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MAY, 1888.

CHRONIC NASAL CATARRH.

FIFTH LECTURE.

Third Stage.—All persons who pass through the second stage of catarrh do not suffer from all the conditions described; but all are afflicted with more or less of the evil consequences which grow out of the overgrowth and thickening of the various structures of the nose, which are the natural results of chronic congestion of these parts. After a long time, however, many of these symptoms begin to disappear. The patient finds that he is less troubled with obstruction of the nasal passages. The discharge decreases,—perhaps disappears entirely. Occasionally, however, the patient is troubled with a slight itching on one side, just within the nostril. To relieve the itching, a small scab is removed, which is usually followed by a little blood. The scab grows larger and larger until, after a time, profuse bleeding of the nose follows each time the scab is removed. This goes on for months or even years, until by and by the patient or some physician discovers that there is a hole through the septum of the nose, from one side to the other. The ulcerative process which the presence of the scab indicated, has continued until the cartilaginous portion of the itching septum has been eaten away.

In the meantime, the patient has been congratulating himself that he has outgrown the disease, or worn it out. The disappearance of the nasal discharge and nasal obstructions seem to indicate this. He notices, however, a slight impairment of hearing; and on consulting a specialist in ear diseases, finds that he has catarrh of the ear, the origin of which was in the nasal catarrh, which has extended through the Eustachian tubes to the ears.

The patient observes, too, that his eyes are red in the morning. This is another relic of the frequent chronic catarrhs which have extended from the nasal cavity to the eyes.

Close contact with the patient will acquaint us with another symptom, of which the patient himself is not usually aware; namely, a peculiar fetor of the breath, which is characteristic of the third stage of nasal catarrh. The patient himself is not conscious of the odor, for the reason that Nature kindly deprived him of the sense of smell before this stage of the disease was reached. If we glance into the nasal cavities of a patient suffering from catarrh in this stage, we find a condition very different from that in the preceding stage. The hypertrophies and thickenings have disappeared. The lining of the nose is no longer red and

congested. There is now no obstruction of the nasal passages. There seems, indeed, to be too much room. The patient sometimes complains, especially when breathing cold or dry air, that the air passes through the nasal passages so freely and forcibly as to produce unpleasant symptoms in the throat. The nasal passages are dry from insufficient secretion. Their walls have a grey and shining appearance. The mucous membrane seems to be so thin as to be almost transparent. Here and there we notice little masses of hard, dry crusts, which, when removed and examined, are found to have a most disgusting odor. These are little masses of secretion which, being too thick to be discharged in the ordinary manner, remain where formed, and undergo decomposition. Underneath these decaying masses, the thin mucous membrane becomes corroded and finally ulcerates, forming an open sore, from which bloody scabs are thrown off, finding exit through the nostrils or falling backward into the throat. This is the source of the putrescent odor.

If we look into the throat, it will be found to have the same pale color observed in the nose, and a dry shiny appearance. Here there are small red patches and enlarged blood vessels. The tonsils, like the hypertrophies of the nose, have shrunk away. The symptom of which the patient himself complains most, is the annoyance of "hawking" and "spitting," which is necessitated every morning to clear out the throat or to relieve a most unpleasant irritation or itching which is frequently experienced there.

Sometimes he is made wretched by a sensation as though there were a hair in the throat. This is caused by the presence of the enlarged follicles previously described.

So we find that although our patient may have imagined that he had outgrown or worn out his catarrh, his last condition is really worse than the first. There is really no such thing as outgrowing or wearing out the disease. Unless it is cured by proper treatment, it marches steadily on from the first stage to the last, developing in each case

more or less of the various symptoms and conditions which have been described, with numerous others which we have not taken time to mention.

The next portion of the subject which we shall consider will be "The Causes of Acute and Chronic Nasal Catarrh."

THE GOSPEL OF HEALTH.*

BY E. DE WITT TALMAGE.

Text: "Till a dart strike through his liver." Prov. 7: 23.

SOLOMON'S - anatomical and physiological discoveries were so great that he was nearly three thousand years ahead of the scientists of his day. He, more than one thousand years before Christ, seemed to know about the circulation of the blood, which Harvey discovered sixteen hundred and nineteen years after Christ; for when Solomon, in Ecclesiastes, describing the human body, speaks of the pitcher at the fountain, he evidently means the three canals leading from the heart, that receive the blood like pitchers. When he speaks in Ecclesiastes of the silver cord of life, he evidently means the spinal marrow, about which in our day, Drs. Mayo, Carpenter, Dalton, Flint, and Brown Sequard have speculated. And Solomon recorded in the Bible, thousands of years before scientists discovered it, that in his time the spinal cord relaxed in old age, producing the tremors of hand and head: "Or the silver cord be loosed."

In the text he reveals the fact that he had studied that largest gland of the human system, the liver, not by the electric light of the modern dissecting-room, but by the dim light of a comparatively dark age; and yet had seen its important function in the God-built castle of the human body, its selecting and secreting power, its curious cells, its elongated, branching tubes; a Divine workmanship in central, and right, and left lobe, and the hepatic artery through which God conducts the crimson tides. Oh, this vital organ is like the eye of God, in that it never sleeps! Solomon knew

*A sermon preached in the Brooklyn Tabernacle, Sunday morning, November 20, 1887.

of it, and had noticed, either in vivisection or post-mortem, what awful attacks sin and dissipation make upon it. . . . A javelin of retribution, not glancing off, or making a slight wound, but piercing it from side to side. "Till a dart strike through his liver." Galen and Hippocrates ascribe to the liver the most of the world's moral depression, and the word "melancholy" means "black bile."

I preach to you this morning the gospel of health. In taking diagnosis of the diseases of the soul, you must also take diagnosis of those of the body. You may have the head filled with all intellectualities, and the ear with all musical appreciation, and the mouth with all eloquence, and the hand with all industries, and the heart with all generousities; and yet "a dart strike through the liver."

First, let Christian people avoid the mistake that they are all wrong with God because they suffer from depression of spirits. Many a consecrated man has found his spiritual sky befogged, and his hope of heaven blotted out, and himself plunged chin-deep in the Slough of Despond, and has said: "My heart is not right with God, I think I must have made a mistake, and instead of being a child of light, I am a child of darkness. No one can feel as gloomy as I feel, and be a Christian." And in this way he has gone to his minister for consolation, and collected Flavel's books, and Cecil's books, and Hunter's books; and read and read and read, and prayed and prayed and prayed, and wept and wept and wept, and groaned and groaned and groaned. My brother, your trouble is not with the heart, it is a gastric disorder or a rebellion of the liver.

It is not sin that blots out your hope of heaven, but bile. It not only yellows your eyeballs, and furs your tongue, and makes your head ache, but swoops upon your soul in dejections and forebodings. The devil is after you. He has failed to despoil your character, and he does the next best thing for him—he ruffles your peace of mind. Edward Payson, sometimes so far up on the

mount that it seemed as if the centripetal force of earth could no longer hold him, at other times, through a physical disorder, was so far down that it seemed as if the nether world would clutch him. Glorious William Cowper was as good as good could be, and will be loved in the Christian church as long as it sings his hymn beginning, "There is a fountain filled with blood;" and his hymn beginning, "Oh, for a closer walk with God;" and his hymn beginning, "What various hindrances we meet;" and his hymn beginning, "God moves in a mysterious way;" yet he was so near overcome of melancholy, or black bile, that it was only through the mistake of the cab-driver, who took him to a wrong place, instead of the river bank, that he did not commit suicide.

"Oh," says some Christian man, "no one ought to allow physical disorder to oppress his soul. He ought to live so near to God as to be always in the sunshine." Yes, that is good advice; but I warrant that you (the man who gives the advice) have a sound liver. Thank God for every day of healthful hepatic condition; for just as certainly as you lose it, you will sometimes, like David, and like Jeremiah, and like Cowper, and Alexander Cruden, and ten thousand other invalids, be playing a dead march on the same organ with which you now play a toccata. My object at this point is not only to emolliate the criticism of the well against those in poor health, but to show Christian people who are atrabiliarian what is the matter with them. Do not charge against the heart the crimes of another portion of your organism. Do not conclude that because the path to heaven is not arborescent with as fine a foliage, or the banks so beautifully snowed under with exquisite chrysanthemums, as once, that, therefore, you are on the wrong road. The road will bring you out at the same gate, whether you walk with the stride of an athlete or come upon crutches. Thousands of Christians who are morbid about their experiences, and morbid about their business, and morbid about the present, and morbid about the future, need the sermon I am now preaching.

Another practical use of this subject is for the young. The theory is abroad that young men must first sow their wild oats, and afterwards Michigan wheat. Let me break the delusion. Wild oats are generally sown in the liver, and they can never be pulled up; they so pre-occupy that organ that there is no room for the implantation of a righteous crop. We see men about us at eighty,—erect, agile, splendid, grand old men. How many wild oats did they sow between the ages of eighteen and thirty?—None, absolutely none. God does not very often honor with old age those who have in early life sacrificed swine on the altar of the bodily temple. Remember, O young man, that while in after life, and after years of dissipation, you may, perhaps, have your *heart* changed, religion does not change the liver. Trembling and staggering along these streets, are men all bent, and decayed, and prematurely old, for the reason that they are paying for liens they put on their physical estate before they were thirty. By early dissipation they put on their body a first mortgage, and a second mortgage, and a third mortgage to the devil; and these mortgages are now foreclosing, and all that remains of the earthly estate of these men the undertaker will soon put out of sight. Many years ago, in fulfillment of my text, a dart struck through their liver, and it is there yet. God forgives, but outraged physical law never, never, never. That has a Sinai, but no Calvary.

Stephen A. Douglas gave the name of "squatter sovereignty" to those who went out West and took possession of lands, and held them by the right of pre-occupation. Let a flock of sins settle on your heart before you get to twenty-five years of age, and they will, in all probability, keep possession of it by an infernal squatter sovereignty. "I promise to pay at the bank five hundred dollars, six months from date," says the promissory note. "I promise to pay my life, thirty years from date, at the bank of the grave," says every infraction of the laws of your physical being.

That young man smoking cigarettes and cigars has no idea that he is getting for himself a smoked liver. That young man

has no idea that he has by early dissipation so depleted his energies that he will go into battle only half armed. Napoleon lost Waterloo days before it was fought. Had he attacked the English army before it was reinforced, and taken it division by division, he might have won the day; but he waited until he had only one hundred thousand men against two hundred thousand. And here is a young man who, if he put all his forces against the regiment of youthful temptations, might, in the strength of God, drive them back, but he is allowing them to be reinforced by the whole army of mid-life temptations; and when all these combined forces are massed against him, and no Grouchy comes to help him, and Blucher has come to help his foes, what but immortal defeat can await him?

Some years ago a scientific lecturer went through the country exhibiting on a great canvas different parts of the human body when healthy, and different parts when diseased. And what the world wants now is some eloquent scientist to go through the country, showing to our young people on blazing canvas the drunkard's liver, the idler's liver, the libertine's liver, the gambler's liver. Perhaps the spectacle might stop some young man before he comes to the same catastrophe, and the dart strike through his own liver.

My hearer, this is the first sermon you have heard on the gospel of health, and it may be the last you will ever hear on that subject; and I charge you in the name of God and Christ, and usefulness, and eternal destiny, take better care of your health. When some of you die, if your friends put on your tombstone a truthful epitaph, it will read: "Here lies the victim of late suppers;" or it will be: "Behold what chicken salad at midnight will do for a man!" or it will be: "Ten cigars a day closed my earthly existence;" or it will be: "Sat down in a cold draught, and this is the result;" or it will be: "I died of wearing thin shoes last winter;" or it will be: "Went out without an overcoat, and took this last chill;" or it will be: "Thought I could do at seventy what I did at twenty, and I am here;" or it will be: "Here is the consequence of

sitting a half day with wet feet ;" or it will be : "This is where I have stacked my harvest of wild oats ;" or, instead of words, the stone-cutter will chisel for an epitaph on the tombstone two figures ; namely, a dart and a liver.

BETEL-NUT CHEWING.

THE betel-nut, the fruit of a species of palm, is extensively used by oriental people, espe-

cially by tribes of the Malay race, as a masticating narcotic. Men, women, and children indulge in its use. The "chew" is prepared for the mouth by scraping the nut and placing the scrapings in the leaf of a pepper-plant, which is spread with moistened quick-lime. To one who is unaccustomed to it, the effect is quite as unpleasant, though of shorter continuance, as that derived from the first mouthful of tobacco. The head swims, the mouth feels as though burned with a red-hot iron, and for a time the sense of taste is completely deadened. Very few foreigners ever become habituated to the use of the nut, but in the

East the habit is so nearly universal that it has been calculated that fully one-tenth of the inhabitants of the globe are addicted to it. The mastication causes discoloration of the teeth and gums, and a copious flow of saliva of a blood-red color, which was frequently mistaken by the first travelers to India for hemorrhage of the lungs. Its effect on the teeth is so pernicious that it is not uncommon to see young men of twenty-five who are utterly



BETEL-NUT MANUFACTURER.

cially by tribes of the Malay race, as a masticating narcotic. Men, women, and children indulge in its use. The "chew" is prepared for the mouth by scraping the nut and placing the scrapings in the leaf of a pepper-plant, which is spread with moistened quick-lime. To one who is unaccustomed to it, the effect is quite as unpleasant, though of shorter continuance, as that derived from the first mouthful of tobacco. The head swims, the mouth feels as though burned with a red-hot iron, and for a time the sense of taste is completely deadened. Very few foreigners ever become habituated to the use of the nut, but in the

toothless. The preparation of the betel-nut gives employment to hundreds of native Indians, who use for that purpose sets of curious little brass utensils. In the engraving our artist has represented a manufacturer of the betel preparation seated with the implements of his trade before him. At the left of the picture is seen the pepper-plant, from which the leaf wrapper is obtained. It is a singular fact that the sheds in which the betel peppers are raised are generally the haunts of dangerous snakes, so that the cultivation of the plant is frequently attended with considerable loss of life. Why the inhabitants of the East should

choose to defile themselves with a substance so injurious in its effects and so unpleasant to the senses, is a question that can best be answered, perhaps, by some devotee of tobacco-chewing,—a practice which is much more baneful in its results, and as filthy, if not more so, to the eye of the beholder, as the habit of the Hindoos.

THE SCIENTIFIC AMERICAN AND TOBACCO-USING.

THE *Scientific American*, which is a very good authority on most subjects which it undertakes to discuss, in a recent editorial took up the cudgel in defense of tobacco-using. We have not space for the entire article, to which a correspondent has asked reply, but present the following as a fair sample of the arguments adduced:—

1. "Men are, on the whole, as healthy as women; while nine out of ten of the male population use tobacco, and women as a rule abstain."

2. "Smoking, when done at proper times, facilitates digestion. Dyspepsia sometimes follows discontinuance of tobacco, and is removed when the habit is resumed."

3. "Hammond found a gain in weight by the use of tobacco."

4. "Boerhaave, of Holland, over two hundred years ago, referred to tobacco as being antidotal to hunger."

5. "Soldiers of all nations use it. It was a standing injunction of Napoleon that his troops should have tobacco; and it was a great advantage in the retreat from Moscow after the defeat. When on picket duty, a soldier would risk his life to strike a match for his pipe."

6. "Situations of loneliness are always rendered more tolerable by tobacco; and it is the constant companion of those who lead lives of solitude, such as that of the herdsman or ranchman."

7. "A feeling of unrest or discontent, made up of ill-defined longings, of imaginary disappointments, and unpleasant anticipations, commonly known as *ennui*, is responsible for

much unhappiness. This unfortunate condition of mind is removed by the soothing influence of a cigar, and the moroseness and gloom are quickly dispelled. As much of every day is filled up with care, our degree of comfort in this life will depend largely upon our ability to bear it uncomplainingly. That tobacco assists us to do this, that it enables us to look upon life more complacently, must be the conclusion of every one who has experienced its influence.

8. "That it enables us to toil with less fatigue, is equally true. The readiest writers generally use tobacco, and cannot accomplish the same amount of work in the same time without it; and those connected with newspaper and other literary work, who have often to write against time, find it of inestimable value."

The *Scientific American* adds to this eulogy on tobacco the assertion that "while a blessing to men, it is a curse to boys," and insists that its use by them ought to be prohibited by legislation, since it is responsible for "the worst results."

REPLY TO THE ABOVE.

Our scientific friend has made out an excellent case *against* the use of tobacco, as will be seen by an examination of each of the articles:—

1. This argument implies necessarily that women are as healthy as men; and yet there is a continual complaint about the "ill-health of women." If, with the evil effects of corsets, high-heels, and other "follies of fashion," together with their in-door life and general neglect of physical culture, to say nothing of numerous other gross violations of the laws of health, women are still as "healthy as men," there must certainly be some powerful cause at work undermining the health of the male portion of humanity; for certainly men, with their more healthful dress, their more active and out-of-door life, and their more vigorous physical development, ought to be greatly superior in health to women. To say that "men are as healthy as women" is a very doubtful compliment.

But as a matter of fact, statistics show

that women, notwithstanding their many unhygienic ways and disadvantages, are really, on the whole, longer lived than men. Certainly, if tobacco is such a good thing for men, it ought, other things being equal, to make them healthier than women; whereas, the disadvantage is wholly in their favor, and yet the superiority healthwise is with the other sex.

2. The same argument is constantly used to show that whisky, tea and coffee, condiments, and numerous other harmful things are wholesome. The Mexican is certain that his red peppers, which he consumes in great quantities, are essential to his digestion; while the Parisian is equally sure that the asafetida with which he flavors his soup is equally useful to him in the same way. There are dozens of drugs which seem to aid digestion, and do temporarily relieve indigestion; and yet every wise physician knows that the continual use of these substances is uniformly harmful. They act simply as whips, which stimulate the stomach to do more work than it is really capable of doing without injury.

A person who has been accustomed to the use of stimulants of any sort suffers from indigestion when their use is interrupted. This effect is only temporary, and disappears as soon as the stomach recovers its natural tone, so that it is able to perform its work in a natural manner. The fact that dyspepsia follows the discontinuance of the use of tobacco is a pretty certain evidence of its harmful and stimulating character.

3. Hammond is nowhere recognized as an authority in experimental physiology. No doubt the experiments referred to were performed in a manner which would not for a moment stand the test of scientific criticism. Nevertheless, granting the results to have been scientifically correct, they show that the use of tobacco causes a reduction in the amount of waste matter which ought to have been eliminated,—a result which naturally follows the overburdening of the skin, kidneys, and other eliminative organs in their efforts to get rid of the poisonous nicotine introduced by smoking or chewing.

4. Every tobacco-user knows that an extra

quid or pipe answers very well in place of a dinner, if circumstances render it inconvenient to eat at the accustomed time. This is simply an illustration which affords the most positive evidence of the narcotic character of the drug. Opium and a dozen other narcotics will do the same thing. Tobacco simply causes the man not to feel hungry when he really is hungry. In other words, through its narcotic influence, it renders him oblivious to his condition. It is very difficult to say how this can be any advantage to an individual. Hunger is one of those natural voices by which the necessities of the body are made known. Certainly it can be no advantage to a youth to silence or put to sleep sentinels which nature has intrusted with the important duty of giving warning respecting dangers which threaten the citadel of life.

5. Napoleon is a very poor authority to quote in favor of tobacco-using. The physician who attended him during his last illness asserted that he was killed by his own snuff-box. Napoleon declared that ordinary men were simply "food for powder." To gratify mere personal vanity and ambition, he forced his armies to undergo almost unprecedented privations and sufferings. Doubtless such a man was very willing that those for whose lives he cared not a farthing, except as they might be used to forward his personal interests, should be kept continually under the influence of a drug which would to some degree render them oblivious to the cruelties to which they were subjected.

A certain school-teacher once explained that the reason why she kept her school-room so close and overheated was that when the room was in this condition, she found her pupils much more easily managed than when it was well ventilated and kept at a proper temperature. On the same principle, Napoleon doubtless found a nicotinized army more manageable than those whose senses were in a normal condition.

That a picket on duty should risk, not only his own life, but the lives and safety of others, to enable him to enjoy his pipe, is an evidence of mental stupor and moral torpitude which

certainly argues strongly against the use of tobacco. No man would risk his life for a dinner, or for any wholesome article of food, when he knew that by waiting a few hours, he could indulge his appetite to his heart's content, in perfect safety.

6. Tobacco renders loneliness more tolerable only by the stupidity which it induces, thus causing one to become more or less oblivious to his condition. Any narcotic drug will accomplish the same result and in the same way; but there are other and better means of relieving loneliness than stupefaction, one of which is mental occupation. Tobacco is, indeed, the constant companion of thousands, even of those who do not lead lives of solitude. There are plenty of men who travel and spend a considerable portion of their lives in the companionship of quids, pipes, cigars, and snuff-boxes, to the neglect of more improving associates. If a man is known by the company he keeps, one may readily accede to the definition of a cigar formulated by a wag; namely, a "roll of tobacco with a fire at one end and a fool at the other."

7. The same narcotic influence which deceives a man into a condition of content when he is hungry or lonely, will also, by its "soothing influence," quickly dispel "moroseness and gloom," and enable him to look upon life more complacently; but this is precisely the argument used by the inebriate and the opium slave. It is equally true of hashish and chloral and half a dozen other narcotic drugs. If there were no other solace for human grief and care, perplexity, and trouble, the use of a poisonous drug might seem to be excusable; but the experience of the world long ago demonstrated that to "drown trouble" is not to cure it. Certainly no intelligent person will attempt to maintain that a man's cares and perplexities are rendered any less by his being made oblivious to them. Life viewed through a cloud of tobacco-smoke may have a more "complacent" aspect to the tobacco devotee, but it is only because his eyes are smoke-blinded. His felicity is simply an illusion. The reality remains the same.

8. That tobacco "enables one to toil with

less fatigue" is not true. The sensation of fatigue may be less, but the actual physical exhaustion has been proved to be true of both physical and mental exercise performed under the influence of any narcotic. At the time, the labor seems to be performed with less effort, but afterwards the sense of exhaustion is greater. This was found by Parkes to be true, even of such mild narcotics as tea and coffee. Those who have been accustomed to the use of tobacco or any other narcotic stimulant or drug, often find themselves incapable of doing anything when deprived of their accustomed stimulus. A horse accustomed to the whip will not show his speed without a vigorous application of the accustomed goad. So with the opium slave, the inebriate, or the tobacco devotee.

He must feel the stimulus of his accustomed poison before his vital machinery can get up steam enough to do its work. But work done in this manner is never the best work. The horse which travels under the influence of a whip makes a spurt when the lash is vigorously applied, but soon settles down to a snail pace, from which he is aroused only by another sting of the whip. So with a man who depends upon tobacco or any other drug. To lash his dormant energies into activity he must keep up a continual application of the whip, and with increased vigor, or he is unable to accomplish anything at all; and at the best his efforts are fitful. A brain poisoned with nicotine can never do its best work.

Much more might be said in exhibiting, or rather, in showing the potency, as anti-tobacco arguments, of the reason advanced by our contemporary; but we forbear. We have made no reference to the admission made that tobacco-using is bad for boys, and capable of producing the "worst results," the necessary conclusion from which is evident.

We have always entertained great respect for the *Scientific American* as a reliable source of instruction on many branches of science; and certainly we are very sad to find so able and influential a journal engaged in an effort to uphold a practice which intelligent

men and women throughout the whole civilized land are, in daily increasing numbers, coming to condemn in most emphatic terms.

ANSWERS TO THE QUESTION-BOX.

AGAIN I sit before the "question-box" of the Sanitarium, while Dr. Kellogg draws forth its interrogation points and makes answer:—

Eggs are good food for healthy stomachs; but stomachs with poor digestion should receive food that will be digested chiefly in the small intestines, as well-cooked grains, fruits, and milk; but where there is great flatulence in the bowels, food digested in the stomach, as meat and eggs, may be used. The alimentary canal is about thirty feet long, and indigestion may locate at any point on the stream, from the teeth to the colon. Tobacco spoils the saliva, and causes mouth-indigestion.

Fruits, grains, and milk are also the best antidote to dyspepsia, nor can the drink-maniac be cured while using tobacco.

While many invalids are killed by codding, the much exposed races, as our Indians, are not of long life, but are worn out in keeping warm: as we economize heat, other things being equal, we have more food material to use.

In good health, eat just enough to preserve your weight, and with some reference to your work and the weather.

A walk before breakfast, while good for a healthy person, is usually not good for the invalid; he needs all of his vitality for his knife and fork.

Buttermilk is a wholesome drink, if made from sweet cream; but the cream should not be more than twelve hours old. Rank, old buttermilk is an abomination; and the butter churned from it is not fit to enter a human stomach.

The onion is not fit to be eaten unless first minced, and its acrid oil washed away, as the poison is washed from the tapioca root.

Eating the skins of apples and potatoes is not conducive to health, for they are mere wood, quite indigestible and innutritive. Her-

bivorous stomachs can digest wood, but ours cannot.

Baking-powder, the doctor makes out to be conducive to indigestion, for it leaves behind, dregs nearly equal to its own weight, made up of tartrate of soda, etc.,—stuff which no modern Solomon would think of giving a "season pass" to his stomach; the Sanitarium lifts its bread, rolls, and corn bread up to lightness with pure air or leaven. A baking-powder firm offered GOOD HEALTH a tall price for leave to put in an advertisement of its powder, but this magazine could not be tempted to take the bribe.

Muscular hard work is a good thing, and gymnasium exercise the best for systematic, even development. If you are well, it will take hard work to keep so; and if you are ill, it will take hard work to get well. One hour a day in a good gymnasium is worth \$500 a year to any man worth saving, for an extra inch of lung often carries the sick man through pneumonia, or some other malady.

A.

An Unsanctified Deacon.—A Boston deacon came up to the desk of an evangelist who had been conducting a service. "So you think you are sanctified, do you?"

"Yes, I hope I am."

"Well, I do not think I am," said the deacon.

"No; I should think you were n't," said the preacher; a sanctified man does not smell of tobacco juice from head to foot." And the deacon, after thinking it over, came to the same conclusion, and gave up the idol he had been worshiping.

We have no means of knowing the moral status of the evangelist in question, but are glad to know that, at least, he did not, like Spurgeon, believe the odor of tobacco to be a sweet incense upon the altar of self-consecration. The last-named "divine" asserts that he "smokes to the glory of God." The learned Dr. Adam Clarke had a different idea. He declared that if he were going to make an offering to the devil, it should be a roast pig stuffed with tobacco.



EFFECTS OF TIGHT-LACING ON ANIMALS.

"WHAT next?" some reader will exclaim. "If the lower animals have taken to tight-lacing, what may we not expect next?" But it is not a case of fashionable suicide we are going to speak of. There is not a case on record in which a horse, a cow, a dog, or even so vain and fashionable a creature as the peacock, has voluntarily indulged in the depraved and destructive practice of deforming its body, and jumbling its internal organs out of shape by the aid of that modern instrument of torture, the corset. Dr. W. B. Neftel read a paper before the Section of Medicine, at the International Medical Congress, held at Washington last fall, in which he described the effects of tight-lacing on rabbits and dogs. A number of each of these animals were subjected to experiments, with the following results:—

A healthy black rabbit had a bandage applied with moderate pressure around the chest and belly, the pressure being applied at the same points as in the wearing of a corset. In just four days the rabbit was found dead. The symptoms had been shortness of breath and difficulty of breathing. A post-mortem examination was held, which showed congestion of the internal organs and enlargement of the right side of the heart. Another rabbit treated in the same way, died in thirteen days; still another, in ten days. In the case of the last animal, the bandage was loosened after a few days, but the animal continued to grow worse, and died on the tenth day. The internal organs were found greatly congested

in each case. Even when the bandage was applied so loosely that there really seemed to be no pressure, the animals sometimes died without other assistance. (Ladies who are sure that their corsets are "very loose," will please take note of this.)

One condition which we have not mentioned, and which was present in every case, was an enlarged and inflamed liver. This is doubtless one reason why ladies who wear corsets, find the use of cosmetics a necessity. Murder will out. When the liver is squeezed, it makes a bad face about it, and any creature, beast or human being, is certainly wholly excusable for making faces when treated so shamefully as the livers of corset-wearing women and rabbits are treated.

Dr. Neftel also experimented with dogs. The dogs were tougher than the rabbits, but precisely the same symptoms were produced. In some instances, in experimenting with dogs, the doctor was obliged to put on a plaster of Paris corset in order to imitate those iron-clad coats of mail which are worn by some women whose well-formed bodies do not readily conform to the latest fashion as to size and figure.

These experiments of Dr. Neftel, though cruel in their nature, are exceedingly instructive, and may prove the means of saving many lives. The poor rabbits and dogs which the doctor sacrificed, laid down their lives for the millions of corset-choked women who imagine that, because that fiery-tempered creature, the wasp, is so constructed that one is left momentarily in doubt whether the lower half of its body was originally intended to belong with the

upper half, or was an after-thought hitched on for some wise purpose,—that this strange creature, whose chief business in the world seems to be to make things warmly uncomfortable to those who come in its way, was intended as a model for themselves. A woman with a wasp waist should be held only indirectly accountable for being waspish in her disposition; and if she dies early of inflammation of the liver, or dyspepsia, or consumption, or worn out “nerves,” and all sorts of horrible diseases of the delicate internal organs, it is only another illustration of the widely-observed law of nature which secures the “survival of the fittest,” but this does not mean those who are fitted the tightest. Nature says to the woman who squeezes her internal organs into all sorts of monstrous shapes: “You have committed a crime which renders you unfit to live out the natural length of human life. You must die prematurely, a victim of your own wrong doings. Your sons and daughters will be deprived of some part of their just inheritance of health; and unless reinforced by purer and better behaved blood, your race will grow weaker and feebler, until it runs out.” How many family lines have been extinguished by corsets, no statistician has yet told us; but Dr. Neffel has proved by demonstration that even moderately tight-lacing kills rabbits and dogs; and there may be room to hope that sometime in the future, constriction of the waist, like constriction of the throat, will be regarded as an ignominious mode of death, rather than the requirement of the highest fashion.

Corsets in Japan.—Sho Nemoto, a Japanese student at the University of Vermont, asserts that women in Japan are making rapid progress in acquiring English ideas; in evidence of which he adduces the fact that they are studying English books and learning how to wear hats and corsets. In our estimation, nothing could be more unwise than any effort to induce Japanese women to abandon their simple, graceful, and healthful style of dress, for the hideous, deforming, and disease-generating fashions which originate in the Parisian demimode.

RATIONAL DRESS.

ALL dress reformers agree that, aside from shortening the outer dress to a convenient length, and relieving it of unnecessary weight, the essentials of a rational reform in dress pertain chiefly to the underclothing. Doubtless, greater harm results from the wearing of corsets and heavy skirts than from all other errors in dress combined. Mrs. Jenness Miller, who has made many valuable improvements in woman's dress, recommends



Cut 1.

Cut 2.

three garments, aside from foot gear, as essentials for underdress.

By permission, we copy the following description and cuts from the February number of the journal, *Dress*:—

“The Union Suit, as shown in cut 1, is the first garment worn, and can be purchased in silk, pure Jaeger wool, white wool, merino, light and heavy weights, and lisle thread. This garment fits the body perfectly, and as it is made to order, can be purchased either in high or low necked style, and with long or short sleeves, as may be desired. The cut paper pattern costs thirty cents, and may be used by those who do not feel that they can afford the ribbed goods.

“The chemilette, the second garment worn (illustrated by cut 2), may be made of cotton, linen, or silk, and the patterns are for sale in

both the high and low necked styles, at thirty cents each. This garment takes the place of both chemise and drawers, and is convenient and elegant in shape.

"The Turkish leglettes (cut 3), or divided petticoat, is an improvement over every other means for clothing the legs under the dress skirt. With this garment one gets a minimum of weight, with a maximum of warmth, while the freedom in the use of these necessary members is a great argument in favor of a



Cut 3.

bifurcated garment. If it is preferred, the "plain leglettes" may be worn instead of the Turkish. We are often asked to demonstrate the superiority of these garments to the ordinary skirt, but we can only reply, 'Try for yourselves,' for each new wearer writes us of

some point in its favor, which had not yet suggested itself to us; but we do not hesitate to say that for cleanliness, convenience, comfort, and safety in traveling about, these garments are preferable in every respect to the traditional petticoat."

Some who have worn the Turkish leglettes prefer to gather the skirts at the bottom by attaching to each of them a piece of webbing.

Tight-Lacing and Gall Stones.—An eminent German physician, Prof. F. Marchand, of Marburg, has demonstrated that the wearing of tight corsets is a frequent cause of gall stones. The effect of tight-lacing is to compress the duct which leads from the gall bladder to the intestines, causing distension of the gall bladder, with retention of the bile, which, of course, favors the formation of gall

stones. The professor also affirms that many cases of cancer of the liver are attributable to tight-lacing, which, by mechanical pressure, occasions atrophy and other degenerating changes in the liver. The terrible effects which tight-lacing has on the liver are well appreciated by all who have made extensive pathological studies in any large hospital. It is common to find, in post-mortem examinations, a liver cut nearly in two by constriction of the waist. The writer encountered a case of this sort in a living subject, in a New York Hospital, a number of years ago. A short time since, Langenbuch, a distinguished German surgeon, performed an operation for the removal of an extra lobe of the liver, which had been produced by tight-lacing.

TOO GOOD TO BE TRUE.

"JENNY JUNE," in a recent fashion article, states that "with few exceptions women are becoming much more rational in their dress than formerly. Excessively tight lacing is rapidly going out of favor, and a waist unnaturally slender is, by most people, considered a deformity. There are, of course, a few silly women and vain and foolish young girls who persist in lacing themselves into the shape of an hour-glass; but the practice is by no means common, and is universally condemned, not only by the medical profession and hygienic authorities, but by the majority of women of good sense. It has become fashionable to be healthy, and women are learning that small waists and tight garments will not permit the free action of the heart and lungs, without which good health is impossible."

The above would be a great cause for rejoicing, if we could believe it to be true; but unfortunately our daily observation convinces us that while there is a growing sentiment in favor of healthful dress, it can by no means be said that healthful clothing has become fashionable. However, it may be that the writer did not intend to convince the dress reformers that there is no further need of their

services, but rather to lead some foolish people to adopt a more sensible dress, with the idea that in doing so they would be only satisfying the demands of the latest fashion.

The Artificial Feebleness of Women.—The idea that woman is naturally feeble, lacking in endurance, and only fit for light occupations, and to be an “ornament of society,” is unquestionably the result of various depraving influences, physical and social. The evil habits of modern life, so far as women are concerned, involving the almost exclusively in-door existence, and unhealthful, burdensome, and inconvenient dress, neglect of physical exercise, especially gymnastics, and of out-of-door sports in girlhood, inferior and unwholesome food,—these are a few of the causes which have served to create a wrong sentiment respecting the natural physical powers possessed by the gentler sex. An able article in the *Woman's World*, written by Laura M'Laren, combats the idea of the “superiority of man,” by numerous interesting facts, from which we cull the following:—

“The lower limbs are more muscular than the upper, and the weights they can be trained to carry are enormous. Miss Gordon Cumming relates how she was startled at the loads borne by the women of China. The Indian squaws travel great distances with children on their backs, and tents and baggage piled high above them. The testimony of Hearn, the American traveler, is interesting, and is quoted with approval by Captain Galton. ‘Women,’ said he, ‘were made for labor. One of them can carry or haul as much as two men can. They also pitch our tents, make and mend our clothing; and, in fact, there is no such thing as traveling any considerable distance without them. Women, though they can do anything, are maintained at a trifling expense, for, as they always stand and cook, the very licking of their fingers, in scarce times, is sufficient for their subsistence.’ Galton himself shared this opinion. ‘There are few greater popular errors,’ he writes, ‘than the

idea we have mainly derived from chivalrous times, that woman is a weakly creature.’

“De Saussure, in the account of his travels in the then secluded valley of Zermatt, relates how he packed a box with mineral specimens, and desired to have a man found to carry it into the next valley to meet the coach. No man in the district, he was told, was capable of even lifting such a weight; but if he would allow a woman to be employed, it could be managed without trouble. A woman accordingly carried the box in triumph over the steepest roads, to its destination. In the coal and iron industries in some parts of this country, women are employed to transport heavy loads from one part of the works to another; and the amount of material moved is equal to what men are able to carry.

* * * * *

“Haughton claims to have found by direct experiment, that the muscles of women are capable of longer-continued work than those of men, though inferior to them in force exerted through a short time.

In the *Birmingham Daily Post*, not long ago, there appeared a report of a meeting of working men, called to protest against the employment of women in nail-making. One of the speakers declared that women were so unsexed by their occupation that they were able to go on working when he himself was completely used up.”

If women will emancipate themselves from the fetters of their restricting and unhealthful style of dress, they will do more toward securing for themselves the “equal rights” they justly maintain to be their due, than can be accomplished in any other way.

—The *British Medical Journal* records a case of death from tight-lacing which recently occurred in England. Doubtless thousands of such cases are constantly occurring in all parts of the civilized world, though few are recorded.

—Tight-lacing and high heels may kill as surely as cholera or the plague, though not so swiftly.

THE HAPPY FIRESIDE

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

A LOST DAY.

WHERE is the day I lost,—
 The golden day
 Beyond all price and cost,
 That slipped away,

Out of my wandering sight,
 My careless hold?
 Where did it lift in flight
 Its wings of gold?

What were the treasures rare
 It bore from me?
 What were the pleasures fair
 I shall not see?

Ah, never day was yet
 So fine, so fair,
 So rich with promise set,
 So free from care,

As that we mourn and sigh
 When we do say:
 "Alas, how time doth fly,
 I've lost a day!"

—Independent.

—A lady was once lamenting the ill-luck which attended her affairs, when a friend, wishing to console her, bade her to "look upon the bright side." "Oh!" she sighed, "there seems to be no bright side." "Then polish up the dark one," was the quick reply.

—No amount of wealth sets one free from the obligation to work, in a world the God of which is ever working. He who works not has not yet discovered what God made him for, and is a false note in the orchestra of the universe.—George MacDonald.

FAMOUS WOMEN INTERESTED IN HYGIENE AND TEMPERANCE.

PUNDITA RAMABAI SARASVATI.

(See Frontispiece.)

A LITTLE more than two years ago there came to this country a very remarkable person, the Pundita Ramabai Sarasvati, one of the six learned women of all India, with her more than twenty million inhabitants. Ramabai is, by birth, a Hindoo of high caste. Her father, a distinguished Brahmin priest, was unusually liberal in his ideas respecting the education of women; and when he took Ramabai's mother, then a mere child of nine years, as his little bride, he determined that she should receive an education; and although encountering many obstacles, he spared no pains to carry out his purpose. When opposed by the elder members of his household, he left civilization, journeyed forth with his bride to the forest, and literally took up his abode in the jungle. Writing respecting their experiences, Dr. Rachel Bodley says: "The wild animals of the jungle were all about them, and hourly terrified the lonely little girl; but the lessons went on without hinderance, and day by day the wife, Lakshmiba, grew in stature, and in knowledge. A rude dwelling was constructed, and after a few years little children came to the home in the forest,—one son and two daughters. The father devoted himself to the education of the son and the elder daughter, and also to that of young men who, as students, sought out the now famous Brahmin

priest, whose dwelling-place in the mountains was regarded as sacred, and hence a place of pilgrimage for the pious. When Ramabai, the youngest child, was born, in April, 1858, the father was quite too much occupied to instruct her, for he was growing old. Upon her mother, therefore, devolved her education.

"The resident students and the visiting pilgrims and the aged father and mother-in-law, now members of the family,—these, as well as the children of the household, entailed many cares upon the educated Hindoo mother; and the only time that could be found for the little daughter's lessons was in the morning twilight, before the toilsome day had dawned. Ramabai recalls with emotion that early instruction, while held in her dear mother's arms. The little maiden, heavy with sleep, was tenderly lifted from her bed upon the earth, and wakened with many endearments and sweet mother words; and then, while the birds about them in the forest chirped their morning songs, the lessons were repeated, no other book than the mother's lips being used."

Under the iron rule of the Hindoo custom, which makes eight years the minimum and twelve years the maximum marriageable age for a high caste girl, Ramabai's sister was in early childhood given in marriage to a boy whose parents agreed to allow him to remain and be educated with her in her own home. But scarcely was the marriage ceremony over, before his parents, forgetful of their agreement, took their son home with them, where he remained to grow up in ignorance, while his wife, under the tutelage of her father, developed into an accomplished young woman. "Thirteen years later," says Ramabai, "the young man came to claim his wife, but the parents had no heart to send their darling daughter with a beggar, who possessed neither the power nor sense to make an honest living, and was unable to support and protect his wife. The wife, too, had no wish to go with him, since he was a stranger to her.

"A number of orthodox people in the community, who saw no reason why a wife should not follow her husband, even though he be a

worthless man, collected funds to enable him to sue her and her parents in the British Court of Justice. The case was examined with due ceremony, and a verdict given in the man's favor, according to Hindoo law. The wife was doomed to go with him." Soon after, she was stricken with cholera and died. Beside these sorrows which came upon Ramabai, her father had become very greatly involved in debt; and when she was but nine years of age, the family, now homeless, set out upon pilgrimages, which they continued for seven long years. But all this while, as with her parents and brother she wandered from one sacred locality to another, the early morning lessons were continued, and Ramabai, "developing rare talent, became, under the instruction of her father and mother, a prodigy of erudition." Contrary to custom, Ramabai was allowed to remain single, respecting which fact she says, "My father and mother did not do with me as others were in the habit of doing with their daughters; *i. e.*, throw me into the well of ignorance by giving me in marriage in my infancy. In this my parents were both of one mind."

Within the short space of six weeks, Ramabai, at the age of sixteen, lost both of her parents. After their death she and her brother continued to travel, visiting many of the countries of India, and spending their time in advocating the education, before marriage, of high caste Hindoo girls. When, in their wanderings, they visited Calcutta, Ramabai created a sensation by her advanced views and her scholarly attainments. She was summoned before the learned men of the capitol city, by whom, after due examination, the distinguished title of *Sarasvati* was publicly conferred upon her. Soon after this her beloved brother died, and six months later she was married to a Bengali gentleman, Bipiu Bihari Medhavi, M. A. B. L., a Vakil and a graduate of the Calcutta University. After nineteen months of happy married life, her husband died of cholera, leaving Ramabai with her little infant daughter, Manorama, again alone in the world. Ramabai now resumed her former occupation as lecturer, mak-

ing her especial mission the social amelioration and education of Hindoo women. Her earnestness and devotion to her chosen work gained for her many friends, among whom were some persons prominently connected with the British educational interests of India; and through them her work was made known in England.

For the purpose of making herself more conversant with English systems of education, Ramabai left her native land and went to England, where for three years she applied herself with unabating zeal to educational interests. Two of the years of her sojourn in England she occupied the position of professor of Sanskrit in Cheltenham College.

While thus engaged, an invitation reached her to visit Philadelphia to witness the graduation of her kinswoman, Mrs. Anandibai Joshee, from the Woman's Medical College, March 16, 1886; and for this purpose she crossed the Atlantic with her little daughter, then nearly five years of age. Ramabai's visit to this country and her frequent appearance before the public have been widely chronicled by the press, while her philanthropic purpose to establish in her own native land a home school for child-widows has gained for her much admiration, and awakened in many hearts a deep sympathy and a desire to aid her in the rescue of her sisters, of whose sad lot she says:—

"Throughout India, widowhood is regarded as the punishment for horrible crimes committed by the woman in her former existence. . . . If the widow be a mother of sons, she is not usually a pitiable object, although she is certainly looked upon as a sinner. The widow mother of girls is treated indifferently, and sometimes with special hatred. But it is the child-widow upon whom, in an especial manner, falls the abuse and hatred of the community, as the greatest criminal upon whom Heaven's judgment has been pronounced. A Hindoo woman thinks it worse than death to lose her beautiful hair. Among the Brahmans of the Deccan the heads of all widows must be shaved regularly every fortnight. Girls of fourteen and fifteen, who hardly know the reason why they are so cruelly deprived of everything they

like, are often seen wearing sad countenances, their eyes swollen from shedding tears. The widow must wear a single coarse garment. She must eat only one meal during the day of twenty-four hours. She must never take part in family feasts. It is considered unlucky to behold a widow's face in the morning before seeing any other object. The relatives and neighbors of the young widow are always ready to call her bad names. There is scarcely a day of her life on which she is not cursed by these people as the cause of their beloved friend's death. In addition to this, the young widow is always looked upon with suspicion, for fear she may sometime bring disgrace upon the family by committing some improper act. She is closely confined to the house, forbidden even to associate with her female friends. . . . Her life, then, destitute as it is of the least literary knowledge, void of all hope, empty of every pleasure and social advantage, becomes intolerable."

Ramabai has dedicated her future to the emancipation of her unfortunate sisters into whose life, after a few years of joyous infancy, there comes the terrible darkness of child-widowhood. She is making an earnest effort, while in this country, to secure the necessary means to prosecute her noble work. To this end she has written and published a book which, in choicest English, tells the pathetic story of "High Caste Hindoo Women;" the proceeds from the sale of which are to go to the fund for the establishment of her home school for child-widows. Of this book (which is obtainable from Ramabai, at 1400 N. 21st St., Philadelphia, for \$1.35) Miss Frances Willard says:—

"It is a possession almost without parallel among books, being the work of a woman who, rising above the rule enforced for thousands of years, that a woman must not learn to read, has not only learned Sanskrit, the classic language of her own land, but has given us in beautiful English a full account of the women of her own land."

Many "Ramabai Circles," having for their purpose the augmentation of the Ramabai School Fund, have been established in schools.

and colleges and various associations throughout our land; and if all efforts are successful, Ramabai will in a few months now return to India, and put into execution her cherished plans for the emancipation of her country women.

Ramabai is especially interested in temperance work, and has been appointed Vice-President for India, of the World's Woman's Christian Temperance Union.

In her habits Ramabai is exceedingly simple. She is, from principle, a strict vegetarian; she likewise adheres, as far as our climate will admit, to her simple native dress, over which her white "chuddar" is most gracefully worn. In form, Ramabai is *petite*; of her face our frontispiece is a most excellent likeness. She is a woman of vigorous thought, of characteristic simplicity of manner, and goodness of heart, combined with true courage to dare for what seems right. The unselfish devotion to the elevation of Hindoo women, which has characterized her life, even before she embraced Christianity, justly entitles her to be called "the morning star of reformed conditions for women, in a land containing twice as many women as any Caesar ever governed."

E. E. K.

AUNT POLLY'S EXPERIMENT.

BY FANNIE HOLTON.

(PART SECOND.)

"So this is a hygienic dinner," said John. "Mother said we will all be as thin as rakes when we go home. I'm as hungry as a bear, and everything tastes pretty good, only I'd like more salt and pepper. We always had all we wanted at home."

There were mashed potatoes with cream gravy; toast with cream; tomato soup; splendid graham bread; and crackers, crisp with the natural fats of oatmeal; rice pudding with delicious dressing; and plenty of nice fruit and milk.

"I have some charts I want to show you," said Uncle, as they arose from the table. "We'll go into the parlor and look at them; it is better not to exercise too vigorously

directly after dinner, so that the stomach can call together the whole of its forces, when the most work is on hand."

Uncle called their attention to a set of charts, neatly arranged on rollers, in a frame. "Now, my children," said he, unrolling the first chart by turning the crank, "I never like to do anything without a reason, and I want to tell you why we want you to live on such diet as we have had to-day. Here is a picture of a sound healthy stomach. You see it is a beautiful pinkish color. This kind of a stomach makes good blood, good nerves, good brain, good thoughts, and good actions, which go a great way toward making good men and women. How many of you want a stomach of this sort?" "I do! I do!" cried four voices.

"I have here a box of pepper. Who will volunteer to let me put a sprinkle of it into his eye?" The children looked a little frightened.

"Do we have to, or go home?" asked Ed.

"Oh, no; this is simply a question of courage. Well, I see you don't care to let me do it. Why not?"

"Because it would smart," said Ethel.

"That's just it. Now, here is a box of mustard. I know you use that, too. Who will take a dose of it on his tongue?"

"I will," said John.

"Very well," said Uncle, "step up. Now you are to hold it there till I bid you spit it out into the door-yard."

Uncle had a special object in letting John try it, and desired to give him a lesson he would not soon forget. Very soon John's face flushed, and the tears filled his eyes, but he bore it bravely till Uncle released him.

"You see he is weeping; I wonder if you have heard of the experience of the two old Indian chiefs who came to a restaurant to take dinner. One chief took up a box of mustard, and not knowing how terrible it was, he took a great teaspoonful, and as he did not wish to show his companion that the mustard hurt him, he swallowed it; but the tears rolled down his cheeks. 'Why do you weep?' inquired his companion. 'Oh; for my grand-

father's death.' Soon the other chief tried the mustard, and had a fit of weeping for *his* grandfather.

"Well, John, how do you like mustard?"

"Oh! it's pretty hot; my tongue feels as if it had been burned."

"Come and see this poor tongue," said Uncle, "it looks shriveled and red. That is what pepper and mustard do for the stomach, only it suffers for some time without making a great fuss; but by and by, after long abuse, it will fairly make your life miserable with its misery. Pepper and mustard and spices go burning all through the body. If you should accidentally pick up a hot poker, you would very soon drop it. So the stomach, when it gets a hot dose of pepper, or mustard, or pepper-sauce, says: 'Whew! get out quick;' and it begins to act rather crazy. The poor muscles say: 'Whew! you're burning me up.' The brain says: 'I don't like you;' and soon you have a mad boy. He says hot words; gets angry very easily, and seems like a fire-cracker, ready to explode at a touch. He is full of the poison of passion, and he spreads it all over the house and town. Such a boy is scarred, his character has a great ugly spot in it; and if he keeps on, he will be all scarred up.

"Here is the picture of a stomach that has had hot doses put into it; you see the little veins are all swollen and burned.

"This is the picture of a drunkard's stomach. You know whisky and gin are very hot, and they have made this poor stomach all blistered and sore. After a while, it looks like this," said Uncle, turning to the picture of a stomach full of ulcers. "This kind of stomach will make a man think there are 'snakes in his boots.' He sees hobgoblins and dragons and devils trying to catch him, and will probably die a horrible death of delirium tremens. Have any of you seen a drunken man?"

"I have."

"So have I."

"I am afraid of them," said Millie. "They look so ugly, and stagger up and down; I always run away when I see one coming."

"Did they look anything like this?" asked Uncle, displaying a red, bleared face, with a great purple nose.

"Yes," said Ed. "Only some look worse. What makes them look so red?"

"The alcohol they drink goes into the blood, and is so powerful that it paralyzes the nerves that control the flow of blood to all parts of the body. For instance, here is a little river of blood; right here is a valve; and here a nerve to say just how much this valve shall open; but along comes Alcohol, the old tyrant, and gives Nerve a blow that makes him senseless for a while; then on flows the blood without any restraint, till all the veins are swollen very much more than they should be, and the face is very red, and the nose begins to grow large and purple; so it is with his liver, and heart, and muscles—they are just as badly gorged with blood. They call such noses 'rum blossoms;' but no one admires them, or wants them to bloom around the house. I suppose this nose was once as pretty as John's, or Ed's; but the man began to eat pepper and mustard, then pepper-sauce, then whisky, till he grew this ugly flower.

(To be Continued.)

THE INTERNATIONAL COUNCIL OF WOMEN.

THE National Capitol was recently the scene of a very remarkable gathering,—an International Council, called by women, officered by women, conducted by women; and at which fifty-three different organizations of women were represented by eighty-seven speakers and delegates, from France, England, Norway, Denmark, Finland, India, Canada, and all parts of the United States. All these organizations, with the exception of four, are of national scope and value. The women in attendance were of all ages, of all professions, of varied opinions and religious beliefs, but fully united in their one great purpose,—the further advancement of women; and although no restriction was placed upon the fullest expression of the most widely divergent views upon the subjects under discussion, all the sessions were without friction.

The object of the Council was two-fold,—to

report what had already been accomplished, and what is still being done by women, for themselves and for each other, and to discuss the ways and means for future advancement.

The subjects dealt with during the eight days in which the Council was in session, were "Education," "Philanthropies," "Temperance," "Industries," "Professions," "Organizations," "Legal Conditions," "Social Purity," and "Political Conditions."

The speakers upon the program, with very few exceptions, were all women. The audience, which daily filled the largest auditorium in Washington, was largely composed of women. Women stenographers secured verbatim reports of all proceedings, and addresses, which the *Woman's Tribune*, issued daily throughout the Council, has put in print to be read by the thousands of women not privileged to attend the Council.

In every respect, it is conceded that the Council was a grand success, and an honor to the National Woman Suffrage Association of the United States, in commemoration of the fortieth anniversary of which the Council was called. In the official statement made for the public, it was asserted that "it was the unanimous voice of the Council that all institutions of learning and of professional instruction, including theology, law, and medicine, should be as freely opened to women as to men; that opportunities for industrial training should be as generally and as liberally provided for one sex as for the other; that in all avocations in which both men and women engage, equal wages shall be paid for equal work; and that an enlightened society should demand, as the only adequate expression of the high civilization which it is its office to establish and maintain, an identical standard of personal purity for men and women."

At the close of the Council a permanent International Committee was formed, with Mrs. Millicent Farcett, of England, as honorary president, with power to call together Triennial Councils, of the same comprehensive character as the one recently held; and it may be hoped that, while this is the first, it may not be the last, International Council of Women.

THE HIGHER EDUCATION OF WOMEN.

SYDNEY SMITH, in an essay written eighty years ago "to recommend a better system of female education, in order that the attention of women might be turned from the trifling pursuits to which they were condemned," said: "If you educate women to attend to dignified and important subjects, you are multiplying beyond measure the chances of human improvement, by preparing and medicating those early impressions which always come from the mother, and which in the majority of instances, are quite decisive of genius. . . . The education of woman favors public morals; it provides for every season of life, and makes a woman when stricken, not as she now is, destitute of everything, but with the full power and splendid attractions of knowledge."

Perhaps, of all the directions in which the higher education of woman will be of value, that which now receives least attention, but is destined to be most influential, is the increase of public spirit among women.

The purely conventional and wholly sentimental type of woman, the delight of Noddledom, who has been taught to find her only objects in life and her sole hope of salvation, within the four walls of "a cottage just large enough for two;" and the narrowly and blindly domestic woman, whose three-score years and ten have held no greater epoch than marriage and meal-times, are destined to be swept away by the inevitable wave of mental evolution now gathering force in women's lives. But in their places shall come women free from sentimentality and small-natured dullness, but full of sensibility, with a cultivated intellect and a trained will,—women with breadth of view, an interest in affairs, a sense of relationship to the great problems of life, and an insight into their solution. Such women will show in their daily lives and bearings those rich fruits of experience which distinguish the broad from the narrow-minded; and, if we may trust the signs of the times, this newly awakened public spirit among women will eventually change the whole aspect of civilization.—*Wis. Journal of Education.*

MISPLACED ENERGY.

OVERWORK is an American disease, and women are the greatest sufferers from it. Much of this suffering is uncalled for, and wholly unnecessary. Many women have become drudges to the prevailing humor of the day, and give their best energies to fancy work and the over-ornamentation of their homes. Hundreds of women cannot read, or develop themselves mentally, because they "do not have time." Yet it is the houses of which these women are mistresses that are overcrowded with furniture, and are painfully suggestive of the labor involved in caring for it.

Wrinkles used to indicate age, but now they indicate worry. We have our school-girls with wrinkled foreheads and harassed expression, already being trained to live under the "no time" pressure. One is almost tempted to say, Blessed be they who have nothing and expect nothing! Looking at life from this standpoint, one is led to feel that St. Paul was the most enviable of men, for he had learned contentment in the present tense. Discontent is at the bottom of nine-tenths of the overwork and hurry among women; they must make just as good an appearance as their neighbor, whose income is far more, or whose necessary expenses are far less, than their own. Unless we are independent enough to make standards of our own, and live up to them, refusing to give up the liberty of ornamenting and dressing as best suits our position and tastes, life degenerates readily into a competitive struggle for the first place in *our set*, let it be rich or poor.

'Tis a very good world we live in,
To lend, or to spend, or to give in;
But to beg, or to borrow, or get a man's own,
'Tis the very worst world that ever was known.

—Doing nothing for others is the undoing of one's self. We must be purpose'y kind and generous, or we miss the best part of existence. The heart that goes out of itself gets large, and full of joy. This is the great secret of the inner life. We do ourselves the most good by doing something for others.

Temperance Notes.

—Since the closing of the wholesale liquor houses in Sioux City, Iowa, the number of arrests have fallen off one hundred and thirteen in one month.

—It is stated that seventy-five thousand gallons of aniline dye were shipped into California last year to be used in adulterating the wine made in that State.

—Five million persons have joined the Good Templars since that organization was started. As a result of their work, 200,000 of the drunkards converted have kept the pledge.

—According to a liquor law passed in France, every person who may be condemned twice by the police for open drunkenness will be considered incapable of voting, of elective eligibility, and of being named for any public office.

—It is stated on authority that, during the presidential campaign of 1884, there were held in New York City 1003 political conventions,—congressional, assembly, aldermanic, etc. Through such political meetings the country is largely influenced,—283 of these conventions were held *apart from saloons*, 96 next door to saloons, and 633 *in saloons*.

—A grocery firm in a Missouri town makes the following liberal offer to its patrons: "Any man who drinks two draclms of whisky per-day for a year, and pays ten cents a drink for it, can have at our store 30 sacks of flour, 220 pounds of granulated sugar and 72 pounds of good green coffee for the same money, and get \$2.50 premium for making the change in his expenditure."

A Compromise.—A church in a certain town in Kentucky was much divided on the organ question. One of the members was in the habit of going into the saloon and taking a drink whenever he felt like it, but had a holy horror of an organ in church. In a discussion of the subject, he said: "If you bring that organ in here, it will split the church. I and a number of others will leave." The pastor then spoke, saying: "I can preach either with or without the organ in the church. It is a matter of indifference to me. But as the church is divided about it, and some say it will drive them out of the church, I think the wisest course for us is to put the organ in the saloon, and see if it won't keep our members out of that place also."—*Western Reorderer*.

Popular Science.

—Recent experiments with certain silver salts promise to realize, in the near future, the long-wished-for result of securing photographs in which the natural colors will be displayed.

—To remove varnish which is pitted, rub lightly over with spirits of ammonia. In a short time, the varnish will be sufficiently soft to be easily scraped off. Wash with castile soap and water.

—A Frenchman has invented an electrical lamp so small that it can be placed inside of a watch, and made to illuminate the dial so as to enable a person to see the time without the trouble of lighting a lamp.

Ancient Bread.—The art of baking seems to have been developed to quite a high degree among the ancient Greeks, who made six or two varieties of bread.

An Electrical Kettle.—A Yankee has invented a kettle which is heated by an electro-magnate placed in the bottom. The heat is generated in the kettle, by alternating currents passed through it.

Filling for Polishing Wood.—The following, from the *Carriage Monthly*, will probably answer as well for polished floors as for carriage bodies. At any rate, it recommends itself as worth trying:—

“Take a small quantity of white beeswax, melt it down; and, while liquid, mix with whiting. As it gets thick, keep adding boiled oil until you have it as you wish it. When using it, sheet the wood over solid. Let it stand until the next day, when you can remove the surplus by using No. $\frac{1}{2}$ sandpaper. It is cheaper and easier used than the shellac, and can be leveled sooner, leaving nothing but the pores or grain of the wood filled, which is better than having your wood all stained up with the shellac.”

Electrical Prevention of Railway Accidents.—*The Electrical Review* gives an account of an invention of an Austrian engineer, by which a sort of pilot is made to run before every railway train, being maintained always at a fixed, but adjustable, distance in front, by the force of an electric current, transmitted along the rails from a dynamo on the engine.

The current is conducted through mercury, contained in glass tubes on the pilot truck. If, therefore, the truck comes into collision, the tubes are broken and the current consequently destroyed. The

interruption of the current instantly and automatically applies the brakes on the following train.

It is claimed by the inventor that two express trains, fitted with this system, might with impunity be set to run at full speed toward each other. The collision of their pilot trucks would arrest the progress of both trains, before they could meet. The element of human fallibility is accordingly entirely eliminated, and drivers may dash through a whole series of danger signals without risk, being automatically arrested the moment they reach the spot that is really dangerous. Hurrah for electricity!



A CHINESE PUMP.

THE above is an illustration of the principle upon which the peculiar pump employed by the Chinese is operated. The picture shows simply an inverted funnel held in a vessel of water. Moving the funnel held in and down causes the stream to issue from the top. In the Chinese pump, a valve is placed in the pipe, so that when the water is once passed in, it cannot pass out. This pump is effective, but by no means so economical or effective in its operation as those in ordinary use in this country.

The Bell Telephone Suit.—The Supreme Court of the United States has declared the Bell patent valid in all respects. This will doubtless make a boom in telephone stock. Four of the seven Justices were in favor of the claims of Bell, while three decided in favor of Drawbaugh as a prior inventor.



SOCIAL PURITY.

Blessed are the Pure in Heart,"

MODESTY IN DRESS.

We quote the following paragraphs from a "Talk with Girls," by Mrs. E. E. Kellogg:—

"True modesty and maidenly reserve are the best safeguards to virtue. It is the young woman who lacks modesty, who manifests boldness of manner and carelessness of deportment, that is liable to have her virtue assailed by unscrupulous and designing men. A mantle of modesty is a shield which protects the wearer, as can no other safeguard, against all immodest approaches.

"Modesty of dress demands that there be no unseemly exposure of the person. It also requires a style which will not render the wearer unduly conspicuous. The truly modest young woman will be characterized at all times by a quiet voice and bearing. 'Loudness' of manner is so immodest as to be justly considered a natural accompaniment of immodesty. The love of dress, particularly of rich and fashionable attire, lends a strong influence in the direction of impurity, especially among girls who are dependent upon their own exertions for support. Nothing could be more mischievous than the popular notion that 'dress makes the lady.' People who ought to understand that dress has nothing to do with character—people who consider themselves Christians—are by no means free from fault in this respect. Their eyes scan the apparel of those with whom they come in contact, and they quickly form an estimate of the person from her outward adorning. They seek the acquaintance of the best dressed,

but pass unnoticed the one in poorer clothing. Thus, through wrong education, and observation of the deference paid to dress, girls come to look upon fine clothes as one of the most desirable things of life; and to those who have not at their command an abundance of means, the desire for fashionable finery often becomes a source of great temptation.

"A gentleman belonging to official circles in Washington, speaking of the great prevalence of frivolity and impurity in that city, said that 'in many cases it was not mere badness that led young women astray, but the craving to be richly and fashionably dressed, without the means wherewith to satisfy their love of adornment, save by a sacrifice of principle.'

"It is plain, then, that a simple, modest attire is a most important factor in the promotion of social purity. It was the opinion of Wesley that no one had a right to don gay and costly apparel on the plea, 'I can afford it.' 'No person living,' said he, 'can afford to waste any part of what God has committed to his trust. No one can afford to throw into the sea any part of that food and raiment which was lodged with him on purpose to feed the hungry and clothe the naked. And it is far worse than simple waste to spend any part of it on gay and unnecessary apparel; for this is no less than to turn wholesome food into poison. It is using so much money to poison both yourself and others, so far as your example goes, with pride, vanity, lust, love of the world, and a thousand foolish and hurtful desires, which tend to pierce them through with many sorrows.'

"If young women realized as they ought, the outcome of their example to those tempted as they are not, they who are able to wear rich and fashionable clothing would dress more in accordance with the apostle's recommendation in 1 Tim. 2:9, 10; and all girls who love the cause of purity will seek to prove that character, not outward adornment, makes the true woman."

THE INFLUENCE OF BAD READING.

THIS subject cannot be too often brought to the attention of parents, as well as young persons, whose active minds demand constant occupation. The fearful permanency of the mischief wrought by impure literature is one of the considerations which should lead the friends of purity to incessant activity in their efforts to purify the press, the Sunday-school books, and the popular literature of the day. We take pleasure in quoting the following well-written words on this subject, from the pen of Rev. T. T. Munger, in the *Christian Union* :—

"There is no way in which the mind is more thoroughly debauched than by bad literature, and there is nothing, probably, that is working larger and more disastrous results.

"The evil may not be so wide-spread as that of intemperance, and it does not involve so many innocent ones; but the injury to character that comes from vile literature is greater than that which flows from drunkenness, and it often paves the way for the drinking habit.

"When the mind of a young man has been defiled in this way, there is no wholesomeness of nature left to resist the temptation of drink; he has already sunk to a lower depth than that of intemperance. One whose conscience does not restrain him from such reading will not hesitate to indulge in drink. One whose sense of honor has been broken down in this way will have no will left to contend against an inferior temptation.

"The taint strikes even deeper than that of drunkenness, and is more ineffaceable. A young man may shake off the habit of convivial drinking, and come forth pure. Change of associates and of place may help him, and

when the appetite is conquered, as it can be, there may be left a sound and uncorrupted nature; hurt it may be, but not beyond entire recovery. But not thus can one shake off and overcome the debasement that follows the violation of those holiest instincts of our nature, even though the violation be confined to the eye and the thoughts :—

"Where such fairies once have danced
No grass will ever grow."

"The corrupting image sets its seal upon the most plastic, yet enduring, part of our nature—the imagination—whence it is always ready to send up its base reflections into the thoughts. When the faculties become debauched in this way, the man is poisoned through and through. Thenceforward nothing is pure; the good angel of his nature covers its face in shame, and departs."

WOMANLY SELF-RESPECT.

At the recent International Council of Women, held at Washington, D. C., Miss Frances E. Willard made a very effective address in behalf of the betterment of the condition of women, from which we quote two or three paragraphs. All women should consider the weighty thoughts presented :—

"There is nothing on this earth that I tried to instill more earnestly into my girls' hearts, when I was teaching, than a superior womanly self-respect. I doubt if we have it, as the women of the future will, or as we ought to have it ourselves.

"Why! I pass signs in the streets; I pass exhibitions of women in the cigar stores and saloons that, if we were as self-respectful as we ought to be, could n't stay there over night; I see beautiful women, in beautiful robes, walking on the streets, or hear of them in fine social surroundings, with a man at their side puffing tobacco-smoke into their faces and eyes; and I say that is a survival of the ideas of past savagery concerning the debasement and immolation of woman. If there is anything on earth I covet, that pertains to men, it is the self-respect which they possess.

Only I would like to have a womanly modesty and humility combined with it. No man would be seen with a woman who has the faintest tint or tinge of tobacco about her; no man would allow himself to enter into marriage with a woman of known habits of drinking or impurity; it is n't thinkable. And God grant that a deep, quiet, Christian, sisterly self-respect, not unkind toward men, not harsh, may be developed in us. May there rest upon every one of our hearts, from this hour of high significance, more than ever before, a new sense of self-respect.

"When I see women coming out before men, or when I know they do (I do not see them, they are not women that I am socially acquainted with) revealing the sacredness of the pure symbol and badge of their womanly nature,—coming out so that the joke, and jest, and jibe are uttered in the ante-room, where young men smoke cigars and hob-nob together,—I say I could weep my life out, that a virtuous woman will thus appear, thus decked, thus dressed, borrowing that style from women the hem of whose garments she would be ashamed to touch. Let us have self-respect. Let us be clothed with a raiment of purity that ought to guard the virgin, the mother, and the wise."

The Devil's Museum. — A museum is usually supposed to be a place in which some branch of science or art is illustrated by the accumulation of the treasures of science, for the purpose of advancing human knowledge. We have museums of art, of geology, of zoology, and of antiquities, and medical museums, in which the students of these various branches of science may find important aids to the acquirement of knowledge.

The agents of the arch fiend, who are ever on the alert to miss no opportunity by which the unwary may be led to ruin, have seized upon the museum as a most successful means of recruiting the ranks of iniquity. This is the origin, the purpose, and the effect of the so-called "anatomical museums" which are now open to the public in nearly every one of our large cities. In these vile places are pre-

sented the most corrupting exhibitions. They may fairly be called schools of iniquity, and recruiting offices for perdition. If existing laws are not competent to suppress these infamous "museums," the friends of purity should see that proper legislation is secured for the purpose.

It is worth mentioning in this connection that the Prussian government has recently suppressed all exhibitions of this sort. Why should not this so-called Christian nation do the same?

The Responsibility of Parents.—Miss Kate C. Bushnell, M. D., in a valuable tract with the above heading, urges upon parents their responsibility for the training of their children to habits of purity. In the following paragraphs, the common neglect of parents in this portion of the education of their sons is clearly pointed out:—

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

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

unsought degradation, thousands upon thousands of weak, defenseless working-girls.

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

The San Francisco Slave Trade.—We are just in receipt of a copy of the *Hawaiian Gazette*, published at Honolulu; and from it we learn that the Chinese government has undertaken to suppress the traffic in Chinese girls, which has long been carried on in an extensive manner with San Francisco and other Pacific ports. Recently a single ship, the *Belgie*, arrived at San Francisco, with fifty girls on board who had been kidnapped in Canton, Hong Kong, and other parts of China.

Fortunately, Colonel Bee, the Chinese Consul General at San Francisco, had been apprized by cablegram of the expected arrival of these girls, and through his efforts they were not permitted to land. The girls accused a Chinaman, Wong Hung, of kidnapping them; and his arrest and trial resulted in his sentence to the penitentiary for ten years, after paying a fine of \$2,000.

The girls were returned to their native land on board the *San Pablo*; and on their arrival were taken charge of by the authorities of the Chung Wah Hospital, who will see that they are returned to their friends.

Tobacco and Immorality.—A prominent worker in the W. C. T. U., Annie M. Starr, of Richmond, Indiana, says, in a circular issued in the interests of the Department for the Suppression of Impure Literature, of which she is the State Superintendent: "The boys of the public schools are becoming demoralized through the obscene pictures which they find in packages of cigarettes." Obscene "boodle cards," a tobacco advertisement, are also being widely circulated.

Tobacco and vice, as well as liquor and vice, have always been close associates. The

agents of immorality could find no more appropriate medium for the accomplishment of their infamous purposes, than tobacco.

The true friends of purity must ultimately unite in opposing the filthy weed, as well as liquor, for it is one of the gigantic evils intimately associated with immorality.

—The Committee of the House of Representatives reports favorably the bill raising the age of protection for the District of Columbia, but so amended it as to change the age from eighteen years to fourteen. It has formerly been ten years. This certainly seems to be a sad reflection upon the moral sense of our legislators, in view of the fact that the British Parliament, largely made up of men reared in luxury, and surrounded by conditions less wholesome for the development of a stalwart moral nature than generally prevail in this country, promptly raised the age of protection from fourteen to sixteen years, after the revelations of Mr. Stead, published in the *Pall Mall Gazette*.

—According to the *New York World*, 10,000 women of Boston make a living, wholly or in part, by immorality. Henry Chase, President of the Society for the Suppression of Vice, states that he can place his hand upon five prominent business men of Boston who told women seeking employment that they were well aware that the salary paid would not support their employees, but they were expected to make a part of their living by immorality.

—The *Denver Republican* asserts that if it were inclined, it could publish a series of articles disclosing a state of things in that city, which would be more revolting than the articles that appeared in the *Pall Mall Gazette* a few years ago. A committee of clergymen have commissioned a campaign of investigation.

—There are in New York City 9,000 saloons, and 25,000 fallen women. The one is an accomplice of the other in dragging humanity down to ruin.

GOOD HEALTH

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

BATTLE CREEK, MICHIGAN.

FACTS ABOUT TYPHOID FEVER.

At this season of the year, the danger from typhoid fever is very much greater than during the cold season, when the ground is frozen, and there is consequently less percolation through the soil. Many years ago the eminent English sanitarian, Dr. Parkes, remarked that "when a person died of typhoid fever, somebody ought to be hanged." Dr. Parkes evidently regarded every death from this disease as a homicide, for which somebody ought to be punished. Certainly it is important that the widest publicity should be given to the practical knowledge which sanitarians possess on this subject, especially as regards the prevention of this grave malady. The following facts may be considered as well established:—

Typhoid fever is usually communicated to human beings through the medium of water. Numberless cases have been recorded in which the use of water from wells contaminated by the drainage from vaults or cess-pools, containing human excreta, has given rise to this disease. In the outbreak which occurred a few months ago at Chapin Mine, in Northern Michigan, fourteen cases of typhoid fever were traced to the use of water from a single well, within a few feet of which was located a foul privy vault. In cases in which the general water supply of the town becomes contaminated in this way, hundreds of persons have, in numerous instances, been made sick with this disease. In the epidemic which

occurred at Plymouth, Pa., the excreta from a typhoid fever patient was carried from a hillside by the melting snow, into a mountain stream, through which the disease was conveyed to hundreds of persons several miles away. In an English town, Over-Darwen, the connection between a leaky water-closet drain and the water supply was made, through an ill-jointed water-pipe. A visitor to the town brought typhoid fever. The water supply became contaminated, and within three weeks two thousands persons were made sick by it. At Lausen, a village in the Jura Mountains, seventeen per cent of the inhabitants suffered from typhoid fever, the result of using water from a spring which was fed by a stream upon the opposite side of the mountain, the stream having been contaminated near its source with typhoid fever excreta.

It should be known that water which has no unpleasant taste or odor, and which presents a good appearance, may be dangerous, from the presence of typhoid fever germs. A single freezing does not destroy the germs, although repeated freezing and thawing may do so. Dr. T. M. Prudden proved the presence of typhoid fever germs in ice, and attributed many cases of this disease occurring in New York City to the use of Hudson River ice.

It appears that it is not always necessary that the infection should come from a preceding case of typhoid fever, although this is doubtless usually the case. The contamina-

tion of water from privy-vaults and cess-pools will probably give rise to this disease, even when there has been no specific typhoid infection. It is probable, also, that the disease may rise from land which has been heavily covered with manure, from barnyards, and from cemeteries.

The popular notion that water is purified by soaking through the soil, is a mischievous one. It is true that many impurities are removed by soil filtration; but when the water is greatly contaminated, the soil sooner or later becomes saturated with impurities, so that instead of purifying the water, it may greatly increase its impurity.

Foul air may also, without doubt, give rise to this disease. The illness of the Prince of Wales from typhoid fever was traced to sewer gas. Two recent epidemics in our own State are also examples of this. The visit of the Committee from the State Board of Health to the State Prison at the time of the prevalence of the epidemic at that place, and the subsequent examination of the air, proved conclusively that defective sewerage was the source of the disease. The outbreak at the Industrial Home for Girls, at Adrian, was also investigated by a committee of the State Board of Health, and traced to the same cause. The disease has been traced in some instances to the contamination of the air of dwellings by ground air. The air of the soil, when the latter is saturated with filth, may be as deadly in its character as sewer gas. Much of the "made ground" of cities, as well as soil which is contaminated with soakage from privy-vaults and cess-pools, may thus become a source of disease. The proper safeguard against contamination through this medium is impervious foundation walls, and air-proof and water-proof floors for cellars and basements.

There is plenty of evidence, also, that typhoid fever may be communicated through the medium of food, particularly milk. The washing of milk pails, or cans, with contaminated water, and especially the adulteration of milk with impure water, have been known to be immediate causes of outbreaks of this disease. It is probable, also, that other food

supplies may be contaminated. Extensive epidemics of typhoid fever have been attributed to the use of the flesh of animals which were ill with the disease when slaughtered. It is well known that cattle are subject to typhoid fever. It is still an open question whether the disease may be communicated through the medium of the milk of an affected animal. It is evident, however, that the same care should be taken to secure pure drinking-water for domestic animals kept for milk or fattening for slaughter, as is used respecting water used by human beings.

An important fact, the knowledge of which should be extended as widely as possible, is that the danger of infection with this disease through the medium of water may be avoided by simply boiling all water used for drinking purposes. The same thing is true of cholera, dysentery, and other diseases which are spread through the medium of water. This precaution should always be taken when an epidemic is prevalent.

Whenever an outbreak of disease occurs, either as an epidemic or in an isolated place, the greatest care should be taken to prevent the extension of the disease. All possible sources should be carefully investigated. Drinking-water, the milk supply, and the drainage, should especially receive attention. As a precaution, milk and water should be boiled before being taken into the stomach, and the drains should be disinfected. The best materials for disinfection are corrosive sublimate and chloride of lime. For the thorough disinfection of an ordinary drain or cess-pool, at least half a barrel of disinfecting solution should be poured down the drain, being divided among the different openings leading to the sewer. If corrosive sublimate is used, six ounces of the substance in fifteen gallons of water. If chloride of lime is used, be sure to get that which is well preserved. Dissolve eight pounds of the chloride of lime in the same quantity of water. Half a gallon of strong vinegar added will facilitate the elimination of the chloride. Sulphate of copper or zinc may also be advantageously used, in the proportion of one pound to a gallon of water.

THE MONEY VALUE OF HEALTH.

PROF. PETTENKOFER, a renowned sanitarian and professor of hygiene, delivered a lecture at the International Congress of Hygiene at Vienna, in which he demonstrated the money value of health, or rather, the pecuniary loss by sickness, basing his calculations upon statistics and other data of undoubted reliability.

The following is an abstract of some of his conclusions:—

“From statistical investigations in hospitals and infirmaries, it results that, on the average, one death corresponds with thirty-five cases of malady, *i. e.*, that of thirty-five patients received, one, on the average, will die; and it is known, also, that one patient, on the average, represents twenty days of nursing. If, therefore, in any community (as is still the case in many larger and smaller localities of Germany) the total annual mortality amounts to thirty on every 1000 inhabitants, it means 1050 cases of sickness, or 21,000 days of nursing for every 1000 inhabitants in one year. This coincides very nearly with the theory of statisticians, that a man has about twenty days of sickness in the 365 days of the year, which is equal to between five and six per cent of the disposable time. Calculating expenses for medical treatment, nursing, and loss in earnings, at 50 cents per day of sickness, it amounts annually to \$10,000 for every 1000 inhabitants, or to \$10,000,000 for one million living people, as, for instance, in the City of Vienna.

“The monetary value, attached to a diminution of mortality, and consequently of sickness, in a large city, even by so little as one per thousand, may be deduced from the same figures. If, for instance, for Vienna, thirty per thousand mortality cost \$10,000,000 per year, one per thousand would cost about \$350,000. This would be the annual gain of a mere decrease of mortality from thirty per thousand to twenty-nine per thousand. And this amount should not be considered as capital, but as interest of capital, patiently paid out every year. \$10,000,000 interest, capitalized at four per cent., gives \$250,000,000; and this is

the amount of interest-bearing capital represented by one per thousand, in the total thirty per thousand mortality of a large city like Vienna.

“An outsider is almost dumbfounded by the hugeness of such figures, yet without reason. The constant recurrence of such figures, in drawing general results from small quantities, is exemplified by Pettenkofer, through the figures of beer consumption in his birth place, Munich, whose inhabitants, within the city limits, use in one year at least \$6,000,000 worth of beer. This beer consumption, which (the speaker adds) ought, by all means, to be moderated (there being in Munich more deaths by heart-disease than in any other city or country, less ‘blessed’ with beer) represents a considerable tax, which is paid voluntarily and cheerfully; while there would be sighing about exorbitant and oppressive taxation, if some millions of sewerage, water-supply, cleaning and paving the streets, etc., should be added to the municipal expenditures.”

These figures are certainly very startling; and when it is considered that far the greater share of all diseases are preventable by following hygienic rules, it is at once apparent that the loss through this cause is one of the greatest factors in the destruction of property, prevailing in civilized communities. The present is a season of the year when attention may be profitably called to measures which are greatly conducive to the prevention of sickness. One of the most effective of these is the sanitary inspection of dwellings. Every city, town, and village should have a house-to-house inspection, at least once a year, by a person qualified to make an intelligent inspection of a dwelling and its surroundings, which work can be most satisfactorily carried on under the supervision of a competent health officer. Qualified inspecting officers should undertake the work, with the authority of the common council, or other governing body. Such inspections have been made in numerous cities, with the result of saving many lives, to say nothing of the financial saving, the value of which is well pointed out in the preceding paragraphs. If every reader of this

journal would interest himself in the matter of securing a sanitary inspection in his own neighborhood, and would see that the work is undertaken at an early date, great good might be done.

EDUCATING THE BLOOD CORPUSCLES.

THE *Pall Mall Gazette* gives an account of an interesting lecture recently delivered by Prof. Ray Lankester, of London, in which the novel idea is advanced that a large part of the business of the white corpuscles is to dispose of foreign matters in the blood. The "future of preventive medicine" is the education of the white blood corpuscles.

"A corpuscle is a minute cell of protoplasm which floats in the human blood. This minute creature eats and lives and flourishes and dies almost like a human being. Its special function, said the lecturer, is to eat up the poisonous elements which find their way into the blood. When a wound heals, it is because these indefatigable corpuscles have found their way to the sore, and have eaten away the injured part. When *bacteria* get into the system, the duty of the corpuscles is to 'go for them' and eat them up. If they succeed, the patient recovers. If they are out of appetite, or the bacteria too tough a morsel for them to attack, the patient dies. Sometimes, with unconscious heroism worthy of Marcus Curtius, they purify the bodies in which they live by eating up poisonous particles and then ejecting themselves, thus sacrificing their own lives. But such heroic self-immolation is not necessary, if you educate your corpuscles. Their education proceeds by inoculation. By accustoming your protoplasmic cell to a low diet of mildly poisonous matter, such as the vaccine lymph, they become acclimatized, as it were, and are strong enough to eat up without inconvenience the germs of small-pox, which would otherwise prove fatal. It is these invaluable corpuscles, which enable confirmed arsenic-eaters to swallow with impunity a dose sufficient to kill six ordinary men; and Prof. Lankester is of the opinion that they can be trained so as to digest the most virulent poisons, and deal with a great number of diseases."

If the professor's views are generally adopted, the time may come when the "education of the white blood corpuscles" will be considered an essential part of a liberal education. According to this view, if a man wishes to make himself proof against mumps, measles, chicken-pox, consumption, the mad dog's bite, the viper's sting, the virus of the rattle-snake, and the deadly venom of the poisoned arrow, all he has to do is to educate his white blood corpuscles to dispose of each of these poisons in doses sufficient to protect himself. The professor, also, seems to lend himself to the idea that this education can extend to animal and vegetable poisons as well as germs and animal viruses. If the white blood corpuscles can dispose of as deadly a poison as arsenic, why not tobacco, alcohol, and all the other vice drugs to which human beings become addicted? Probably the professor would say they do, and that this accounts for the tolerance of these drugs, which we find exhibited to a most wonderful degree.

The writer once had a patient under his care who was taking daily one hundred and fifteen grains of morphia, equivalent to nearly one thousand ordinary doses. The patient was not killed by this enormous quantity of morphia, but certainly was not in good health. Every sense was blunted, every vital function weakened. It is doubtless possible to educate the white blood corpuscles to a tolerance of almost any poison, but there must be a certain deterioration resulting from this sort of education, which cannot be regarded otherwise than detrimental to the best interests of the body.

SUMMER WEATHER.

SUMMER has not yet arrived, but it is coming; and many persons living in sections which are exposed to extreme heat are beginning to make plans for a visit to some place where they can keep cool during the heated term. To assist such in deciding where to find the weather desired, Lieut. A. W. Greely, the present Chief of the United States Signal Service, contributes an article to the April number of *Scribner's Magazine*, which is full of in-

teresting information respecting the weather of various portions of the United States. According to the statements of Lieut. Greely, "the coast of Northern Maine, a portion of Northern Michigan, and the immediate coast line of California and Oregon, are the only parts of the country where the daily mean temperature does not rise above sixty-eight degrees for several weeks of each year."

The average daily temperature of sixty-eight degrees can be regarded only as moderately warm weather. This temperature prevails at places on the forty-fifth parallel of latitude. The line runs through Eastport, Maine, Montreal, Alpena, Michigan; then inclines north to Mackinaw, Marquette, and to the northern border of Minnesota and Dakota. The mean temperature upon the line described rarely goes above sixty-eight degrees, and is generally lower. In Central and Southern Michigan this moderate mean is maintained for about two months. The very hot mean of eighty degrees is reached in Ohio, Indiana, Southern Iowa, Maryland, West Virginia, and all States south of those named. The territory of the entire lake region may be properly termed comfortable. Michigan is favored by its situation, being wholly inclosed by large bodies of water, except on its southern border, so that the winds from all points of the compass, except south, are tempered by the evaporation of the extensive water surfaces over which they sweep.

The extremely high temperatures which caused so great mortality from sunstroke last summer, were not experienced in Michigan. The highest temperature reached, as recorded at the meteorological station in this city, was ninety-six degrees; while on the same date, temperatures nearly twenty degrees higher was reported in some portions of adjoining States. According to Lieut. Greely, the three hottest days of 1888 will occur between the twelfth and the seventeenth of July.

Cologne Drinking.—The fact has recently come to light that a considerable number of women are becoming habitual drunkards through the use of *Eau de Cologne*. The

so-called "water of cologne" is a spirituous liquor much stronger than any ordinary alcoholic drink. The following is said to be the formula of the famous Farina brand: Twelve drops each of the oils of neroli, citron, bergamot, orange, and rosemary; one drachm of Malabar cardamom, and one gallon of rectified spirit.

Ladies begin by taking a few drops on a lump of sugar, the effect of which is to produce slight exhilaration. After a time, they are able to drink half a glass of *Eau de Cologne* with an equal quantity of water, with no greater difficulty than there would be with a small amount of whisky or brandy. As a drink, cologne is nauseating; but its use acquires so strong a hold upon the victim that many of them have been sent to inebriate asylums to be reformed.

Doubtless the taste for cologne may be traced in some cases to its liberal use in bathing the face and head, which, indeed, may be carried to such an extent as to be little less than a form of drunkenness. Exhilaration produced by the external application of cologne is just in proportion to the amount of the spirits inhaled. Intoxication may be produced by the inhalation of the vapor of alcohol, as well as by drinking the drug.

Simple Habits and Longevity.—Prof. Humphry, of Cambridge, England, has been making a study of the habits of living, of persons known to have attained an unusually advanced age. Prof. Humphry found that, in both eating and drinking, great moderation was the rule. It has already been pointed out that the great majority of them were small or moderate eaters. Of animal food the majority took but little. Of thirty-seven, three took *none*, four took *very little*, twenty took *little*, ten took a *moderate* amount, and only one took *much*. The exact quantity taken daily is mentioned in nine instances: One took twelve ounces, one six ounces, one five ounces, six four ounces.

"In the use of alcoholic drinks we also find evidence of great moderation. Fifteen were, either all their lives, or in their old age or youth, *total abstainers*; twenty-two took but

little, two very little, ten a moderate amount of alcohol; and what is really remarkable, is the fact that some who had taken a little alcohol formerly, were taking none in their old age."

A New Charge against the Nose.—The nose has been credited with being the cause of headache, cough, shortness of breath, earache, neuralgia, hay fever, acne, spasms, and a great variety of other ailments. A German physician, however, has just come forward with the assertion that functional diseases of the brain, particularly inability for prolonged mental effort, are due to disease of the mucous membrane of the nose, and especially to obstruction of the air passages of the nose. It is claimed that the relation is not of a reflex character, but is due to the fact that the lymphatic spaces of the membranes covering the brain are in direct communication with those of the mucous membrane of the nose, as the result of which inflammation of the nasal mucous membrane interferes with the elimination of the morbid products resulting from brain activity, thus leading to mental sluggishness. These facts well accord with the experience of many persons who are subjects of nasal catarrh. Clearly, the nose is an organ which should be well cared for.

Infected Houses.—Observation and experience have shown that houses absorb, and thus concentrate to a very considerable extent, the foul emanations of sickness, and impurities from other sources. This is due to the porous nature of the material out of which houses are usually constructed. On this account, an old house must necessarily be less healthy as a dwelling than a new one. This danger can be obviated by making the walls of houses, so far as possible, air-proof. Houses thus made are warmer and more sanitary than those constructed in the ordinary manner.

The best form of construction is of wood, or of wood veneered with brick. The frame should be sided up with matched ceiling on the outside. This should be covered with heavy builders' paper. The brick should be

well imbedded in mortar, not simply pointed up, as is customary; and the space between the brick and the paper should be completely filled up with mortar. If the frame is again sided on the inside or covered with sheet lath, its warmth will be appreciably increased. Floors should be made double, the first floors being covered with builders' paper. Plastered walls may be made impervious by a coat of shellac varnish, which may be painted or calcimined.

An old house may be renovated by disinfection with sulphur fumes. The sulphur should be burned in the proportion of three pounds to each one thousand cubic feet of space, the room being tightly shut up for twenty-four hours during and subsequent to the burning of the sulphur. Afterwards, doors and windows should be opened, and the room or building exposed to the outer air until the sulphurous odor has disappeared. This will free the room or building from the germs of disease, from mold, and foul odors. Vermin of all sorts will also disappear by this method.

Thackery's Health Habits.—Thackery's habits, as regards health, seem to have been about as bad as possible. Like Dickens, he was a great eater, but Dickens compensated to some degree for his excesses at the table by taking a large amount of out-of-door exercise. For example, Dickens was sometimes known to take a walk of twenty-five or thirty miles before breakfast, while Thackery seldom took exercise of any kind. He constantly suffered as the result of his violation of the laws of health. When urged to obtain medical advice, he said: "What is the use of advice, if you don't follow it? They tell me not to drink, and I do drink; they tell me not to smoke, and I do smoke; they tell me not to eat, and I do eat. In short, I do everything that I am desired not to do, and therefore, what am I to expect?"

Thackery died in misery at an early age. Dickens lived longer, but might still be alive and in the enjoyment of good health, if he had given greater attention to the laws of health.

DOMESTIC MEDICINE



ALUM IN FLOUR.

It has recently come to the surface that some millers are in the habit of adding alum to their flour, for the purpose of improving its color. Alum is a very harmful adulterant to flour. It greatly impairs its nutritive value by rendering insoluble some of the most important elements of food, and injures the stomach. Alum can be detected in bread made from flour containing this chemical substance, by the following method, which we quote from the Home Hand-Book of Domestic Hygiene and Rational Medicine:—

DETECTION OF ALUM IN BREAD.—The simplest method is to dip a slice of the suspected bread in a solution of logwood in water (either the extract or fresh chips may be employed). If alum is present, the bread will become a claret color. A more precise method is the following. Macerate in three or four tablespoonfuls of water a half slice of bread; strain off the water, and add to it twenty drops of a strong solution of logwood. Then add a large teaspoonful of a strong solution of carbonate of ammonium. If alum be present, the mixture will be changed from pink to a lavender-blue. This test will discover a grain of alum in a pound of bread.

Poisonous Colors.—Dr. Hassal, of England, the eminent chemist, has been making an analysis of English postage-stamps, and asserts that they contain white lead, and that disease may be produced by the practice of moistening the stamps with the tongue. A moist sponge should always be used for this

purpose. The penny stamps are especially dangerous.

Dr. Hassal also discovered arsenic in dull red wall-papers, as well as in those of a green color. The test given elsewhere in this department for detecting arsenic in wall-papers is equally applicable to postage-stamps.

To Prevent Nervous Headache.—That “an ounce of prevention is better than a pound of cure,” is universally acknowledged to be true, but the proverb is too infrequently applied in practice. The principle holds good with regard to nervous headaches in a variety of ways:—

1. Nervous headaches are the result of nerve exhaustion, which means some form of physical abuse. Not infrequently an attack of headache is the result of some special strain, which could not well be avoided. A mother, for example, has lost a night's rest, through attendance upon a sick child. The next day she worries through her usual duties, though feeling exhausted and weary; and, by night is herself seriously ill, and suffering from an attack of nervous headache, which perhaps confines her to her bed, and compels the abandonment of her duties for several days. If, instead of compelling himself to go through his usual routine of work, a person who feels premonitions of nervous headache would take a nap of an hour or two, before the attack is really commenced, it might often be averted. If, in addition, and before lying down to sleep, a hot foot bath, with a hot fomentation or hot sponging to the spine, is taken, the impending illness will be much more surely averted.

Arsenical Wall-Paper.—The manufacturers of wall-paper, finding that the apprehensions of the public have been lulled to sleep by their declarations respecting the absolute freedom from arsenical colors of the wall-papers at present manufactured, have again taken to using the poisonous dyes. Recently, a lady in Missouri lost her life through confinement in a room which had been repapered a few days before. This is the season of year when houses are being renovated, and walls repapered, and we apprehend that our readers will appreciate the value of a simple means of testing wall-papers for the presence of arsenic. The following method, which we have tested and know to be reliable, is quoted from the "Household Manual":—

"Take a piece of the paper and, holding it over a saucer, pour upon it strong aqua ammonia. If there is any arsenic present, this will dissolve it. Collect the liquid in a vial or tube, and drop in a crystal of nitrate of silver. If there is arsenic present, little yellow crystals will make their appearance about the nitrate of silver. Arsenical green, when washed with aqua ammonia, either changes to blue, or fades."

We hope every reader who purchases wall-paper this spring will employ this test before placing the paper upon the walls.

Food for Fever Patients.—Beef-tea and meat foods of all sorts are objectionable in fever, since they increase the tendency to a high temperature, which already exists. According to Dr. J. Milner Fothergill, an excellent authority in matters of this sort, the food *par excellence* for fever patients is some form of farinaceous food, which has been subjected to partial digestion with malt, or by means of long baking. There is no better food for fever patients than granola or wheatena. This or some similar grain preparation should generally be used in connection with milk, in fever cases. When milk is used alone, large, hard curds are frequently formed, which occasion great pain and distress, and which may greatly aggravate the symptoms and the danger attending some forms of fever, especially typhoid.

To Remove Cinders.—A railroad engineer says that the best method of removing a cinder from an eye is to rub the eye which has no cinder in it. If the well eye is rubbed toward the corner, the cinder will work down toward the inner corner of the other eye, and will presently be found upon the cheek.

Taking Cold.—It is to be remembered that cold is not the result of exposure to extreme cold, but that most colds are caused by exposure to sudden changes of temperature.

Diet in Rheumatism.—In acute rheumatism the patient should use an almost exclusively milk diet, with an abundance of vegetable acids, in the way of lemonade, fruit juices, etc.

—A continuous bath may be taken by suspending the patient in a large bath-tub, by means of a hammock. The temperature of the water should be about ninety-five degrees. At first the patient should be allowed to leave the bath at night. After a few days, however, the bath may be continued night and day without discomfort. This method of treatment is reported by Dr. L. Riess, an eminent German physician, as a very successful method of treating chronic rheumatism, as well as dropsy, also kidney and heart diseases, and various forms of skin disease, as well as cases of bed-sore, erysipelas, gangrene, and serious injuries to the spine and other portions of the body. It has also been found of great service in the treatment of extensive burns. Every hospital ought to be fitted up with a bath of this sort.

—"Kefir" is the name of a new fermented preparation of cow's milk. It is prepared by mixing one part of buttermilk with two parts of sweet milk, and allowing it to ferment in a bottle. After the first preparation has been made, the process may be continued by adding one part of kefir to four of milk. Cases are very rare, however, for which fermented milk is any improvement on the unfermented article.



MY FIRST PIPE.

BY F. N. SCOTT, A. B.
PART SECOND.

I WENT home in despair, and all the next morning, while conning my geography lesson, I was so nervous at the thought of some one else carrying off my pipe—I already thought of it as mine—that I could not have told whether Timbuctoo was in Europe or in Africa. Finally, just before school time, my grandfather laid down his paper, took off his coat and vest, and went out, as was his wont, to work in the garden. In gathering my books together I inadvertently struck against the rocking-chair upon which hung the vest. The vest fell to the floor, and I heard a tinkling sound, as of coins striking together. I could not resist examining the pockets. One of them contained two silver dollars and three quarters. Two dollars and seventy-five cents,—that was more than enough to purchase old Peterson's pipe. I held the coins in my hand, as though mesmerized by the sight of so much money. An evil thought gradually insinuated itself into my mind. My reflections ran something like this:—

"What if I were to take it? Yes; but he will miss it. No; he must be made to think he lost it. Suppose there were a hole in the bottom of the pocket. So there is a little one. My thumb will make it larger—like that."

Suiting the action to the thought, I thrust my thumb right through the seam, which was already unsewn in part. A little wiggling, this way and that, made the hole big enough to pass the coins. I dropped them through several times, to make sure, and then was off for school as though a thousand imps were at my heels.

At four o'clock the pipe was mine, and grandfather's money jingled in the horny palm of the second-hand dealer. Furnished with tobacco and matches, I took a lonely path leading to the woods, pausing every now and then to feel if the pipe was actually in my pocket. It was mine—mine!—

and at last I was to smoke a real pipe and real tobacco.

Having reached the end of the wood, I sat down, and proceeded leisurely to fill the pipe. I lighted it with great solemnity, and drew the whiffs. What delicious tobacco! What beautiful blue wreaths of smoke I sent curling upward into the branches of the trees. The second-hand dealer was right; it was as sweet as honey.

But before a quarter of an hour had elapsed, my enthusiasm began to weaken. A peculiar sensation of discomfort took possession of my whole being. My head seemed to grow heavy, and felt as though it were slowly turning round and round. I laid the pipe down on the grass beside me, hoping that this feeling would soon pass away, but it did not. My eyes twinkled, my mouth filled with bitter saliva faster than I could spit it out, and my stomach rose in revolt to my very lips. A cold sweat broke out on my forehead, and my whole being was racked with frightful retching. Retribution had overtaken me.

When the worst was over, I rose from the ground, pocketed my pipe, and went staggering homeward. I felt anything but buoyant, and I found the honey of old Peterson's pipe was bitter as wormwood. With pallid face and quivering lips, I entered the room behind our shop, where I was vexed to find the whole family assembled. My aunt was sewing up the torn pocket of the vest, while my grandfather scolded her for allowing his clothes to go in such neglect that he must lose all his money.

"Bless me, how pale you are," cried my aunt, catching sight of me. "Are you sick?"

"Not at all, aunt—that is—" I sank into a chair. The whole room was whirling like a top.

"Come here," said my father, "Whew! You smell like a barn-yard."

Then, shaking me by the arm, "You little rascal!" he continued, "you've been smoking."

He shook me so hard that the pipe came part way out of my pocket. He snatched it, and at once recognized it. "What! you wretched boy. It is old

Peterson's pipe. The pipe of a bankrupt! When did you get the money to buy this?"

He shook me as though I were a plum-tree. I saw that a terrible punishment was in store for me, but before I could frame words for an answer, my good grandfather spoke out:—

"Tut, tut! Joseph," said he, "do'n't be hard on the boy. It was I who gave him the money; I am most to blame."

"You?" my father exclaimed. "You did very wrong to encourage the vices of a good-for-nothing, who will some day come to just such an end as did old Peterson." Then he hurled the pipe onto the floor, where it broke into a thousand pieces. "So I should like to serve all pipes in creation. Now go to your room, and do not leave it till you have permission."



"What! You Wretched Boy. It is Old Peterson's Pipe."

I mounted the stairs, feeling miserable enough. A few moments later the door was silently opened, and my grandfather entered.

"Harry," said he, in a broken voice, "I did not know I had a thief for a grandson."

I could only bury my face in the pillows, while I felt even my neck redden with shame.

"But I have pity on you. No one shall ever know of your crime but myself; and if you are ever tempted again, remember that I, an old gray-haired man, told a lie to save you from punishment."

Ah! dear, kind-hearted old man! I raised my head from the pillows, and saw him with tears streaming from his eyes, holding open his arms for me. I threw myself upon his breast, and by the violence of my sobs he knew that my repentance was sincere.

And that is the story of my first, and let me say, my last, pipe.

—There is nothing manly in giving way to desires and being governed by them.

ANSWER TO PUZZLE.

Given in last number.

- | | |
|-------------------------|-----------------------|
| 1. Eye-lids. | 11. Hares (hairs). |
| 2. Knee-caps. | 12. Lashes. |
| 3. Drums (of the ears). | 13. Arms. |
| 4. Feet. | 14. Chest. |
| 5. Nails. | 15. Temples. |
| 6. Soles (of the feet). | 16. Crown. |
| 7. Mussels (muscles). | 17. Shoulder-blades. |
| 8. Palms. | 18. Teeth (of a saw). |
| 9. Tulips (two lips). | 19. Elbows. |
| 10. Calves. | 20. Locks. |

Some Funny Definitions.—A little wholesome fun is good for boys and girls as well as older people. Here are a few school-boy definitions, which, although hardly likely to be adopted by the dictionary writers, are certainly more apt than some which are found in the dictionary.

A boy defined dust as "mud with the juice squeezed out."

A fan we learn from another juvenile source, is "a thing to brush warm off with."

A monkey, "a small boy with a tail."

Salt, again, is "something which makes potatoes taste bad when you do'n't put any on."

A school-boy asked to define the word "sob," whimpered, "It means when a fellow do'n't mean to cry, and it bursts out itself."

Another, being called upon for the meaning of "responsibility," replied: "Well, supposing I had only two buttons on my trousers, and one of them came off, all the responsibility would rest on the other button."

Pure Air.—A person may go without eating for a month, or without drinking for several days, and still live; but if shut up where he can get no fresh air to breathe, he will die in a very short time. It is very important that the air we breathe be pure. If people breathe impure air, they are very likely to become sick. There are many ways in which air becomes impure. Anything that can rot or decay, will, in so doing, make the air around it impure.

The reason why things that decay make the air impure is because they are then full of little living things called *germs*, which get into the air; and if we breathe them, they will be apt to make us sick. Most things that decay, have a bad odor. This is a very wise arrangement; for if we smell a bad odor, we may feel quite sure there are germs around, and then avoid them.

At this season of the year, many people have rotten potatoes, apples, and other vegetables in their cellars, and heaps of refuse and other bad smelling things in their back yard. All these are dangerous to health.

If any of our little readers know of any such things that are poisoning the air around their home, we hope they will do all they can to get them removed at once.

Question Box.

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

Sugar—Healthful Dietary—Fruit in Tin—Tests for Milk.—J. T. H., Ohio, makes the following inquiries:—

"1. Is there any harm likely to grow out of the use of sugar?"

"2. My diet is bread, sweetened hot water, grains, milk, and fruit. Do you know of anything which might be beneficially added to my dietary?"

"3. Is it harmful to use fruits put up in tin cans?"

"4. How can milk be tested for disease?"

Ans. 1. Used in small quantities, sugar is a food. When used in excess, it is frequently productive of dyspepsia. Diabetes is produced more frequently by the excessive use of sugar than by any other cause.

2. Bread and other grain preparations, milk, and fruit, are capable of supplying all the wants of the body.

3. Fruits, especially acid fruits, put up in tin, are likely to be contaminated with lead. Many cases of sickness have been produced by the use of such fruits.

4. We know of no reliable means of testing milk to determine whether it is or is not likely to produce disease. There are, of course, means of detecting adulteration. Care should always be taken to be assured that milk is produced by healthy cows, fed upon good food, and furnished pure water to drink.

Dandruff—Parched Corn—Vegetarianism.—H. D. J., Mo., asks:—

"1. I would like a remedy for dandruff."

"2. Is parched corn difficult of digestion?"

"3. I see you allow the use of eggs and milk by vegetarians, because their use does not involve the taking of animal life. What wrong do you think there is in the taking of animal life?"

Ans. 1. Shampoo the scalp two or three times a week with fine castile soap and a soft brush. Rinse thoroughly with water, and apply a mixture of equal parts of castor-oil and alcohol.

2. No. Parched corn is one of the most digestible of foods, provided it is not rendered indigestible by the addition of fat and salt.

3. We do not consider it wrong to take the lives of animals in order to preserve the life or health of human beings; but when the slaughtering of animals is carried on for the mere purpose of gratifying a perverted appetite, we see no reason why it should not be considered wrong, just as much as the killing of birds to gratify a morbid fancy for decoration, or to satisfy the demands of fashion. We prefer to "live and let live."

Nervous Dyspepsia—Nerve Tonics—Chilblains—Weak Eyes—Offensive Perspiration—Physical Culture.—A. D. A., Illinois, inquires as follows:—

"1. Please give the symptoms of nervous dyspepsia, and state what will relieve it.

"2. What will strengthen and tone up the system, particularly the nerves?"

"3. How can chilblains of many years standing be cured or prevented?"

"4. What can be done to strengthen weak eyes?"

"5. What is the cause and cure of offensive perspiration, especially of the arm-pits?"

"6. What hand-book can you recommend for developing exercises?"

Ans. 1. The leading symptoms of nervous dyspepsia are headache, pain in the eyeballs, pressure at the back of the head, pain in the spine, back of the stomach, palpitation of the heart, neuralgia, confusion of thought, loss of memory, irritability, nervousness, disturbances of vision, cold extremities, drowsiness after meals, sleeplessness at night, general debility, usually great depression of mind, the tongue is commonly coated, the bowels very inactive. The successful treatment of this disease is more difficult than that of any other form of dyspepsia. It can seldom be successfully managed by the patient himself. A person suffering from this malady should place himself under the care of a good physician. We will offer, however, a few suggestions. The diet should be chiefly fruits, grains, and milk. Butter, sugar, pastry, rich gravies, meats, and condiments, as well as tea and coffee, should be excluded from the dietary. Mental rest, out-of-door life, daily saline sponging, oil-rubbing, and massage are of great service.

2. Fresh air, wholesome, digestible food, daily saline sponge-baths, with vigorous rubbings, sun-baths, moderate exercise, are the best tonics with which we are acquainted.

3. One of the best remedies for chilblains is the alternate hot and cold foot-bath, which consists in dipping the feet alternately in hot and cold water, the extremes being as great as can well be borne.

4. Weak eyes should be examined by an oculist. The remedy needed may be medical or surgical treatment, or the adjustment of proper glasses.

5. It is not always easy to determine the cause of an offensive odor from the person, when frequent bathing does not relieve the difficulty. The odor is generally the result of decomposition of the sweat. Bathing the parts with a solution of salicylate of soda, a drachm to the ounce of water, or a two-per-cent solution of carbolic acid two or three times a day, is usually effective.

6. We know of no popular work better for the purpose desired, than "How to Get Strong," by William. Blaikie, published by Harper & Bros., New York.

Literary Notices.

IN his article on "Where to Spend the Summer," in *Scribner's* for April, Gen. Greely, chief signal officer, makes a prophecy as to the hottest days in the year 1888. The *Detroit Journal*, taking up the matter, has offered a prize of \$500 to the person guessing correctly, before June 1st, what the three days will be. Gen. Greely immediately telegraphed his guess to the paper, in accord with his reasons in *Scribner's* for April.

IN the *American Magazine* for May, William Eleroy Curtis will begin a series of illustrated articles on "The Oldest of American Cities." The first paper will deal largely with Carthage, which was the first city founded on the continent, although several colonies had previously been established on the islands near by, and a fortress had been built at Panama. The city became the rendezvous of the Spanish galleons that went to South America for treasure, and consequently a most tempting field for pirates. Incidents in relation to these, together with descriptions of the large churches, palaces, and other buildings, afford large scope for an article of this character, and Mr. Curtis has taken full advantage of the opportunity.

THE frontispiece of the *Woman's World* for May, is a portrait of the Queen of Roumania, who is best known to the world of letters as the graceful poet, "Carmen Sylva." A paper devoted to the life and literary work of the poet-queen is illustrated with sketches showing the royal lady at work in her studio and in her library. "Nursing as a Profession for Women," by the Princess Christian, opens the number, and argues well in its favor. "The Children of a Great City," "Summer Days in Brittany," and "People's Kitchens in Berlin," are other articles of interest to be found in this number.—*Cassell & Co., New York; 35 cents a number, \$3.50 a year in advance.*

INEBRIETY. By Norman Kerr, M. D., F. L. S.; Philadelphia; P. Blakiston, Son, & Co. 415 pp. Price, \$3.00.

This work treats in a most exhaustive manner of the etiology (causation), pathology, treatment, and jurisprudence of inebriety. The name of this distinguished author is ample guarantee of the authoritative character of the work, which covers a field not heretofore occupied by any reliable and equally exhaustive publication.

Dr. Kerr has had exceptional opportunities for the study of inebriety, in all its phases, at the Dalrymple Home for the Cure of Inebriates, which, we believe, he was chiefly instrumental in founding. His position respecting the nature of inebriety is that it is a

disease, not a moral or mental disease, but a disease in the same sense in which epilepsy, or St. Vitus' dance, or neuralgia, is a disease. According to his view, the disease may be either functional or organic. It may vary in intensity, from the slightest functional disturbance, which merely induces a slight craving for artificial stimulation, to those organic changes which render the appetite for drink like a Western tornado in its fury, and the will of the victim powerless to offer resistance.

The volume deals with inebriety in all its various phases and forms, including opium, chloral, cocaine, and other vice drugs, as well as alcohol. The only point in which we find occasion to differ with the author is in his view of tobacco. In the opinion of Dr. Kerr, tobacco is not capable of producing inebriation, or at least "there is no true tobacco inebriety." Our experience teaches us differently. We have met with cases of delirium tremens which were certainly of tobacco origin. We have known of tobacco habits who declared their craving for the weed to be so great that they could "almost gnaw through a stone wall to get a plug of tobacco on the other side." We are prepared to admit, however, that the chief relation of tobacco to inebriety, at least in the great majority of cases, is that of an associate of other vice drugs, for which it creates a demand, or relieves the unpleasant after-effects.

THE numbers of the *Living Age* for April 21st and 28th contain Hans Sachs: The People's Goethe of the Sixteenth Century, by Karl Blind, *Westminster*; Frederick III., *Contemporary*; Home Rule in the Western Pyrenees, *Fortnightly*; One Day's Sport in India, *Nineteenth Century*; Mary Stuart in Scotland, *Blackwood*; The Spanish College in the University of Bologna, *Macmillan's*; Section Life in the Northwest, *Cornhill*; The Lakes, and Recollections of Charles Dickens, *Temple Bar*; Some Recollections of the New Crown-Prince of Germany, *Murray's*; Swiss Forest Laws, *Nature*; In a Turkish City, *Chambers'*; Emin Pasha, *All the Year Round*; Tarmways in Damascus, *Standard*; Examination Papers for Young People, *Punch*; and poetry.

For fifty-two numbers, of sixty-four large pages each, (or more than 3,300 pages a year), the subscription price (\$8) is low; while for \$10.50 the publishers offer to send any one of the American \$4.00 monthlies or weeklies with the *Living Age* for a year, both post-paid. Littell & Co., Boston, are the publishers.

St. Nicholas for May offers the little folks who are so fortunate as to be numbered among its readers, an entertaining and instructive bill of fare. Among the good things offered is a sketch of Little Josef Hoffman, the wonderful child musician, and another of Girard College, by Alice Maude Fum.

The Century Co., N. Y. Subscription price, \$3.00 per year.



SEASONABLE BILLS OF FARE.

DINNER NO. 1.

Canned Corn Soup,	
Baked Potatoes,	Spinach,
Pearl Wheat with Raisins and Cream,	
Whole-Wheat Muffins,	Dry Toast,
Molded Rice Flour with Fruit Sauce,	
Almonds,	Apples.

DINNER NO. 2.

Brown Soup,	
Scalloped Potato,	Stewed Corn and Tomato,
Baked Beets,	
Whole-Wheat Bread,	Granola,
Farina with dressing of Maple Syrup,	
Baked Apples and Cream.	

Rice Flour Molded.—Braid two tablespoonfuls of rice flour with a little milk, and stir the mixture into a pint of boiling milk, to which has been added three tablespoonfuls of sugar, and a little salt if desired.

Let this boil until it thickens; then mold, and serve with cream and sugar or with fruit sauce.

Canned Corn Soup.—Turn the contents of a can of sweet corn into a granite-ware pan and mash thoroughly with a potato-masher until every kernel is broken. Then rub through a colander. To the pulp thus obtained add sufficient rich milk to make two quarts in all. Add salt if desired, heat to boiling, and thicken with a little flour braided in milk. Serve hot.

Brown Soup.—Simmer together two pints of sliced potatoes and one-third as much of the thin brown

shavings (not thicker than a silver dime) from the top crust of a whole-wheat loaf of bread, in two quarts of water. The crust must not be burned nor blackened, and must not include any of the soft portion of the loaf. When the potatoes are tender, mash all through a colander. Flavor with a cup of strained stewed tomatoes, a little salt, and return to the fire; when hot, add half a cup of cream, and serve at once. If care has been taken to prepare the crust as directed, this soup will have a brown color, and a fine pungent flavor exceedingly pleasant to the taste.

Whole-Wheat Muffins.—Dissolve half a cake of compressed yeast in half a pint of milk, and add a sufficient quantity of rich milk to make a pint. Stir into it three cups of whole-wheat flour, and set in a warm place to rise. When light as a foam, stir in two well-beaten eggs, and turn into gem irons or muffin rings, filling them only half full. Let them rise till very light, and bake in a quick oven.

Scalloped Potatoes.—Pare and slice the potatoes; then put them into an earthen pudding-dish dredged very lightly with flour, add salt if desired, and pour over them just enough good rich milk to cover them. Fit a cover over the dish, and bake in a moderate oven, till the potatoes are tender, removing the cover just long enough before the potatoes are done to brown them nicely over the top. If desired, a little cream may be added when the potatoes are nearly done.

Stewed Corn and Tomatoes.—Boil dried or fresh corn until perfectly tender, add to each cup of corn two cups of stewed, strained tomatoes, either canned or freshly cooked. Salt to taste, boil together for five or ten minutes, and serve either plain or with a little cream added.

—To mend small holes in plastering, use one part plaster of Paris and three parts fine sand. Mix with cold water, and apply with a case-knife.

THE CARPET BEETLE.

This insect is reported to have been first discovered at Buffalo, New York; and possibly from this fact, but probably from the fancied resemblance of the arva to a buffalo, is often called the "buffalo bug." It was first reported in this country in 1850, when Dr. Le Coute found what he considered a species of it, on flowers in California. This differs from the Eastern beetle only in having a white line, instead of a red one, along the middle of the back.

The mature larva is nearly one-fourth of an inch long, and clothed with coarse brown hair, which is arranged somewhat in tufts on the head and along the side, while at the posterior end they are extended into a tail-like appendage. In September and October the larva transforms into a pupa, which, however, is retained within the skin of the larva till the transformations are completed, and the perfect beetle emerges through a rent in the middle of the back.

The perfect beetle is about an eighth of an inch long, of a black color or marked with white. The wing-covers, where they meet along the back, are bordered with red, thus forming a red line along the middle of the upper side, from which there are three red projections outwardly on each side, one from the middle, and one from near each end.

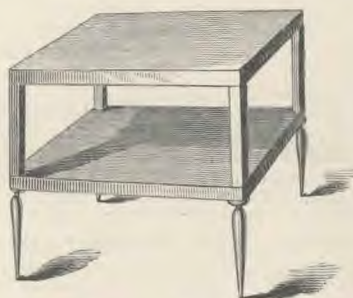
After the beetles emerge, the sexes pair, and the females deposit their eggs for another generation, of which there is probably only one in a year.

It is frequently said that the bugs attack cotton and silk fabrics, not confining themselves to woollens. Professor Fernald thinks there must be a mistake about this, as the insects he has experimented with during the past year have refused to eat either silk or cotton, and when supplied with mixed goods, they ate out the woolen fibres, leaving the cotton and silk intact.

These insects attack the exposed edges of the carpets wherever they can make their way underneath, especially along the cracks of the floor, sometimes dividing the carpet as neatly as it could be cut with a pair of scissors. They are undoubtedly very difficult of extermination. The ordinary applications of camphor, pepper, tobacco, turpentine, carbolic acid, etc., are of no value whatever. It has been asserted that the pests grow fat on these substances. Benzine or kerosene oil, used freely in all the cracks and crevices of the floor, will destroy the beetles in all stages, if brought in contact with them; and the odor of benzine, if sufficiently strong, will destroy both the larva and perfect beetles. One of the best and simplest methods of destruction, however, not only of this beetle, but of all carpet pests, is to spread a wet cloth along the edge of the carpet or over any suspected places (they are most apt to attack places least used, first under sofas, etc.), and pass a hot flat-iron slowly over it. The hot steam, penetrating through the carpet, is an effective destroyer of insect life; to insure success,

however, the work must be very carefully and thoroughly performed.

The beetle described above is not the only one attacking our carpets, though none have proved so destructive as this. Professor Fernald says he has frequently received specimens of a carpet-destroying larva which was longer and more slender, though covered with brown hair similar to the buffalo beetle. These develop into a dark brown or black beetle, of oval outline, and about an eighth of an inch long.—*Selected.*



A Handy Waiter.

HOUSEHOLD CONVENIENCES.

A Handy Waiter.—In many households where no help is employed, a labor-saving device, like the one represented in the accompanying illustration, will be found of great service. It is a light double table on easy-rolling casters, and can be readily constructed by any one handy in the use of tools. If preferred, the top can be covered with zinc. In setting or clearing the table, the dishes may be placed on the lower shelf, with the food on the top, and the table rolled from pantry to dining-room, and from dining-room to kitchen; thus accomplishing with one trip, what is ordinarily done with hundreds of steps by the weary housewife. If desirable to reset the table at once after a meal, the waiter will be found most serviceable as a place whereon, with pans of hot water and towels, the glassware and silverware may be washed. It is equally serviceable for holding the utensils and material needed when cooking; it being so easily moved, it can be rolled to the stove and is always handy.

—If the sleeves of little girl's dresses and little boy's waists are made double at the elbows, it will save much vexation when they come to mending, as the patch will be there, in place, and all that will be necessary is to cut out the ragged portion, and neatly mend.

—Sifted coal ashes is one of the best things with which to scour steel knives or iron pans and kettles.

Publisher's Page.

The publishers are daily in receipt of letters thanking them for supplying the public with a journal which affords reliable and practical instruction on health subjects, in a form available to the common people.

The call for back numbers has been so great, we have been obliged to print an extra edition of the January and March numbers. We are still able to begin subscriptions with the January number, if desired.

The foreign edition of this journal, which is sent chiefly to England, South Africa, and Australia, now equals more than half of what constituted the entire edition of the journal less than two years ago, while the whole edition is now about five times as great.

The new edition of Social Purity is selling very rapidly. Of the forty thousand copies which have been printed, but few remain. Few works of like character, if indeed any, could be named, which have received so wide a circulation in so brief a period.

Through oversight, the advertisement of the Michigan Poultry Farm, which appears in our present number, was omitted last month. We are personally acquainted with Mr. Phillips, and his stock of fine fowls, and believe those who purchase from him will get their money's worth.

Our next number of this journal will contain an article describing the various methods by which well-water may be dangerously contaminated, and giving an account of the best methods for preventing and protection against water-contamination. The article will be illustrated by a colored frontispiece.

A Sanitary Convention will be held by the State Board of Health, at Manistee, Michigan, Tuesday and Wednesday, June 6 and 7. A large number of interesting papers and addresses from prominent sanitarians have been arranged for by the secretary of the Convention. Copies of the program may be obtained by addressing Rev. J. Snashall, Manistee, Mich.

The next number will contain an article on the Karens of Burmah, by Miss Emma Ambrose, who is spending a short time in this country, for the purpose of recruiting her health, after nine years' labor as a missionary among this little-known people. We have had executed, to illustrate this interesting article, two fine wood engravings, copied from photographs furnished by Miss Ambrose.

Work has begun again on the new hospital, which is in process of construction by the managers of the Sanitarium. The house will be a fine structure, 66 x 100 feet. It will consist of four or five stories, above a high basement. It will be fitted with every modern appliance necessary for a first-class hospital, and will undoubtedly be the most complete establishment of this sort in the world, as it has not only all the advantages of an ordinary hospital, but all the advantages of the Sanitarium appliances as well. An institution of this sort has been greatly needed, not only for the benefit of the poor, but for all classes. The surgical work of the Medical and Surgical Sanitarium has so largely out-grown the present quarters devoted to surgical cases, that the managers will probably lease a portion of the new building for the regular surgical patients of the institution, the proceeds to go towards the maintenance of free beds in the new hospital,

which, as previously announced, is to be erected especially for the purpose of affording an opportunity for the sick poor to receive treatment free of cost.

In reply to numerous inquiries which are continually made, the managers of the Sanitarium wish to state that the free hospital building will not be ready for use before next autumn. An announcement of the opening will be made in due season. No one should come to the institution, without first writing to the managers; and making arrangements in advance, as charity patients are received only under special conditions, which must be strictly complied with. All intelligent persons can see that this is necessary, to guard against imposture. The new building will be chiefly devoted to surgical cases.

The Sanitarium Kindergarten, under the skillful management of Miss Affolter, is a paradise for little folks. Twenty-five or thirty children, varying in age from three to eight years, may be found in the kindergarten daily. The course of instruction pursued, lays the best possible foundation for a thorough education. The little ones are not crammed with facts, although every day adds something to their store of knowledge. They are taught how to observe, and how to learn things for themselves. They are also disciplined in such important matters as order, promptness, obedience, courteous manners, etc., which are of the utmost importance in the education of children, but which most parents are too indulgent, too careless, or too busy to give to their children. Hygiene and physical culture are made prominent features in this school. We wish there might be a school of the kind in every city in the land.

SCHOOL OF DOMESTIC ECONOMY,



The undersigned have organized, and will open on the above date, a School of Domestic Economy, to be continued for twenty-five weeks. The following Subjects will be taught, both theoretically and practically:—

SCIENTIFIC COOKERY, TABLE SERVICE, HYGIENE OF DIET, GENERAL HOUSEKEEPING, DRESSMAKING, LAUNDRY WORK, ECONOMICAL HOUSEKEEPING, DOMESTIC HYGIENE (including Sanitary care of house and premises, tests for impure water, purification of water, disinfection, etc.), INDIVIDUAL HYGIENE, and KEEPING OF FAMILY ACCOUNTS. In fact, every subject pertaining to the economical and hygienic care of a home.

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3. Students in this school have an opportunity to acquire a practical knowledge of much that is taught only theoretically in other schools, or is omitted altogether.
4. A pleasant home and agreeable social surroundings instead of the prison-like atmosphere of the ordinary hospital.
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Dance of Modern Society, The. By William Cleaver Wilkinson. This powerful little book deals with the dance from the standpoint of health, social tendency, morals and religion. "The most pungent attack on the modern dance we have ever read."—*Harper's Magazine*. 12 mo., 78 pp., cloth, 60 cents.

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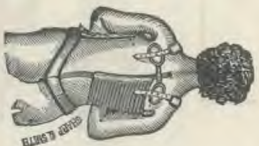
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WHOLE-WHEAT BREAD.—Letters received from different places ask for information about this wholesome article of food. The old-fashioned graham bread, in spite of ridicule, has conquered for itself a place in American cookery. It seems that the bran, acting on the lining membrane of the intestines, promotes their peristaltic action, and prevents all ordinary constipation. Thousands of persons have been relieved by it from what had been a very sore trouble. It was subsequently seen that the same result would follow from the use of clear wheat bran, taken in connection with the ordinary food; and that this was, in some respects, the best way to secure the desired results, since one could not always depend on getting good graham bread, but could easily lay in a permanent supply of good bran. But science has revealed the fact that bolting, which gives to flour the whiteness so much desired by our American housekeepers, throws out its most important constituent, namely, *the phosphorus*, which enters so largely into the composition of the brain and nerves. This is contained in the dark layer of the wheat which lies next to the hull. Hence, white flour and bran are far from imparting the full value of bread as the staff of life. The lack of this rejected constituent is now believed to account largely for the fact that our American population suffer so greatly from nervous troubles. Besides, much of the constipation simply results from the weakness of the nervous centres which preside over the action of the bowels. *Within a few years improved methods of manufacture have secured an article of flour greatly superior to the graham, called whole-wheat flour. It reduces the hull to very fine particles, retains all the constituents of the flour, and, by the cold blast process, guards against all heating.*—*Youth's Companion, Oct. 13, 1887. Circulation, 400,000.*

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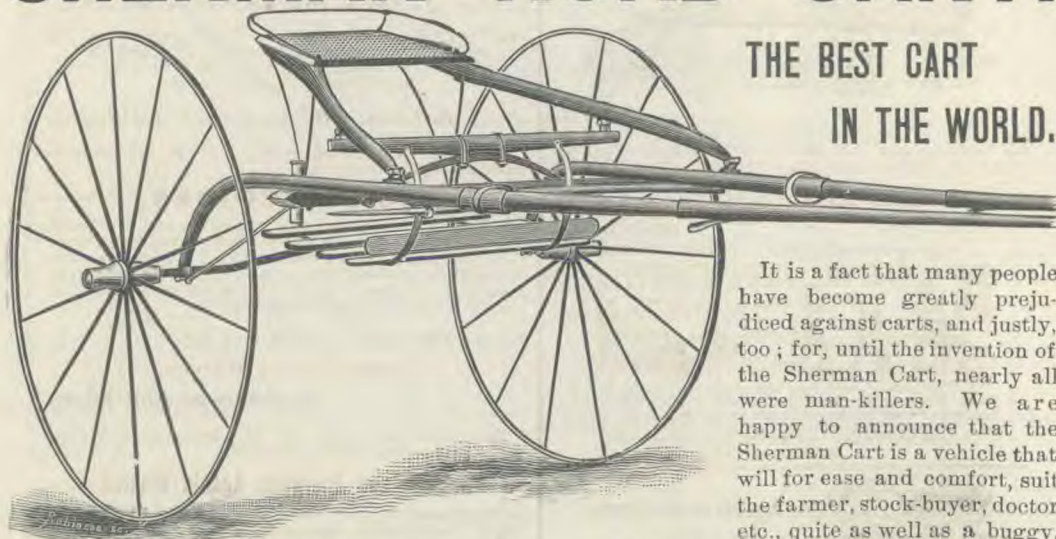
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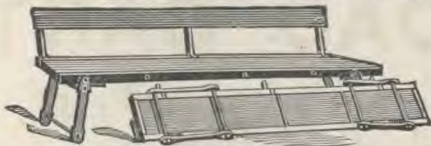
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Niles		10.38	12.15	5.49	11.33	12.55		4.00
Kalamazoo		12.17	1.50	6.58	12.33	2.27		5.38
Battle Creek		1.12	2.27	7.33	1.25	3.18		6.30
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Jackson		9.40	11.35	3.32	12.54	10.52	7.10	6.45
Battle Creek		11.20	1.12	4.40	2.23	12.12	8.52	8.22
Kalamazoo		12.17	1.50	5.15	3.07	1.20	9.45	9.05
Niles		2.08	3.22	6.27	4.28	3.03		10.33
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Time Table, in Effect Nov. 20, 1887.

GOING WEST.					STATIONS.		GOING EAST.				
Chgo Pass.	Mail.	Day Exp.	Yacht Exp.	L. Ck Pass.	Dep.	Arr.	Mail.	Lmd Exp.	Atto Exp.	Bus. Pass.	P.H.'s Pass.
.....	am	am	pm	pm	.....	.....	pm	am	am	am	am
.....	5.55	7.15	8.15	3.10	.....	Port Huron	10.20	1.15	7.35	.....	10.50
.....	7.28	8.31	9.34	5.40	.....	Lapeer	8.42	11.57	6.11	.....	9.17
.....	8.05	9.10	10.15	6.20	.....	Flint	7.55	11.27	5.4	.....	8.40
.....	8.43	9.35	10.58	7.20	.....	Durand	7.05	10.58	5.03	.....	8.05
.....	10.00	11.30	11.58	8.25	.....	Lansing	6.20	10.07	4.09	.....	6.45
.....	10.37	11.00	12.25	9.03	.....	Charlotte	4.42	9.37	3.25	.....	6.15
.....	11.30	11.45	1.15	10.05	A	BATTLE CREEK	3.45	8.55	2.35	.....	5.30
6.30	am	12.05	1.20	pm	D		3.40	8.50	2.30	.....	am
7.15	.....	12.45	2.21	.....	.....	Vicksburg	2.41	8.11	1.43	.....	.....
7.30	.....	12.55	2.32	VAL.	.....	Schoolcraft	2.31	.....	1.57	.....	VAL.
8.17	SUN.	1.45	3.19	Acc.	.....	South Bend	1.45	7.26	12.43	.....	Acc.
9.00	Pass.	2.28	4.07	.....	.....	Cassopolis	1.05	6.50	12.01	.....	.....
10.15	am	3.43	.....	am	.....	Haskell's	11.47	.....	.....	.....	pm
10.30	7.35	4.05	5.52	6.05	.....	Valparaiso	11.35	5.30	10.29	3.40	8.03
12.40	10.00	6.25	9.10	8.43	Chicago	9.05	3.25	8.15	1.15	5.25
pm	am	pm	am	am	Arr.	Dep.	am	pm	pm	pm	pm

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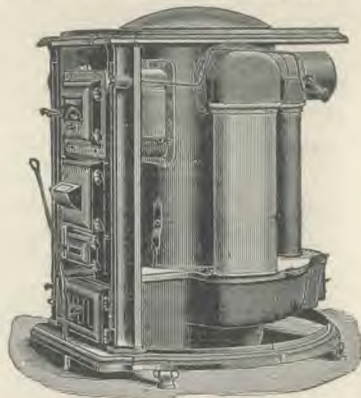
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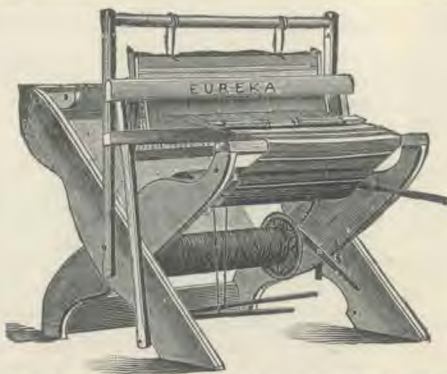
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