of the old rut of prejudice, the beaten track of habit; it is like rooting up the mighty oaks of the forest, so strongly are old habits enshrined in our hearts and lives. In addition to your valuable journal, I find something more is necessary, even the grace of God. This renders all things easy; this enables us to push the the enemy, pull him down from his high position, and destroy him entirely. In the days when our Lord was upon the earth, we are told that there was one kind of devil the disciples could not cast out. They asked the Master why they were unable. He told them plainly that that kind of a devil could only be ejected by fasting and prayer. What a perfect cure this would be for many of our bad and vicious habits. I think it would be strictly hygienic, and the dyspeptic devil that occupies so many of our stomachs would be speedily got rid of by such a course."

The Secret of Success in Medical Practice.—Many years ago I heard an anecdote of a medical student who was about to leave the old physician under whom he had studied, and go out into the world to prove in practice the "deadly virtues of the healing art." As his last advice to the young M. D., his preceptor charged him, if he could do no good to his patients, to always be sure to do them no harm. "On the observance of this rule," said he, "depends the secret of your success; for the patient will naturally recover, if you do nothing to hinder. Let nature have a fair chance to work and she will generally succeed."

The young doctor took the field of labor at a considerable distance from the old one; and his success soon gained him great celebrity. At length his former tutor was dangerously sick of quinsy. As a last resort, he determined to send for this celebrated physician, of whom he had heard much, not knowing that it was his former pupil. He came, but was not recognized. He commenced treatment by tickling his patient with a feather, at the same time saying, "If I do no good, I will do no harm; if I do no good, I will do no harm." At this point the old gentleman recognized his former pupil, and the effect was that he was so suddenly convulsed with laughter that his quinsy broke, and he speedily recovered.

I am glad of the assurance that poisonous drugs are, in some degree at least, losing their popularity. I hear it said of this physician and that, that they use much less medicine than has been the practice formerly. And some of the "regulars" encourage, and even recommend, hygienic treatment. This is good. And I often say of those that are most successful in practice, that they must have learned the true secret of success, and are acting upon the principle to do no harm, if they can do no good. R. F. COTTRELL.

Liquor and Crime.—A period of eight years' inquiry has developed the statistical fact that seventy-five per cent. of the crimes committed in this country were caused by drunkenness, or vices which liquor-drinking engendered. —*N. Y. Witness.*

Questions and Answers.

Cold-Air Attrition Flour.—F. R. R. inquires: 1. Do you know anything of the process of making cold-air attrition flour? 2. Do you think it as healthful as graham?

Ans. 1. As we understand this process, it is one which grinds or comminutes the grain without heating it, and without the use of millstones. This, of course, prevents the presence of grit in the flour. 2. It *is* graham of a superior quality.

Pain in Side.—T. B. R. writes that her sister has a pain in the right side from which she has suffered more than a year; is worse nights.

Ans. Your description is too meager to enable us to specify the disease. It may be of a neuralgiac character. Attention to the general health, avoidance of fatigue, and daily applications of the fomentation, will do all that can be done at home.

Copper Water Pails.—M. S. R. asks: Is a copper water pail objectionable for domestic use?

Ans. If the pails were used only for containing pure water, copper would be one of the very best materials for water. But copper is a violent poison when introduced into the system; and as it is so liable to corrosion by acids, even fruit juice and vinegar affecting it in this way, it is in some degree less suitable for use as a vehicle for food or drink of any kind. If used at all, copper vessels should be kept polished bright.

Food—Abstinence.—E. E. T., O., asks: 1. How long do you think a person could live on bread alone, no drink of any kind being allowed? 2. Do you know of a record in which a man lived over a month on water alone? 3. Is food which rises on the stomach healthful?

Ans. 1. It would depend almost wholly upon circumstances, and the character of the bread. 2. Yes. 3. Food may be healthful in itself and yet disagree with a diseased stomach.

Bible and Hygiene.—S. R. T. asks: Can 1 Tim. 4:1–6 be harmonized with the health reform, that is, totally abstaining from the use of flesh meats?

Ans. We think it can.

Oleaginous Fruit—Disinfectants, etc.—J. H. G., N. C., asks: 1. Is there any fruit or vegetable that affords so much of the oleaginous element as chestnuts or almonds? 2. What are the average cubical contents of the human stomach? 3. Explain the difference between hard and soft water. 4. Does the eating of onions tend to prevent the catching of contagious diseases? 5. Mention a good disinfectant easily obtainable, to be used during an epidemic.

Ans. 1. The olive is a very oily fruit. It contains even more of this element than either almonds or chestnuts. 2. A human stomach, when moderately distended, is twelve inches in length, and four inches in diameter. 3. Hard water usually contains lime. The more lime the harder it is. Hard water cannot be used for washing purposes because the lime present in it combines with the fatty elements of the soap and forms an insoluble compound, a lime soap, in fact, which will not dissolve in water. 4. No. 5. The kind of disinfectant required would depend on the manner in which it was designed to use it. Copperas, permanganate of potash, carbolic acid, and dry earth are excellent antiseptics. Nothing should be taken into the stomach with the idea of its preventing contagion.

Health Lift—Filter—etc.—H. R. W., Mo., inquires: 1. Do you think the "health lift" would cure uterine displacements? if so, how long a time would be necessary to effect a cure? 2. Will not muddy water spoil the Kedzie filter? 3. How long will the filling last? 4. What do you think of Paul Castor as a "healer?"

Ans. 1. The health lift is an excellent remedy for uterine displacements, but the degree of success to be expected, and the time required, wholly depend on the nature of the displacement. Several months' treatment would be necessary at least. 2. Muddy water will spoil a filter very quickly by filling it with dirt. 3. With proper usage, a filter will last a year or two without refilling. 4. We are not acquainted with Paul Castor, but have no faith in magnetic healing. All of the results seen are due to the effect of the imagination upon the body.

Nervous Debility.—C. W. H. asks: Do you think that a strict conformity to your dietetic principles and other sanitary rules which you advocate, without the use of medicine, will cure and fully restore a man who suffers from nervous debility—spermatorrhea?

Ans. A man who has violated the laws of his being must suffer a certain penalty. Nothing can fully restore him to the condition in which he would have been had he never transgressed. Squandered force cannot be regained. The best such an individual can do is to make the most of what he has left, thus making the penalty as light as possible, by carefully conforming to all the known laws of health. Medicine can do no good, in this disease, and may do much harm; have nothing to do with it. Obedience to the laws of health, and hygienic treatment will do for you all that can be done; and if you try it thoroughly, you will no doubt be very much astonished at the results.

FARM AND HOUSEHOLD.

Devoted to Brief Hints for the Management of the Farm and Household.

Selection of Fruit Trees.—In the selection of varieties bear this in mind, that it is better to have fifty trees of one kind than the same number of trees one of a kind. Although nurserymen as a class are very accommodating, and will furnish you with any and every kind of tree that you may ask for, yet you do not want to get a certain kind because it looks well in the nursery row, nor because the same variety "done well" at your old home in Massachusetts, New York, or Pennsylvania, for in all probability that is the very kind you would be disappointed with. Horticulturists differ widely as to the best twenty kinds of apple trees, but agree as to the best four kinds, viz., Wine Sap, Rawles's Janet, Maiden's Blush, and Red June. A good selection of one hundred trees would be fifty Wine Sap, thirty-five Janets, ten Maiden's Blush, and five Red June. Again, in setting out our orchards we should not be guided by what we did "back East" as to distance apart. While thirty feet each way was the ordinary distance there, twenty feet is far enough here, and fifteen feet is better. Set at the latter distance, one tree would shade the trunk of the next, and we would not then hear so many complaints of sunburnt trees. The trees need more protection from the winds in summer than they do in winter. The belt of trees for protection should be on the south and west sides of the orchard. —*Kansas Farmer.*

Cut Worms.—By accident I have discovered a means by which, and the time, to destroy that great garden pest, the cut or collard worm. On picking up a piece of board that lay in my walk-way, a few days ago, I discovered several worms; curiosity led me to turn other boards that lay near. To my great astonishment, when I had turned nearly a dozen in different parts of the garden, I found I had killed seventy-six worms and had destroyed scores of eggs, which look like little bits of lint cotton rolled up. The next day I searched the same boards, which I had carefully replaced, and killed seventy-eight worms. The third search I found a small collard head that had been cut for the cows and left by being overlooked; on examining it, there were under and on it twenty-six. My suggestion is to lay boards (pine is the best) about in the garden in January and February for traps, and watch them closely, and the saving in young vegetables will be immense.—*Southern Plantation.*

Early Tomatoes.—I give my plan for getting early tomatoes, which I practiced for several years. I take old oyster cans, or tin fruit cans, as many as you desire for early plants; put a few pieces of coal, brick, and leaves or other rubbish in the bottom, fill up with good mellow soil, place a few seeds in each of some good variety, as Early Smooth Red, or Hathaway's "Excelsior." When they come up pull out all but two, or as they grow, take out one more. I should have said, Set the cans, after sowing the seed, along the window sill where the sun shines; keep moist. When it comes cool weather set them out of doors so as to harden slowly, when you wish to set out. When danger from frost is past, lay the cans down on the side in the sun for a day, until the lump of soil becomes loose. Have your border prepared for them in a warm, good place, not too rich; turn them out without breaking. Set about three feet apart; keep wet for a few days and they will not be disturbed. As they grow, prune and trellis.—*Western Rural.*

Killing Smut in Wheat.—There is no conclusive evidence to show that the various compounds used for soaking wheat actually kill the smut. On the other hand, evidence would seem to show that any wash strong enough to kill smut—*uredo*—will also destroy the vitality of grain. The probability is, rather, that as smut germinates quickly, the soaking and subsequent liming give the proper impetus to germinate them, and the lime forming a proper *nidus*, material growth ensues; and, subsequently, having no proper substance to sustain itself, it perishes before the smut is enabled to seize the growing plant.

Klippart mentions placing smut balls in a solution of nitrate of potash, dilute nitric acid, sulphate of iron, of copper, and of zinc, and even in dilute sulphuric acid. The smut so treated invariably manifested undoubted signs of vitality when surrounded by proper conditions. Therefore it is not safe to simply moisten wheat with lime or other washes.

The simplest and surest plan to prevent smut in wheat is to make a solution by using one pound of blue vitriol—sulphate of copper—to every two gallons of water. Make a sufficient quantity, so it may stand above the wheat. Stir the whole to allow the light material to rise. Skim, and at the end of an hour spread the wheat on a dry floor, and sprinkle with quick lime, previously so slaked with chamber lye as to leave the lime in powder. So continue until you have all the wheat treated. In this state it may be heaped and remain several days before sowing, if the heap be occasionally turned. If the wheat remains damp, it must be still further dried before sowing, if it is to be drilled, so it will pass easily from the drill.

Many farmers use brine. In this case the solution should not be stronger than a pound of salt to the gallon of water. Proceed as before directed, and dry with lime.

Some persons claim good success by sprinkling the wheat with a solution of five pounds of blue vitriol to six gallons of water, using this quantity for twenty bushels of wheat, turning the same until every grain is moistened, and sowing without further trouble. The way we have indicated is the surest, and in the end the cheapest, since the liquor can be used over and over again until exhausted. —*Western Farm Journal.*

Farmers' Troubles.—It appears, from recent statistics, that the farmers of our country, and of other countries generally, contribute more than their share of patients to the lunatic asylums. Now why is this? Is not the farmer too much a tyrant on his own little domain? Do not wife and children feel too keenly the iron rule of one-man power? There are honorable exceptions to be made, of course, in which one-man power makes the farmer's home an Eden; but, generally, do not domestics of both sexes rejoice when free from such a service as the farmer exacts, from early dawn to dewy eve, work, work—chores to fill out both margins of each day?

And alas for the poor overworked wife, who is expected to rise with the occasion, and not only to do the work of the house, for family great and small, comers and goers, the dairy, and the laundry, but to bring up from three to fifteen children, in a short life, and be a lady all the time, and then to die soon enough to make way for a second wife to come in and enjoy the fortune accumulated by the labor and care of the first.

The merchant and mechanic are constantly in company. Fits of ill humor do not become chronic; but contact with mankind, under favorable circumstances, wears off much of the rust of gloom and misanthropy; while the farmer may hold on to his fit of ill humor, or gloom, a long time, and no one be cognizant of the fact.

No doubt, farmers work more hours, work harder as a general thing, take less recreation, less time to read, and less time to converse, than men of other pursuits. Being often and much of the time left alone at their work, they allow the mind to run in one channel or course of thought, and their minds become unfruitful and barren, except on a few subjects, which are worn by use, until the brain becomes sore, or hardened into the ruts of habit. Farmers, ought this so to be?

JOS. CLARKE.

Gravel Walks.—A correspondent recommends the following mode for making tarred walks: First gravel the walk in the ordinary way, but do not give it so thick a coat as usual; beat well down to make a perfectly smooth and even surface, which coat well with tar. When this is done, put the final layer of gravel on the top—three-quarters of an inch to one inch will be quite sufficient, and again beat down, using the back of a spade for the purpose. The walk so prepared must not be trodden upon for two or three days, at the end of which time it will have become perfectly hard, and will not be affected by the heaviest fall of rain. The work must be done in fine weather, and the plan will be found better than using cement mixed with the gravel.—*English Mechanic.*

Prevention of Fire.—Keep matches in metal boxes, and out of the reach of children; wax matches are particularly dangerous, and should be kept out of the way of rats and mice. Be careful in making fires with shavings and other light kindlings. Do not deposit ashes in a wooden vessel, and be sure that burning cinders are extinguished before they are deposited. Never put firewood upon the stove to dry, and never put ashes or a light under a staircase. Fill fluid or spirit (or kerosene) lamps only by daylight, and never near a fire or light. Do not leave a candle burning on a bureau or chest. Always be cautious about extinguishing matches or other lighters before throwing them away. Never throw a cigar stump upon the floor, or into a spit-box containing sawdust or trash, without being certain that it contains no fire. After blowing out a candle, never put it away until sure that the snuff has

gone entirely out. A lighted candle ought not to be stuck up against a frame wall, or placed upon any portion of the wood-work in a stable, manufactory, shop, or any other place. Never enter a barn or stable at night with an uncovered light. Never take an open light to examine a gas-meter. Do not put gas or other lights near curtains. Never take a light into a closet. Do not read in bed, either by candle or lamplight.

The principal register of a furnace should always be fastened open. Stove-pipes should be at least four inches from wood-work, and well guarded by tin or zinc; rags ought never to be stuffed into stove-pipe holes; openings into chimney-flues for stove-pipes which are not used ought always to be securely protected by metallic coverings. Never close up a place of business in the evening without looking well to the extinguishment of lights and the proper security of the fires. When retiring to bed at night, always see that there is no danger from your fires, and be sure that your lights are safe.—*Builder.*

Putting Things Away.

Do women ever think how much time they spend in picking up and putting away? Of course we do not mean to intimate that it is wasted, or that all this labor is done unnecessarily. Women have a vast amount of such work to perform, and few men realize its extent or necessity until some accident or circumstance brings it home to them.

A married man said once that he never realized the amount of work done in bringing things out and putting them away until he happened to sit idly watching the operation of setting the table—"getting tea," as it was called—at a neighbor's house, washing the dishes, and clearing them away. It struck him for the first time, how much real labor had to be done in lifting and carrying between table and pantry, and he determined to lessen such labor at home as much as possible by constructing a kitchen in his house with every facility and convenience. He thought, with a sort of consternation, if one "tea" requires that amount of labor, what must the work of a house during a lifetime amount to? A very pretty problem which we should like to have answered.

It is a fact, however, that "putting away" becomes a sort of mania with some neat housewives, and not only gives them a vast amount of trouble, but sours their tempers, and is a source of annoyance to every member of the family. From a habit probably of being on one spot all the time, eternally seeing and doing the same things, it becomes a sort of mania, and is, in fact, a symptom of disease. We think a good plan in such a case would be for the husband to insist on his wife's taking a journey, making a visit home, or spending a couple of weeks at a watering-place. The change of scene, the breaking up of the monotony of her life, would do her a world of good. Her ideas would become enlarged, her thoughts travel out of their accustomed routine; and when she returned she would take up her duties less as a burden and more as a basket of flowers, from which to extract beauty and fragrance.—*Ex.*

To Detect Counterfeit Greenbacks.—An exchange gives the following rule; we cannot vouch for its reliability:—

Divide the last two figures of the number of the bill by four, and if one remains, the letter on the genuine will be A; if two remains, it will be B; if three, C; and should there be no remainder, the letter will be D. For example, a note is registered 2,461; divide the sixty-one by four, and there will be one remaining. According to the rule, the letter on the note will be A. In case the rule fails, be certain that the note is counterfeit.

Mealy Bugs.—For exterminating the mealy bug, I have never found anything so good as alcohol; or even common high-proof whisky will do. With a small soft brush one can soon clean the bugs from a hundred plants, no matter how badly infested. Dip the brush into the alcohol, and then let a drop or two fall upon a cluster of mealy bugs, and they will disappear. There are some very delicate kinds of plants which the alcohol will injure if used too freely; but there is not much danger in its application to the ordinary kinds cultivated in green-houses.—*Moore's Rural.*

Cabbage Plants.—Take a large head of cabbage, strip off the outer leaf, and slip off the bud found at the root of the leaf. Take this bud and simply set it in rich dirt, like any other plant. The result will be a fine growth of early cabbage plants, with heads larger and sounder than can be raised in the ordinary way.—*Pacific Rural.*

—A very able physician affirms that brain labor alone never causes disease; but that brain worry is the great cause of brain disease.

POPULAR SCIENCE.

In this Department Will Be Noted the Progress of Science, New Discoveries and Inventions.

Photographs of the Blood.—Drs. Cutter and Harriman have recently succeeded in obtaining micro-photographs of the blood corpuscles which represent the white corpuscles three-fourths of an inch in diameter. The microscope employed was the most powerful ever made in this country, and equal to any ever constructed anywhere. Its wonderful magnifying power will be better appreciated when it is remembered that the actual size of a white corpuscle is 1–2500 of an inch in diameter. To give it the appearance presented in the photograph, it required amplification to three and one-fourth million times its natural size.

This powerful instrument revealed curious changes in constant operation within the corpuscle, and also led to the observation of certain modifications in these little bodies which result from disease. It is hoped that important results may be reached by the careful study of the blood in this manner.

Universal Nature.—Nature has always had the credit of adapting her means to ends. The tenderness of her provision for the wants of the humblest of her creatures is illustrated by Mr. Darwin, who says that male grasshoppers use their hind legs to fiddle on the edge of their wings, and that the best fiddler first succeeds in fascinating the females. Behold how the industrious spider spins her web, and then sucks the blood of her husband and flings his carcass out in the back yard. Thus it is that the harmonies of life swell the grand diapason of the universe, as it were.

Effect of Light.—A tadpole confined in darkness would never become a frog; and an infant, deprived of heaven's free light, will only grow into a shapeless idiot, instead of a beautiful and reasonable being. Hence, in the deep, dark gorges and ravines of the Swiss Valais, where the direct sunshine never reaches, the hideous prevalency of idiocy startles the traveler. It is a very strange and melancholy idiocy. Many persons are incapable of articulate speech; some are deaf, some blind, some labor under all these privations, and are mishapen in almost every part of the body. I believe there is a marked difference in the healthfulness of houses, according to their aspect in regard to the sun, and those are decidedly the most healthful in which all the rooms are, during some part of the day, fully exposed to the direct light. Epidemics attack the inhabitants living on the shady side of the street, and totally exempt those on the other side; and even in epidemics, such as ague, the morbid influence is thus partial.—*Dr. Moore.*

—According to an ingeniously made estimate by M. St. Robert, as published in a French periodical, of the work capable of being performed by a man, it would be necessary to employ eight men to obtain one horse power. Estimating, therefore, from the French standpoint, the cost of coal at $10 per ton and the wages of a man at the very low rate of forty cents per day, the expense of this amount of power—one horse power—for a day of eight hours, would be about ten cents for the steam engine, and three dollars and twenty cents for its equivalent of eight men. The human machine is really greatly superior, in its efficiency, to the steam engine, giving out a much greater percentage of work, but it is far more costly.

—The following electrical experiment is described in *Comptes Rendus*, and opens up a new field of scientific research: A rubbed piece of resin is brought near the surface of water in a glass jar, the water communicating with the ground by a platinum wire. Positive electricity comes from the ground and is distributed over the water surface, and bubbles of water are liberated from the electrode.

—It is a scientific fact not very generally known that the earth gives light to the moon, as well as that luminary does to the earth. In fact, the quantity of light which we afford the moon is fourteen times as much as we receive. The earth would appear to "the man in the moon," if there were such an individual, like an immense moon.

—There is a Chinese tradition that "deceased killers of beef" (butchers, we presume) go to Hades, where some are tossed on knives, others on the hilts of swords; some have red-hot iron poured down their throats and others are tied to iron bed-posts.

News and Miscellany.

—There are 1,400,448 slaves in Brazil.

—Nearly all the fruit in East Tennessee has been killed by the frost.

—On the site of their big tree, the bereaved Bostonians have planted a little tree.

—An International Temperance Congress is to be held at Philadelphia, beginning June 13, 1876.

—A war between Austria and Russia, growing out of Turkish affairs, is regarded as not an improbable event.

—One of the most ingenious forms of lock now made—known as the magnetic—is constructed without keyhole, with changeable key, and is useless to all but the owner.

—The revolt of the Turkish provinces is growing still more serious. Fighting is reported from Bosnia. Turkey was never so seriously threatened, it is said, as by this rebellion.

—Latest news from Mexico is to the effect that the insurrection there is spreading. The Government claims that it possesses ample resources to meet all contingencies.

—Any woman in Minnesota who is twenty-one years old is eligible to any school-office, and can vote for school-officers or on any measure relating to public education.

—Moulton has been thrown out of court in his case against Beecher, on technical grounds. There seems a great reluctance on the part of the Plymouth people to try any case connected with the scandal on its merits.—*Sun.*

—It is reported from Iceland that the five hundred inhabitants of the Westmanna Islands —a group lying to the south of Iceland and belonging to Denmark—are probably dying of starvation.

—The highest structure in America is Trinity church, New York, which reaches a hight of 284 feet; the loftiest pyramid of Egypt goes up 450 feet; St. Peter's, Rome, 400; Strasburg cathedral, 461, and the new church of St. Nicholas, at Hamburg, 472.

—A. T. Stewart, the great merchant of New York, died in that city on the afternoon of April 10th, of inflammation of the bowels. He was born at Belfast, Ireland, and was aged about seventy-three years. His wealth is estimated at between eighty and ninety millions of dollars. His annual rentals and profits amounted to over a million dollars.

—It is an interesting fact, as recently stated, that the whole of the porcelain or chinaware now manufactured in China, is produced at the identical potteries which were established about 900 years ago. But the modern wares produced, as compared with those of centuries back, are of far inferior fabric and workmanship.

—Mr. Moody appeals to the pocket quite as powerfully as to the heart. He made an earnest effort to raise $250,000 in two days to extinguish the debt of the Young Men's Christian Association and to carry on revival work in New York City. The enormous sum of $123,000 was contributed and subscribed in one day, seemingly with very little effort.

—Articles are coming for the Centennial Exhibition in gratifying abundance. Twelve hundred tons additional are on their way from France, while a collection of paintings valued at $750,000 is coming from England. Canada is doing her part nobly, and will also be creditably represented. In view of this influx of goods, Philadelphia is likely to wear an altered aspect during the current month.

—According to the statements of foreign papers, Europe instead of anticipating the era of peace is preparing for war, and is already turned into a vast camp. An article in the London *Quarterly Review* states that arrangements are in progress by which it is intended that, in the event of a war, Russia should be able at short notice to command the services of upwards of 2,000,000 soldiers, France of nearly 1,500,000, Germany of above 1,300,000, and Austria of above 1,000,000. Similar preparations are being made by other continental nations. Thus there will be in training about 7,000,000 of armed men.—*Lansing Republican.*

SEASONING.

"THE best and oldest advertising medium —" an old maids' sewing circle.—*Norristown Herald.*

THIS is sometimes called the "Iron Age," but it is fast becoming the "Age of Steal."

"WHY should we celebrate Washington's birthday more than mine?" asked a teacher. "Because he never told a lie," shouted a little boy.

WOULD you like to raise the ire of an editor? Just send him a long communication written on both sides of the paper in a bad hand. It is sure to do it. Try it, skeptic.

"IT doesn't take me long to make up my mind, I can tell you!" said a conceited fop. "It's always so where the stock of material to make up is small," quietly remarked a young lady.

HERE is a soliloquy of a Parisian, inebriate, addressed to his hat, which had fallen off. It was overheard one night on the Boulevards: "If I pick you up, I fall; if I fall, you will not pick me up—then I leave you;" and he staggered proudly away.

THAT was a shrewd girl, and not devoid of sense either, who remarked, when other girls were making fun of her short skirts, and affected to be much shocked at the exhibition thereof at a party: "If you'd only pull up your dresses about the neck, where they ought to be, they'd be as short as mine!" She was not troubled any more.

Literary Notices.

THIRD ANNUAL REPORT OF THE SECRETARY OF THE STATE BOARD OF HEALTH OF MICHIGAN.

The amount of valuable information contained in this volume makes it deserving of the highest commendation. Much of its value may justly be attributed to the untiring energy of the able Secretary of the Board, Dr. H. B. Baker. We are highly gratified to see evident signs of the creation of a strong popular sentiment in favor of hygiene. Success to every enterprise looking in that direction.

GENERAL RULES FOR PUNCTUATION. By A. S. Hill. Cambridge, Mass. : Charles W. Sever.

This little work is a most admirable guide for those who wish to acquire a knowledge of punctuation with the least expense of time and labor. Every student ought to have a copy. We cannot give it a better recommendation than by quoting the first two paragraphs.

"Good sense determines the relations, whether of thought or of language, which marks of punctuation indicate : it is, therefore, the guide to correct punctuation.

"Since punctuation is one of the means of communication between a writer and his readers, it must vary with thought and expression : Sterne's punctuation must differ from that of Dr. Johnson, and, though in a less degree, Burke's from that of Macaulay. Hence, no one writer—even were books printed correctly, as is rarely the case—can be taken as a model. Hence, too, a system of rules loaded with exceptions, though founded upon the best usage and framed with the greatest care, is as likely to fetter thought as to aid in its communication."

FILTH DISEASES AND THEIR PREVENTION : By John Simon, M. D., F. R. C. S. Boston : James Campbell.

An admirable work, one of the best of its kind that we have seen. It ought to be in the hands of every physician, who, in turn, ought to impart to his patients the invaluable instruction which it contains. If the principles set forth in this little work were properly heeded, such terrific scourges as cholera, yellow fever, typhoid, typhus, and kindred diseases would soon be nearly exterminated. The work is especially adapted to the wants of physicians and health officers. It has received the official indorsement of the Massachusetts State Board of Health.

TWO DIETETIC EXPERIENCES. Another tract by the same publishers. It contains many useful facts, and ought to convince those who are so vigorous in demanding experimental evidence of the utility of vegetarianism.

A GREAT NATIONAL WORK. The Centennial History of the United States, from the Discovery of the American Continent to the Close of the First Century of American Independence. By James D. McCabe, Author of "A Manual of General History," "The Great Republic," etc., etc.

There has been a great and universally-felt want of a History of the United States suitable for general use. This want is now being supplied by The National Publishing Co., of Chicago, who have issued a handsome volume, styled "The Centennial History of the United States," by James D. McCabe, a well-known historical writer. This work will, undoubtedly, take rank as the Standard History of the United States. It is no dry mass of details—no bombastic effort to inflame the national pride, but is a clear, vivid, and brilliant narrative of the events of our history, from the discovery of the American Continent down to the present time. It traces the evidences of that mysterious race, the first occupants of our country, and gives a most interesting account of the Indians of North America, from the time of the coming of the white men. The voyages of Columbus, the explorations of the different nations of Europe, and the final occupation and conquest of the land by England, are told with graphic power.

Every step of our colonial history is traced with patient fidelity, and the sources of those noble, and we trust, enduring institutions which have made our country free and great, are shown with remarkable clearnness. The causes of our great struggle for Independence are told with a logical force and ability unsurpassed in any work of the day. Then follows a clear and succinct account of the formation of the Federal Constitution; the establishment of the Union; the course of affairs until the breaking out of the Second War with England; and a full and comprehensive account of that war and its results. The events of our career from the close of that contest to the commencement of the Civil War, follow in their order. The history of the Civil War is related with intense vigor, and with a strict fidelity to truth. The author pleads the cause of no party or section. He states facts, points out the lessons which they teach, and appealing to neither passion nor political feeling, trusts to the good sense of his countrymen to sustain his views. The book contains an Appendix, giving an account of the approaching Centennial Exhibition.

It is comprised in one large, handsome octavo volume of 925 pages, and contains 442 fine engravings on steel and wood, of historical personages and scenes. The price is so low that all can afford to purchase a copy, and each subscriber is presented with a superb lithographic engraving of the Centennial Exhibition Buildings and Grounds. It is sold by subscription only, and the publishers want agents in every county.

1876. The high standard of merit attained by the *International Review*, has called forth the highest encomiums. It has been pronounced "THE ACADEMIE FRANCAIS OF LETTERS," and a fearless "exponent of the ripest and best thought of the age."

Retaining the features which have contributed to its success in the past, it will continue to present original articles by writers of international fame, on topics of the day, literary, scientific, social, and religious, in language and treatment of a kind suited for popular as well as scholarly reading.

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The editorial resources have been greatly increased, and among other foreign writers of eminence, Ernst Curtius, the German archæologist; Carl Abel, the German philologist; Charles (Tennyson) Turner, poet; R. A. Proctor, scientist, have been added to the corps of contributors.

The department of Book Reviews will include Notices of the current publications of the Old World, and will be sustained by specialists of acknowledged ability, residing at the literary centers—New York, London, Paris, Berlin, and Florence.

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Items for the Month.

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New Books!

WE have just published two new pamphlets, and can supply orders for them at once. The subjects upon which they treat are practical ones, and deserving of attention.

THE EVILS OF FASHIONABLE DRESS, AND HOW TO DRESS HEALTHFULLY

Is the title of a pamphlet which considers the question of dress from a strictly physiological standpoint. It criticises the fashionable modes of ladies' dress, pointing out the numerous and painful diseases which result from wearing improper clothing. It also describes very fully a dress which, while modest, neat, and not necessarily peculiar, will enable women to clothe themselves as healthfully as men. All interested in the question of dress reform will want this pamphlet. Price, post-paid, 10 cents.

ALCOHOLIC POISON.

The Physical, Moral, and Social Effects of Alcoholic Poison, as a Beverage, and as a Medicine, is the title of the other pamphlet referred to above. It defines True Temperance, explains the Nature of Alcohol and how it is produced, describes its Physical Effects upon the human body, exhibits by statistics its Moral and Social Effects, considers the Cause and Cure of Intemperance, answers the Drunkard's Arguments, exposes the fallacy of Alcoholic Medication, and defends the Bible against the imputation that it advocates or even favors the use of alcoholic drinks. Price, post-paid, 15 cents.

These two works are presented in very elegant style, and are designed for a popular sale.

NEW HEALTH TRACTS.—The following new tracts are now ready : Healthful Clothing, True Temperance, Alcoholic Poison, Moral and Social Effects of Alcohol, Cause and Cure of Intemperance, The Drunkard's Arguments Answered, The Bible and Temperance, Medical Use of Alcohol.

These tracts range in size from four to thirty-two pages each, and will be furnished at the low rate of 800 pp. for $1.00, at retail, and at one-half discount, by the quantity, for gratuitous distribution.

PACKAGES OF HEALTH TRACTS.—We are now prepared to furnish health tracts in packages containing fourteen tracts, and more than 200 pp. of reading matter, post-paid, for 25 cents. A package of these tracts is a sort of condensed library of hygienic truth, and would be an excellent means of introducing the subject to an inquiring friend.

CENTENNIAL EXPOSITION.—We expect to visit Philadelphia immediately for the purpose of completing arrangements for an exhibition of our publications there. Any one who has important suggestions may address us at the Centennial Hygienic Hotel, 801, 803, North 45th St., Phil.

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THE following is a brief description of the several garments for which we can furnish patterns.

No. 1. A flannel undergarment to be worn next to the skin. It covers the whole body from neck to wrists and ankles. Price, 50 cts.

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