

# THE YOUTH'S INSTRUCTOR

REMEMBER NOW THY CREATOR IN THE DAYS OF THY YOUTH

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## WATER-CARRIERS OF MEXICO.

MEXICO has but two seasons, the rainy and the dry. The rainy season begins in June, and ends with September; so the months from October to June are without rain. During this time everything becomes dry, and the water-supply in some places is almost exhausted. Often water must be carried long distances.

Some of the methods adopted by the Mexicans for carrying water seem very unique to us. In the first picture is shown a water-carrier of northern Mexico. He has utilized some barrels brought over from the "States;" and oddly out of place they look on the rude wheelbarrow, whose wheels are cut out of a solid piece of timber.

The second picture is of a water-carrier of Guanajuato, one of the most picturesque cities of all Mexico. This city has but one main street, which runs up a narrow pass between two mountains. The houses are perched on the sides of these mountains, looking as if one house were built on the back of the one just below it, so steep are the mountain sides. This city has seventy thousand inhabitants, and justly boasts of the most beautiful theater building in Mexico, and one of the most beautiful in the whole world. How strangely out of place with its surroundings appears this beautiful monument of modern architecture, as we see the primitive water-carriers passing in front of it! The first time I saw one of the water-carriers of Guanajuato, I was looking from my door in a hotel. He passed by on the other side of the open court, and emptied the water from the strange bucket of hogskin roped to his back, by bending his body, and letting the water fall over his head.

The water-carrier who brought water to us at the mission in Guadalajara, brought it as you see illustrated in the third picture. The wheelbarrow is rude enough, and the *cantaros* holding the water are just such jars as we read about in the Bible: they are in common use in Mexico.

Later, when we moved to another street of Guadalajara, water was brought to us by the faithful little burro, with the *cantaros* fastened to his back.

The peculiar customs and primitive ways of the Mexicans are interesting to us; but when we realize that their lack of knowledge is the

except his nearest relatives. When a woman is dying, only her husband, son, or brother is permitted to remain.

Bodies are not buried, as with us, shortly after death. When a person dies, his body is usually placed for three days on a board, with a clean white sheet covering it. This board is called the "star board," because it has seven stars painted on it. If the dead person belonged to the poorest class, the body is kept three days; if to the middle class, nine days. In the case of nobles and very rich persons, burial is delayed from three to four months. During all this time the mourners gather three

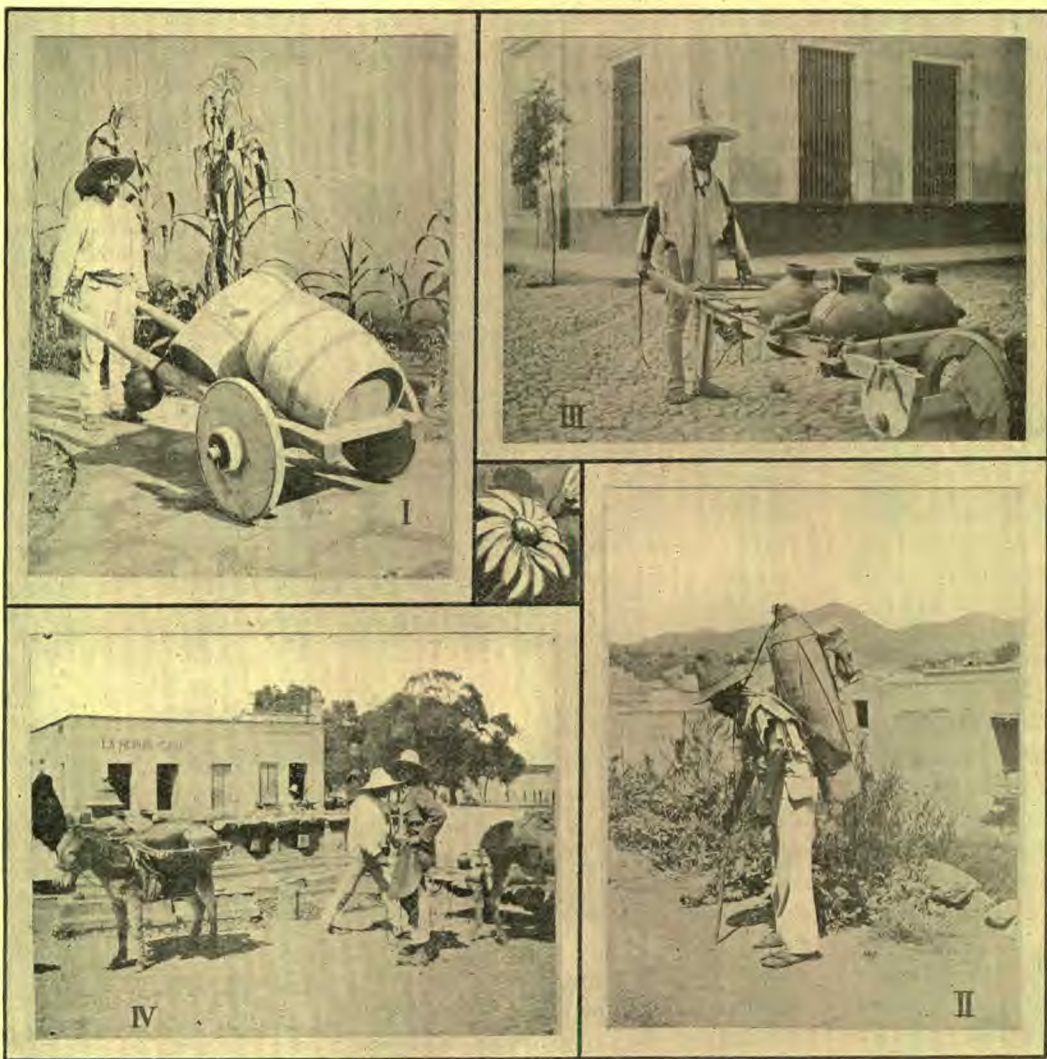
times each day in the room where the corpse has been placed. Usually they have on robes of sackcloth. They weep and wail loudly, strike themselves upon the breast and head, and call on the name of the departed. Feasts of rice, fruits, etc., are also offered daily. Sometimes paper flowers are placed on the body.

One custom is for a servant to take the underclothes of the dead outside the house and wave them in the air, calling the departed by name, while all about him the various members of the family are standing, adding their moans and wails to his calls. After this, the clothes are thrown on the roof of the house, where the spirit can obtain them if it so desires.

Outside the door of the room in which the corpse lies is placed a table, and on the table are three bowls of rice, a squash, and three pairs of straw sandals. The rice and sandals are for

each of the three spirits; for the Korean belief is that after death, man goes away into three souls. One soul occupies the tablet set up for it in the home, the second goes into the grave, while the third departs into the unknown.

At a Korean funeral the mourners are usually all men; but sometimes a widow may attend in a closed chair the burial of her husband. The mourners walk backward, facing the corpse. The grave-clothes are of the most brilliant colors—red, blue, and yellow. The grave of a rich man is dug beforehand, but that of a poor man is not made until the procession arrives. The body is placed in the grave, and a



WATER-CARRIERS.

result of the oppression they have been subjected to for hundreds of years, we should be anxious to help in some way to reach these poor people with the light of the true gospel.

KATE ROSS MARCHISIO.

## MOURNING CUSTOMS OF KOREA.

THE Koreans have some strange mourning customs. Their funerals give the impression of gaiety rather than of grief. Red predominates, and there are loud music, and banners with streamers of bright colors. When a man is dying, no woman is allowed in the room,



circular mound raised over it. Offerings of wine and fish are then placed before it. The relatives face the grave, prostrating themselves five times. Afterward the wine is poured upon the mound, and the fish given to the attendants.

Often there can be seen walking about the streets of Seoul and other Korean cities, men with immense hats, not only covering their heads, but coming down over their faces. Some of these hats are as large as good-sized parasols. They are usually of bright straw. These are the mourning-hats of Korea. The mourners wear long robes of light gray, and each holds a screen in front of his face. A man losing a parent must mourn in this way for three years, because, according to Korean belief, the gods are angry with him for having caused the death of his father. If, in the meantime, he loses the other parent, he must mourn three years longer. When the king, queen, or crown prince dies, all the people put on mourning for a certain length of time.—*A. M. Barnes.*



#### THE SOUL'S GATES.

Aye, and it needs strong guards at every gate;  
Outside are roving warring hosts of sin,  
Armed to the teeth, who ever watch and wait  
To steal unhindered in,

There to lay waste the temple and the shrine,  
To fire with torch, to rob, to smite with sword,  
To ruin and make desolate this divine,  
Fair city of the Lord.

Then, O my soul! knowing the fate that waits  
One careless hour, a faithful vigil keep;  
Set sentinels at all thy hundred gates,  
Nor let them faint nor sleep.

—*Clara Doty Bates.*

#### THE RESURRECTION OF LAZARUS.

##### VII.

By raising Lazarus, Christ gave unmistakable evidence that he was the Sent of God. However humble his birth and appearance might be, he was the mighty God, the everlasting Father, the Prince of Peace. Who can fathom his longing desire to save those who had no mercy for themselves? He longed to give these deluded, fanatical people, whose fathers he had led through the wilderness, an evidence of his divinity, a display of his power, that would lead them to accept him. But he knew that though, as the result of this miracle, many souls would afterward be added to the church, the hearts of others would be steeled against him and his work.

Looking over the past, Christ saw how, during the record of a thousand years, the Jews had abused their precious privileges. God had borne long with his erring people. In visible glory he had dwelt in the Shekinah of the mercy-seat. He had sent his Son to redeem them, but in a short time they were to show to the heavenly universe, to the worlds unfallen, that they had chosen Satan to be their leader, and were determined to cherish his attributes. Satan's best allies are those who will not come to the light, who stubbornly refuse all evidence; and the Jews had long been working in these lines. They would soon make the words of John the Baptist, "Ye generation of vipers," true in every sense. They would break every God-given command, thus demonstrating the truth of Christ's words: "Ye are of your father the devil, and the lusts of your father ye will do. He was a murderer from the begin-

ning, and abode not in the truth, because there is no truth in him. When he speaketh a lie, he speaketh of his own: for he is a liar, and the father of it."

Bethany was so near Jerusalem that the news of the miracle was soon carried to the city, and in a few hours the Jewish rulers were in possession of the facts. A meeting of the Sanhedrin was at once called, to decide what should be done. The priests were convinced that the miracle had been wrought by the power of God. They were greatly impressed; for the Holy Spirit convicted them of the sins which they had committed against Christ. But they closed their hearts, lest the beams of the Sun of righteousness should shine into them. They stood behind an impregnable wall of unbelief. They were determined that they would never receive Jesus of Nazareth as the Messiah. Now that his influence had been strengthened by this wonderful miracle, their hatred was, if possible, increased. They were more than ever determined to put a stop to his work. No misinterpretation could be placed on this miracle. It was a work above criticism. They decided that Christ's work must be stopped; for already many of the Jews had received him.

Though not favorable to Christ, the Sadducees had not been so full of malignity toward him as were the Pharisees. Their hatred had not been so bitter. But they were now thoroughly frightened. They did not believe in a resurrection of the dead. Producing so-called science, they reasoned that it would be an impossibility for a dead body to be brought to life. Thus they showed themselves to be ignorant of the Scriptures and of the power of God. But by a few words from Christ, their theory had been overthrown. Lazarus had passed under the control of death. For four days his body had lain in the grave, yet at a word from Christ he had risen to life, in the presence of many witnesses. But this miracle did not open the eyes of the Sadducees; for they were blinded by prejudice. They could see no possibility of removing the impression made on the people by the miracle; for in no way could they prove it to be a deception. Thus far they had not encouraged the plan of putting Christ to death; but after the resurrection of Lazarus they decided that only by his death could his denunciations against them be stopped.

The Pharisees believed in the resurrection, and they could not but see that this miracle was an evidence that the Messiah was among them. But they had ever opposed Christ's work. From the first they had hated Christ because he did not exalt them and their boasted righteousness. Instead, he had said to his disciples and to others, "I say unto you, That except your righteousness shall exceed the righteousness of the scribes and Pharisees, ye shall in no case enter into the kingdom of heaven." In his sermon on the mount, Christ had defined the far-reaching principles of the law of God, and had shown that its requirements do not consist in outward show, but in holiness of heart and life. This Christ placed far above all outward observances. He outlined the qualities that all must possess who would win the approbation of God.

In his scathing denunciation of the labored theology of the Pharisees, Christ said, "In vain they do worship me, teaching for doctrines the commandments of men." They bound upon others heavy religious burdens, from which, however, they excused themselves. Christ laid bare their avarice; their ambitious, intriguing plans for the priesthood; their exclusiveness, which led them to build a wall of partition between priest and people.

MRS. E. G. WHITE.



#### FATHER'S BURDENS.

Does any one care for the father?  
Does any one think of the one  
Upon whose tired, bent shoulders  
The cares of the family come,—  
The father who strives for your comfort,  
And toils from day unto day,  
Although his steps grow slower,  
And his hair is turning gray?

Does any one think of the due-bills  
He's called upon to pay?  
Milliner-bills, college-bills, book-bills,—  
There are bills of some kind every day.  
Like a patient horse in a treadmill,  
He works from morning till night;  
Does any one think he is tired?  
Does any one make his home bright?

Is it right, just because he looks troubled,  
To say he's as cross as a bear,  
When one loving word from his children  
Might banish his burden of care?  
'Tis for you he is ever so anxious,  
He will toil for you while he may live;  
In return he asks only kindness,  
And such pay is easy to give.

—*Selected.*

#### MAKING HOME PEACEFUL.

##### XXIII.

WITH a cry of anguish and horror, Mrs. Beardsley rushed to the place where the limp form of her child lay.

"Thank God, she is alive!" she cried, as a feeble moan of pain fell on her ear. The child, at first stunned into unconsciousness, was in another moment keenly alive to her pain. But the fact that she was not dead filled the mother's heart with a deep gratitude, though she saw at once that one arm was broken. "But she lives, thank God!" said Mr. Beardsley, when he reached home in response to a hasty summons. Ah, little Flossie! your mission is not yet accomplished. The angels, of whom you so delight to hear, have been sent to preserve you.

"She will soon be all right again, Mrs. Beardsley," said Dr. Brown; "all she needs is quiet and good nursing for a while. Young bones soon mend, and the knitting work will soon be done," he smiled, with an attempt at humor.

But the days and nights seemed longer than ever to the afflicted child, and wore upon the delicate little form greatly.

Of course Grandmother Sharpe did not forget to declare, earnestly and often, that the accident would never have occurred if her advice had been heeded.

But this accident, sad and painful as it was, accomplished at least one good thing: Flossie never grew tired of telling her big brother how the "pretty angels" had saved her life; in fact, the child could not bear to have him out of her sight in the evening. So it came to pass that many an engagement with "the fellows" was broken off, much to Reginald's chagrin; for he had not the heart, rude and boisterous as he was, to refuse to amuse his little sister. James Beardsley noticed with a thankful heart the unconscious modulation of his son's loud tones whenever he spoke to the gentle little sufferer, and the air of tenderness which fell upon him. Ah, love is mighty! it transforms the most rebellious heart; it makes sweet and pure the most obstinate spirit. It is the very name of God, and there is power in it. How earnestly the father hoped that Reginald's love for his little sister might yet prove to be the one tender spot in his rebellious heart.

After some weeks had passed, and Flossie was able to be out again in her little chair, one morning a letter came from Tom Willis, addressed to his old friend and employer.



James Beardsley was sitting with the family at the breakfast-table when the letter came. He recognized the familiar handwriting at once, and knowing the bitter ill-will in the hearts of his wife and his son against the young man whom they had so wronged, he hesitated about opening the letter in their presence. Reginald's quick eye, however, detected his father's hesitation in a moment, and one glance at the envelope was enough to assure him that the letter was from Tom.

"Hello! got a letter from our 'pious friend,' have you?" questioned Reginald, with a sneer. "Strange, I never could be at peace with that chap, hard as I tried. I expect my exemplary conduct was such a reproof to him, he could n't stand it," he continued, mockingly. "Well, maybe I'll turn out as well as he does, for all he's such a goody-goody," he added, bitterly.

"Your language pains me very much, Reginald. I do not think Tom Willis ever did anything to injure you, and I think the day will come when it will be proved to the satisfaction of every one," said Mr. Beardsley, slowly unfolding the letter.

Ellen Beardsley's cheeks had begun to grow hot, and her eyes to flame, before her husband had finished speaking.

"I suppose you allude to me, James,—I must be the 'every one' to whom you refer. I can't understand how you can possibly be such an unnatural father. It is plain to be seen that you prefer the son of a stranger—a poor, miserable drunkard—to your own son; and making such high professions as you do, James, I don't see how—really, I can't understand you."

"No, Ellen, I am sure you don't understand me. Would to God you did, and that we might both better understand our duty as parents before him," said Mr. Beardsley, sadly.

"Oh, well, there is no use in talking about it; we shall not see at all alike on this subject. Would you care to read your friend's letter to your family, or is such a treat to be reserved for more appreciative ears?" sarcastically rejoined Mrs. Beardsley. It could easily be seen from whom Reginald inherited his cutting speech and imperious manners.

I am sure my young readers are anxious to hear from Tom Willis by this time; so we will listen as Mr. Beardsley unfolds his letter and begins to read:—

MILES CREEK, March 14, 18—

Mr. James Beardsley,

Harrisburg, ———:

MY DEAR FRIEND: I am sure you will be glad to hear that my sister and I are very happy in our new home. We have found such friends as we never expected to find on earth. God has been good to us; and after the dark and bitter experience which the last six months in Harrisburg brought us, the change from darkness to light, from bitter to sweet, seems all the more wonderful. Yet I can see that those lonely days of trial were not sent in vain; they were not purposeless. God had a sweet lesson for us to learn,—a lesson of faith and trust,—which I only wish had been better learned.

I thank you for all your kindness to me; and, let me add, I have the fullest confidence that some day it will be clearly proved to Mrs. Beardsley that I have never intended to wrong Reginald in the least. But I can wait the will of the Lord, who says that circumstances are brought about, not by might nor by power, but by his Spirit. Yes, as I said to you once before, I can wait.

Uncle is very kind to us, and I am helping him in his store, and attending evening school. Sister Maggie has improved very much in health and spirits. This warm Southern climate appears to agree with her. Please remember us kindly to any who may inquire about us.

Very sincerely yours,

TOM WILLIS.

The next afternoon after the receipt of this letter, Reginald came home from school at an unusually early hour, and it did not take his partial, keen-eyed mother long to notice a

peculiar nervousness and agitation in his manner. The fact was, he had at last been expelled from school.

MRS. L. D. AVERY-STUTTLE.

(To be continued.)

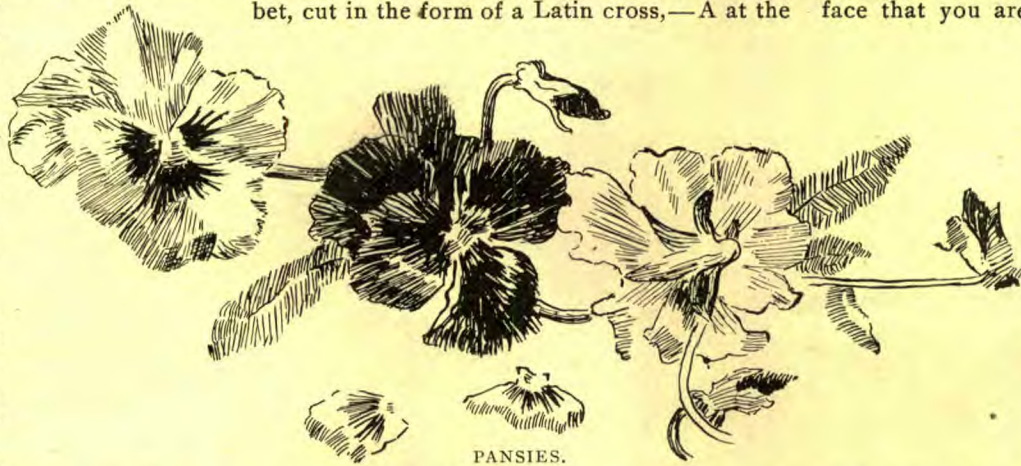
#### ABOUT HORNBOOKS.

It is difficult to realize nowadays, when books and papers are so cheap, how hard people used to work to make even a few words and letters and figures for the use of children in learning to read.

Hornbooks are an example of ancient book-making. Though they are not at all like the modern book, they are always called books. They are rather plates, or tablets. In shape they are like an oblong, square-cornered, hand-mirror, handle and all. Most encyclopedias and dictionaries give pictures of them.

The back of a hornbook was of solid wood, and in it were carved letters, figures, prayers, or whatever it was designed to teach. This carving was covered with a piece of transparent horn, to keep the carving from becoming defaced. The wood and horn were bound together with a narrow brass rim. These were the common hornbooks. Those made for wealthy and titled persons were often richly ornamented with silver in filigree and other fanciful designs.

The oldest hornbooks known are those that were used in the schoolrooms of the great monasteries. These usually contained the alphabet, cut in the form of a Latin cross,—A at the



top and G at the bottom,—the nine digits, and a simple prayer. Several fine hornbooks were brought over in the "Mayflower," and the children of the Pilgrims learned their letters from these tablets.

It is related that Queen Elizabeth gave to Lord Chancellor Egerton a costly and beautiful hornbook, that is a prized relic in the family to this day. One of Leonardo da Vinci's famous paintings is "The Boy with the Hornbook." In Rembrandt's beautiful group, "Christ Blessing Little Children," one of the small figures is shown with a hornbook suspended from his girdle.

Though these tablets are known to be very old, it seems impossible to know when they first came into use. The carving was difficult, and space was too precious to spare for the date of the work.—*Well-Spring.*

#### FORGET-ME-NOT.

LITTLE flower, pale and fair,  
Growing by the pathway there,  
Shedding fragrance round the spot,  
Beautiful forget-me-not,

I was once as glad as thou,  
Free from sin and care; but now  
All my life seems but a blot,  
Dark and sad, forget-me-not.

Little flower, you seem to be  
Bringing word from God to me;  
In your face you tell his thought,  
"Child, return; forget me not."

Lord, no longer will I roam,  
Since thou dost recall me home;  
Long I strayed, but still thou sought:  
O, thou couldst forget me not!

HART HALL.

"EVERY act rewards itself."



#### HOW TO DRAW FLOWERS IN PEN AND INK.

##### II.

FOR the benefit of beginners we will explain the meaning of the term "color value" in pen-drawing. The term alludes to the relation of one color to other colors, in varying shades of light and dark. Take, for example, a dark-purple pansy and a white one. We can plainly see that in our drawing in black and white, we must make a strong distinction between the dark color of the purple pansy and the lack of color in the white flower.

But if we should take a yellow pansy and a light-blue one, there would really be a great difference in the color; yet in their comparative degree of light and dark they are about the same. In pen-drawing, therefore, we must constantly bear in mind that two objects may be entirely unlike in color, yet their value in black and white may be the same.

Now we will briefly consider the detail of texture. You can see that the soft texture of the petals, the heavier texture of the foliage, and the rough texture of the stems must be rendered differently. Think only of the surface that you are trying to represent; and not about the lines as lines. Practise patiently until the strongest or most delicate touches can be given with accuracy and ease.

Practise and patience are required in order to acquire ability in pen-and-ink work; but if one has a love for nature and the courage to persevere in this study, some good results can not fail to crown his efforts.

It is impossible to give, within a limited space, more than the simplest details on this broad subject. The

student must learn to make the most of common material.

One often sees small and apparently simple sketches that fill the heart with a love for the beautiful things that God has created.

EVA M. CARTER.

#### HOW VENEERS ARE MADE.

VENEERING is the art of covering a cheap or inferior grade of wood with a thin leaf, or layer, of a more valuable or ornamental material. It is not a modern invention.

The material of which veneers are made being generally expensive, of course it is desirable to economize as much as possible in cutting it. Formerly veneers were cut at the saw-pit ("a pit over which timber is sawed by two men, one standing below the timber, and the other above"), with very thin plates strained in the common pit-saw frame; or they were cut with a smaller frame-saw, such as is shown in Fig. 1, which represents a saw about four feet long inserted in a frame, to which it is fastened at each end (see *a, a*), the ends being finished with turned handles. There is also attached at each end of the saw an iron with a nut for the purpose of tightening the saw. You will notice a strip of wood each side of the saw for stretchers (see *b, b*), the piece on one side being broken off to show the saw. Two men take hold of the saw, and work a board up into veneers about one eighth of an inch thick. My father had one of these saws in his shop. He also used it for resawing one-inch lumber for panels.

When I was a small boy, I visited a mahogany yard in Rochester, N. Y., where there was a saw for sawing logs into veneers. I will try to give some idea of how this was done. The saw differed from saws now used in sawing lumber. There was a large wooden wheel, or what might be called a "face-plate," made of



plank, and fastened together securely with iron clamps. This was turned off perfectly true. See Fig. 2, *a*. The saw was made in sections, as seen at *b, b*. The pieces were very thin on the outer edge, but thick where they were screwed to the plate, or wheel. The teeth were fine, with a slight "set."

In cutting the veneer, the log passed along the side of the saw. See the log, *c*. As the saw was thick in the center, and upon a flank-wheel, it did not pass through the log like a common buzz-saw; but as the veneer was cut, it was less than one sixteenth of an inch thick. A man stood by the saw, *d*, and with his hands at *e, e*, bent the veneer around until it was cut off, thus proceeding until the log was cut up.

You may ask why these saws were put on a wooden wheel. They were large,—sometimes eighteen feet in diameter,—and of course had to be very thin on the edge, to save the timber that would be wasted in sawdust with the ordinary buzz-saw. A few years ago a burl-walnut tree was sold in Indiana for five hundred dollars. When made into veneers, it was worth nearly fourteen thousand dollars. You see, then, that it is important that there be no waste.

□ Within the last few years a machine has been invented for cutting veneers without waste of material. A log is cut the desired length, and boiled or steamed until the wood is soft throughout. It is then placed in this machine, and made to revolve against a knife, which cuts it into very thin strips. I have seen veneers not



#### MAN'S PLACE IN NATURE.

##### Man's Relation to Heat.

IN our last study we considered man as related to light. We found that the Creator had placed in the head of man a wonderful instrument for the reception of light. The eye is very much like a camera in its construction, and, indeed, is sometimes called the camera of the body. I did not have time to tell you last week about the means which the Lord has furnished for the protection of the eye. The eyelashes keep out dust and small particles, and the lachrymal, or tear, glands furnish a watery substance that keeps the eye well moistened, so there is no friction produced by the different movements of the eye. The eye is furnished with several pairs of muscles, which enable us to turn it about when we wish to see in different directions, so it is not necessary to turn the head unless we wish to see objects that are behind us.

Connected with the light of the sun are the rays of heat. It seems necessary to have light, but we shall find it equally necessary to have

ests were changed into coal. The wood that we burn is obtained from trees. But how do wood and coal produce heat?—This is brought about by the union of the oxygen of the air with the wood and coal. The fire is started with a match, and the fire of the match is produced by friction. Precisely the same phenomena occurs in the human body. Food is taken into the body by the digestive organs; the oxygen of the air enters the body through the lungs; this oxygen unites with the small food particles which are in the blood, and the union thus formed produces heat.

M. E. CADY.

#### THE CHLOROPHYL CELL.

##### V.

THE next step in our investigation is to learn how the green cell appropriates the elements it uses in making food. In order to understand this, we must first study osmose,—the process by which cells drink in elements outside their walls.

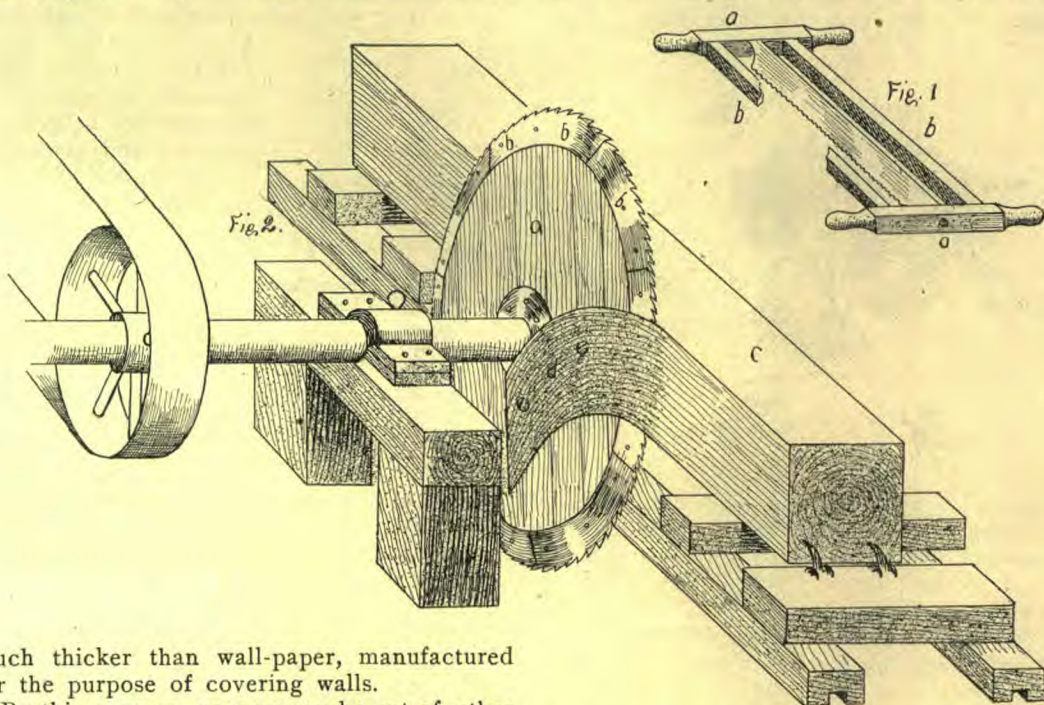
The protoplasm which forms the body of a cell is of a fluid consistency, but is thicker and denser than water, for which it has a great affinity. Its substance also contains acids that act upon the salts of earth. Around every little grain of earth there is a tiny drop of water, except possibly in time of excessive drought; and each little water-globule touches some other, so there is really, in the earth, a sea of water, in which float, as it were, grains of earth. In the roots of all plants are hair-like appendages which, pushing out in every direction, gather material for the growing vegetable. These little hairs are composed of millions of tiny cells, and their protoplasmic cells touch the globules of water, and the water seeps, or penetrates through the thin walls of the cells, and mingles with the protoplasm inside. In this way one little globule after another is drawn into the cell. While this is going on, the incoming water sets free the acids in the cell, and they slowly, in their turn, seep through the wall to the outside, and attack the grains of earth, breaking them to pieces, and so freeing the salts they contain, which float along with the globules of water into the cell. In this way the cell obtains the hydrogen gas from the water, and the mineral salts from the earth. This action is called "osmose." From the air the cells inhale oxygen, also carbon from the carbon dioxide that animal cells throw off. From all these materials the green cells form protein, the substance from which white cells construct tissue.

It is true that in the very lowest form of animal life, there are two or three instances in which chlorophyll animal cells are found, but not in any animal connected with man or his life. This is a positive proof that God intended man to draw his sustenance directly from the vegetable world, because it is not possible to obtain food in a proper condition from any other source. Animal cells, although composed of the protein created by the vegetable cells, so change the substance in the recombination into animal tissue as to present the elements of the protein in unnatural proportions.

If a small portion of green slime is placed under a microscope, little creatures, animated dots of protoplasm, will be seen moving in various directions. These are free cells, and are called ameba. They are entirely destitute of organs, yet they move by prolonging a portion of their body, attaching it firmly, and drawing the balance up to it. They belong to the family of molds, and are the product of decay of either vegetable or animal matter.

In the blood there are little cells similar in construction, called "blood corpuscles," whose office is entirely different, being that of head animal electricians. They separate the oxygen from the air, and circulate it everywhere in the tissues of the body. The importance of their office will be better understood when I tell you that the white cells, which make up the body of an animal, can not appropriate the protein furnished them by the green cells of the vegetable world until the blood corpuscles charge the protein with oxygen.

W. S. CHAPMAN.



much thicker than wall-paper, manufactured for the purpose of covering walls.

□ By this process, veneers can be cut of other material than wood. In the United States Department of the great London Exhibition there was an ivory veneer twelve inches wide and forty feet long, cut from a single tusk of an elephant. Some years ago a Mr. Pape, in Paris, veneered a piano with ivory, and advertised to furnish veneering of the same material in sheets thirty by one hundred and fifty inches in size.

W. K. LOUGHBOROUGH.

#### A FOREST MONSTER.

MANY INSTRUCTOR readers have never seen trees equal in size to those found in our Western forests. It might be of interest to give the dimensions of one of these monsters, and figure the actual lumber that it contains. A few weeks ago a tree that grew on a farm in Washington was cut down. It was four hundred and sixty-five feet high, and had a circumference of thirty-three feet and eleven inches at the base. If sawed into timber, it would make 96,345 feet,—sufficient timber to build eight two-story cottages of seven rooms each. If sawed into inch-square strips, it would fill ten ordinary railroad cars. This gigantic tree was about four hundred and eighty years old, judging from its rings.

JAMES C. COLE.

"Four things a man must learn to do  
If he would make his record true:  
To think without confusion clearly,  
To love his fellow men sincerely,  
To act from honest motives purely,  
To trust in God and heaven securely."

heat. Plants and animals could not exist were it not for the heat given to the earth by the sun. The beautiful spring weather, with its warm, sunshiny days, is a gift to us from the sun. But the Lord made the sun; therefore these days are really a gift from him.

Not only are the rays of heat which come to us a great blessing, but the heat which is generated in the human body is necessary to our existence. If the temperature of the body is taken by placing a thermometer under the tongue, it will be found to be 98.4°F., provided the person is enjoying good health. This temperature remains constant unless the body is affected by some disease. If it should rise above 98.4°, we know the person has a fever. If the temperature should fall below 98.4°, we are warned that something is the matter with the circulation. In order that the temperature of the body shall be kept uniform, it is necessary to wear heavy clothing in the winter and thin clothing in the spring and summer. God has so constructed our bodies that a little deviation from the normal temperature is liable to cause sickness and even death.

Now the question before us, and one which may seem hard to solve, is this: Where and how does the body get its heat? It does not get it directly from the sun; for in the winter we keep our bodies warm by the heat obtained by burning wood and coal. But where did the wood and coal get their heat?—At the time of the flood, vast forests were covered with water and earth. While in this condition, these for-





## A BIRD'S NEST.

OVER my shaded doorway,  
Two little brown-winged birds  
Have chosen to fashion their dwelling,  
And utter their loving words;  
All day they are going and coming,  
On errands frequent and fleet,  
And warbling, over and over,  
"Sweetest, sweet, sweet, O sweet!"

Their necks are changeful and shining,  
Their eyes are like living gems;  
And all day long they are busy  
Gathering straws and stems,  
Lint and feathers and grasses,  
And half forgetting to eat,  
Yet never failing to warble,  
"Sweetest, sweet, sweet, O sweet!"

What if the sky is clouded?  
What if the rain comes down?  
They are all dressed to meet it,  
In waterproof suits of brown.  
They never mope nor languish,  
Nor murmur at storm or heat,  
But say, whatever the weather,  
"Sweetest, sweet, sweet, O sweet!"

— Florence Percy.

## A MOTHER-BIRD'S INSTINCT.

LAST summer when we were in Georgia, a mocking-bird came every morning to the rose-hedge of our garden, and sang for us the most beautiful song in the world, clear, tuneful, and thrillingly sweet,—a fitting accompaniment to that land of bloom and sunshine. His mate came also, and grew so fearless after a few days that she ate the crumbs we placed on the window-ledge for her.

One day Burt found their nest in an old apple-tree in the edge of the orchard, with four little brown-and-white birds, ready to fly. He took two of them, thinking to have their wonderful music in his Northern home.

"I'll keep them in a cage on the piazza, where they can get the sun and air; and if the old mother-bird finds them, she'll see they're all right. Anyway, there's two left," he added, to ease his conscience.

But mammy shook her head solemnly. "Hit ain't no use trying to keep 'em, chile," she declared, seriously. "If you's gwine off right now, 't would be different. Der ole mammy-bird, she fine 'em, d'rectly. She ain't gwine let you take 'em off. When she fine out she can't git 'em outen the cage, she'll pizen 'em, fer to git 'em outen misery."

We put that queer story down to mammy's unbounded faith in the traditions and superstitions of her race, and paid no heed to her prophecy. Burt fed the birdlings with dainty morsels and grubs, which they seemed to relish greatly; on the whole, they did not appear aware of their captivity, but the mother-bird hovered about the cage all day, refusing the feast which we laid in the accustomed place. She uttered plaintive, chirping little cries, which grieved every one of us deeply. She seemed to have forsaken her other children: perhaps the father-bird had taken them in charge.

On the morning of the third day I went out on the piazza, just as the mother-bird flew up from the orchard, and alighted on the little brass rim at the edge of the cage. She thrust a few wilted, pale-green weeds between the bars, and waited to see the little prisoners swallow them greedily; then she flew away to her nest.

"Feeding them, was n't she!" Burt exclaimed, coming up just then with a handful of bugs and worms that he had gathered from the rose-

hedge. "I wish I knew what the stuff was; it must have been something birds particularly like, or she wouldn't have brought it."

At noon the birdlings rejected the grubs Burt offered them, and he put them away for their evening meal, believing that he had overfed them that morning. But that night

we found the little feathered balls lying limp and lifeless at the bottom of the cage.

"I done tole you," said mammy, taking out the dead birds very tenderly. "I'se seed it a many a time. De ole mammy jes' kills 'em, fer to git 'em outen misery."

It was indeed true. The mother-bird had reasoned out the problem with rare intelligence; and finding herself unable to rescue her young, had chosen for them death rather than captivity.

MRS. O. PETERSON.

## MAKING FRIENDS WITH BIRDS.

ANY one can "learn about" birds by sitting in his library and reading about them, or by going to illustrated lectures, and this is a desirable thing to do; but to get acquainted with them requires personal relations,—seeing and hearing and feeling them in their own haunts. If I can assist any one to this acquaintance by a general introduction, I shall be much pleased; but I warn him that he will not succeed unless he behaves courteously.

You would resent the rudeness of a person so



eager to know you that he burst your door, and came into your parlor with a leap and a shout. So do the birds. You should go very quietly to their place of residence, and respect their timidity and desire for privacy. Remember that every bird looks upon you as an enemy until you have won its confidence; and you can never gain this unless you keep very quiet, avoiding noise and hasty movements.

Do this, and you will soon find that the birds' little flutter of alarm has passed, and that they are almost as curious about you as you are in regard to them; a little later they will forget your presence, and go about their affairs.

Having secured their confidence to this extent, you can draw sufficiently near to see their size, shape, and markings, and so learn their names in the books. When I first began to study birds, I had no books, nor any friend who knew as much of the matter as I did. I had to fix peculiarities in my memory, and make my own names. Nowadays, a half-dozen small and convenient works, as well as larger, more costly ones, are at the command of every student who can spend a dollar and a half. Having a suitable book to help in naming the birds you find, you will need a good telescope or opera-glass to aid you in seeing the birds well.

May and June are the best months for study. The resident species have then been reinforced by hosts of migrants from their winter home in the South, and all are in their newest and brightest dress, and in the most active and interesting period of their lives; for now they are busy with nest-building and egg-hatching, and soon will be full of happy domestic cares.

This is their time for singing, and one of the first and most interesting things to do is to connect the song and the singer so thoroughly that you will make no mistake in recognizing the voices of the groves and meadows.

Birds are early risers. Find out which one is the first to begin his song, almost as soon as dawn appears, and in what order others awake. There is such an order. This is the best time for observing them, for several reasons. The air is cool; the light good; and the birds are hungry, and so busy in feeding that you not only have the best opportunity to learn what they eat, and how they find or capture it, but they are less timid than later in the day. Their songs, too, are never so joyous and frequently repeated as in the early morning hours.

Don't try to do too much at once. Be content to keep one bird under observation until you get well acquainted with him. Find a comfortable seat in some retired garden, beneath an orchard-tree or beside a thicket; open your book and opera-glass; then keep quiet, and wait for whatever comes. You will not have long to wait, and you will get a nearer view, and see more of the bird and its behavior, than if you tried to follow it. If it goes away, never mind; it is likely to come back again, and the less you attract its attention, the more it will exhibit its natural manners to your eager eyes.—*Well-Spring*.

## THE MYSTERIOUS SINGER.

THE Carter house stood in a large garden. The garden was full of trees, and the trees were full of birds.

One day Carrie said, "Do hear that bobo-link!"

"I hear a robin," said Fannie.

"And I hear a blue-bird," said Ruth.

"And I'm sure it's a thrush," said Will.

"Oh, no! it's an oriole," said Harry.

"I can't tell what it is," said Mary, "but it's a sweet singer. Let's ask Aunt Lucy."

"I think it's a catbird," said Aunt Lucy when the children ran to her chair on the porch,

and asked her about the mysterious bird in the garden.

"A catbird!" cried all the children, in one breath.

"We will go out and find the bird," said auntie. "There he is, on the highest branch of that tree. He's after cherries."

"Isn't he pretty! How slender he is! but I did n't know a catbird could sing," said Mary.

"Climb up and pick some cherries, Harry," said Aunt Lucy, "and see what the pretty fellow will do."

Harry climbed the tree, and down came the sweet singer, scolding and crying out just like a cat.

"It is a catbird!" they all said, and then Aunt Lucy told them about the catbird. She told them that the catbird can imitate the songs of other birds. Sometimes he sings a song that is made up of the notes of other birds, and finishes it with a sweet, clear whistle of his own. He is a shy bird, and loves a leafy thicket, where he can be heard but not easily seen.

"He is welcome to my share of the cherries, if he will only keep on singing like that," said Ruth, clapping her hands.

—*Little Men and Women*.





# BIBLE LESSONS AND NOTES

## SABBATH-SCHOOL LESSON.—NO. 8.

(May 20, 1899.)

### THE SERMON ON THE MOUNT.

**Lesson Scriptures.**—Matt. 10:1-8; chapters 5-7.

**Memory Verse.**—Matt. 5:44.

**TIME:** First year of Christ's ministry. **PLACE:** Supposed to be Hill of Hattin. **PERSONS:** Jesus, the twelve, multitudes.

#### QUESTIONS.

After spending a whole night in prayer, what did the Saviour do early in the morning? Luke 6:13. Why did he ordain twelve disciples? Mark 3:14, 15. Give their names in their order. Matt. 10:2-4. Where did the Saviour then go? Luke 6:17. Give the substance of the first part of the sermon on the mount. Under what figure does Christ show the relation which should exist between his followers and the world? Matt. 5:13-16. What did he say regarding his attitude to the law? What with reference to its permanency and importance? Vs. 18, 19. What is the real meaning of the commandments mentioned in the sermon? What did he say about retaliation? Vs. 38-42. What about love for one's enemies? In what spirit should we give our alms? Where should we pray? Where should we lay up our treasure? Why? Vs. 19-21. What instruction is given with reference to judging? Matt. 7:1-5. What blessed promise is given to all who need help? Vs. 7-11. What will be the character of those who enter the kingdom of heaven? V. 21. To what are two classes of hearers likened? Vs. 24-29.

#### NOTES.

1. After the ordination of the twelve, Christ preached the sermon that set forth the spiritual principles of his kingdom. What temple could have been so fitting as the blue dome of the sky? what pulpit more in keeping with his utterances, than were high above the thoughts of man, than the mountain? No sectarianism, no tradition of man, can compass the vast principle of love he expounded. All men, among all nations, stand answered by, and satisfied with, the religion of the sermon on the mount.

2. The sermon on the mount, though given especially to the disciples, was spoken in the hearing of the multitude. . . . The narrow beach did not afford even standing-room within reach of his voice for all who desired to hear him, and Jesus led the way back to the mountain-side—"The Desire of Ages," page 298.

3. True character is not shaped from without, and put on; it radiates from within. If we wish to direct others in the path of righteousness, the principles of righteousness must be enshrined in our own hearts. . . . The consistent life, the holy conversation, the answering integrity, the attire, the benevolent spirit, the godly example,—these are the mediums through which light is conveyed to the world.—*Id.*, page 307.

4. The Pharisees, who came with the multitudes from motives of selfishness and hate, were determined to see nothing in Christ's delineation of right character, because they were waiting for an opportunity to accuse him. He had said nothing of the law, and yet he had depicted character that met every claim of the commandments. He read their criticism, and declared the impregnable position of the law, and the immutable character of its precepts.

5. A jealous regard for what is termed theological truth often accompanies a hatred of genuine truth, as made manifest in life. The darkest chapters of history are burdened with the record of crimes committed by bigoted religionists. . . . They [the Jews] thought themselves the greatest religionists of the world, but their so-called orthodoxy led them to crucify the Lord of glory. The same danger still exists.—*Id.*, page 309.

6. In addition to proclaiming that not a jot nor a tittle should pass from the law, Jesus quoted from the commandments, and showed that the law dealt with the very thoughts and intents of the heart. "The law is spiritual." While the law calls for a literal obedience, it also demands that the inner being should be in harmony with its commands. Those who waited to catch the Saviour in some fault saw themselves as transgressors of the law for which they pretended to have such zeal. It is safe to watch ourselves; but when we have a zeal to square up others, we are in danger.

7. In this sermon, Christ speaks of God's willingness to give the Holy Spirit, by which every need will be supplied, and illustrates it by a forcible parable. He warns of false professors, and gives a test by which they may be known. Those who do the will of God are his own. He closed his sermon by the story of the two

men who built their houses,—the one on the sand, the other upon the rock. Those who hear his sayings and heed not, build upon the sand, and the tempest will sweep away their false characters; those who hear and heed, build upon the eternal Rock, and will abide forever.

## INTERNATIONAL LESSON.—NO. 8.

(May 21, 1899.)

### CHRIST BEFORE THE HIGH PRIEST.

**Lesson Scripture.**—John 18:15-27.

**Related Passages.**—Matt. 26:59-68; Mark 14:53-72.

**Memory Verse.**—John 1:11.

**TIME:** Between two and five o'clock, Friday morning, April 7, A. D. 30. **PLACE:** Palace of the high priest. **PERSONS:** Jesus, Annas, Caiaphas, John, Peter, servants, officers.

#### QUESTIONS.

Where do we see Jesus in this lesson? Explain why he had two trials. By what Jews in high position was he first questioned? Tell of the Jewish court by which he was formally tried. What became of the disciples when Jesus was arrested? How did one escape temptation to deny his Lord? Tell of the palace to which Jesus was led. V. 15. How did Peter gain admittance? What question did this lead to? How did Peter reply? With what company did Peter linger? How was he questioned later? Had he now courage to confess his interest in Jesus? What brought him to a realization of his guilt? About what did the high priest question Jesus? What did he say about his doctrines? For what purpose had he ever spoken in secret? What witnesses of his teachings were at hand? What indignity did one do Jesus? How did Jesus receive this? Before whom was Jesus now tried?

#### NOTES.

1. "Betrayed into the hands of Roman soldiers and Jewish officers by Judas, Jesus was bound, and led to the palace of the high priest. . . . The Sanhedrin, the supreme ecclesiastical court of the Jews, was permitted to try religious cases; hence Jesus was first tried before this body of seventy Jewish priests, scribes, and elders. . . . There was an informal trial before Annas, who soon sent Jesus, with his accusers, to another apartment of the same palace, where Caiaphas, the acting high priest, questioned him, while waiting for the members of the Sanhedrin to assemble."

2. "Under the Roman rule, the Sanhedrin could not execute the sentence of death. They could only examine a prisoner, and pass judgment, to be ratified by the Roman authorities. It was necessary to bring against Christ charges that would be regarded as criminal by the Romans. An accusation must also be found which would condemn him in the eyes of the Jews. . . . Joseph of Arimathea and Nicodemus were not now to be summoned. . . . If Jesus could be proved a blasphemer, he would be condemned by the Jews; convicted of sedition, it would secure his condemnation by the Romans."

3. Christ's open manner and heroic bearing in the face of death, were like the flashing of a heavenly light in the darkness of that cringing, cowardly, cruel counsel. They were willing to reap the benefit of injustice, and gain by foul means what it was impossible to obtain by a fair procedure.

4. "Ask them that heard me." To have followed this suggestion would have been to defeat their own murderous designs. What could have been said of him, save that in every word he had glorified God, and fulfilled the Scripture? This would never do. Annas was silenced.

5. "Answerest thou the high priest so?" The anger that caused the officer to smite Jesus with this righteous-sounding rebuke was no justifiable indignation. It was the wrath of the dragon, that could scarcely be restrained until the form of trial could be carried out. This same spirit is made manifest wherever an ecclesiastical dignitary is silenced by truth. The answer of truth is accounted as insulting to one who upholds some revered tradition that contradicts the word of God. How are such blows registered among the witnessing angels?

6. "While the degrading oaths were fresh upon Peter's lips, and the shrill crowing of the cock was in his ears, the Saviour turned from the frowning judges, and looked full upon his poor disciple. At the same time Peter's eyes were drawn to his Master. In that gentle countenance he read deep pity and sorrow, but there was no anger there. The sight of that pale, suffering face, those quivering lips, that look of compassion and forgiveness, pierced his heart like an arrow, . . . unable to endure the scene, he rushed heart-broken from the hall."

7. The related passages in the other Gospels furnish us with the links between this lesson and the one to follow. Caiaphas secured his end by forcing Christ, under

oath, to declare himself the Son of God. With pretended horror the high priest rent his robe, but in so doing violated the law of priesthood. The priestly garments were never to be rent, as they symbolized the spotless, unblemished character of Him who clothes his priesthood in the seamless garments of salvation.



ON account of the steps being taken by the czar to Russianize Finland, large numbers of Finns are leaving their native land, and coming to the United States, where there are already about two hundred and fifty thousand of their countrymen. Not long ago, four hundred of them came on one ship to Hull, England, on their way to this country.

THERE will soon be coined from the United States mint fifty thousand silver dollars,—the amount subscribed by this country to the monument to Lafayette, to be erected in Paris. On one side of the coin it is intended to have the faces of Lafayette and Washington, with, perhaps, those of Lincoln and Grant; and on the other, the French general's prayer for the United States, consisting of about forty words.

**Affairs in the Philippines.**—Little or no progress has been made in the work of restoring peace in these troubled islands. Two or three times United States soldiers have been captured, and they are still held as prisoners by the Filipinos. If the present advance of General Otis fails, it is said that the President will at once issue a call for the thirty-five thousand volunteers for which provision was made by Congress last winter.

**A Trust of Trusts.**—There seems to be no limit to the combinations of corporations this year. All have been surprised at the great number of trusts organized since January 1. Now comes from Pittsburg, Pa., the report of an effort to unite the three great trusts called the American Steel Company, the American Tin Plate Company, and the American Steel Hoop Company into a single stock corporation. One of the promoters says the deal will include several other iron, steel, wire, and chain companies. The capitalization of this vast combine will be \$500,000,000.

**Scarcity of College Presidents.**—A remarkable fact, worthy the attention of colleges and universities, and of much interest to young people, is the marked scarcity of available men for college presidents. There is a great number of recruits for the various other professions; and the number of men who think they are qualified to fill the position of head in our higher institutions of learning is also always large. However, the fact that Yale University has for months been looking for a capable president, and the University of Cincinnati, with a salary of \$5,000, is also looking for one, shows that the country needs more men who combine scholarly attainments with a successful business training.

**An Interesting Publication.**—This Office has received a sample copy of the *Bounding Billow*, a little paper printed on Admiral Dewey's flag-ship "Olympia." It is dated "Manila, P. I., November-December, 1898," and is "published in the interests of American men-o'-war-men." It is sent with the compliments of W. W. Weaver, who says, "This is a sample of Filipino type-sticking, no proof submitted." The typographical work is excellent. The editor says: "This issue is printed on captured paper; and even though the war is over, we still derive benefit from the downfall of the 'Dons.'" Of course the war with Spain is referred to, as the war between the United States and the Filipinos had not then begun.

**Magazine Made in a Prison.**—April 26 the first number of the *Star of Hope* made its appearance from the Sing Sing (N. Y.) State prison. It is to appear semi-monthly, and is written, printed, and published by the inmates of the prison. To avoid embarrassing the contributors by presenting their names to the outside world, the articles are all signed with the cell-numbers of the convicts. No. 1500 is the editor. He congratulates himself, in his salutatory, on freedom from "the remorseless pangs of unstable subscription lists or delinquent subscribers." As the paper has no subscription price, he says, "The prospects are fair for a full complement of subscribers, and our treasury will not become depleted by large fees to its contributors." In a note the warden explains that the work on this paper will in some measure take the place of the physical labor which has so foolishly been restricted by recent legislation.





## THE QUARTER-ACRE GARDEN.

IN previous articles we have spoken of the small, temporary garden and the permanent acre-garden. The accompanying diagram shows what can be done for the Master on a quarter of an acre. But whatever the size of your garden, let me insist upon the rotation of crops. Early sweet corn may be followed by late potatoes, cabbage, or string-beans. Early peas may be followed by melons, squashes, or field beans. After strawberries are picked, spinach, lettuce, or late radishes may be planted between the rows. Besides giving an increase of crops, this method of planting will keep the garden free from weeds, and will not exhaust the soil half as much as if they were allowed to grow.

"The amount of 'green stuff' that can be grown on a single acre, well tilled, in one summer, is simply incredible,—wagon-loads upon wagon-loads; and there need not be a single meal, from early spring until winter, that is not made more cheerful, more palatable, more wholesome, and altogether more enjoyable, by the presence of some good dishes from the garden, to say nothing about canned tomatoes, sweet corn, berries, crisp stalks of celery, etc., during the winter months. Think,—sixty meals with big plates of strawberries, and sixty more with raspberries and blackberries! Think of the wholesome dishes of asparagus, of the young onions and radishes, the green peas, beans, tomatoes, squashes, melons, etc." All this can be accomplished in one season.

There will be no trouble in disposing of all you raise; for city people are always glad to get fresh vegetables from the garden. What better method of teaching the principles of health reform could be devised than selling clean, fresh, crisp vegetables, to say nothing of placing in tempting array the large berries and grapes? We are told that we should not teach people to discard certain articles of diet unless we have something better to give them.

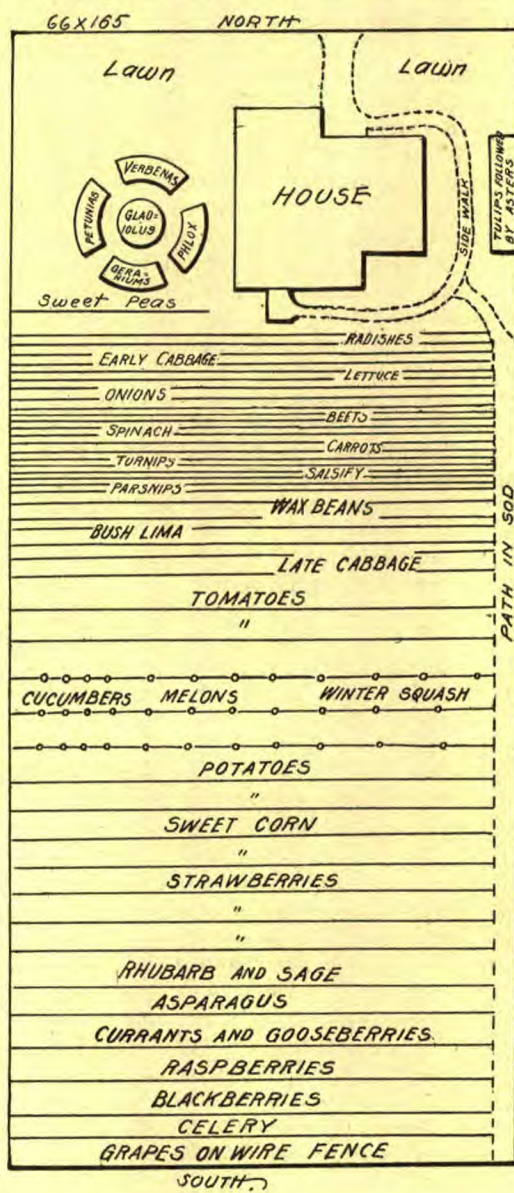
Let me again insist upon never using fresh stable manure, unless you can keep the ground well watered. Five loads of decomposed manure is not too much for a garden of this size. Wood ashes are excellent for fertilizing all kinds of soil. If you have been in the habit of throwing ashes in the road, or making a heap somewhere, do so no more, but scatter them over your garden. Market-gardeners living near New York City pay from twenty-five to thirty cents a bushel for wood ashes. Slaked lime and plaster are excellent for some kinds of soil. The manure from the hen-house is also an excellent fertilizer. Like stable manure, it is best when well decomposed. If not fully rotted, mix thoroughly, in small quantities, with soil.

Will it pay to buy commercial fertilizers?—Yes; but let me give a word of caution: There are fertilizers advertised particularly for onions, or beets, or turnips, etc., etc. These special fertilizers are sold at high prices. A fertilizer that will raise onions will also raise beets. The best all-round commercial fertilizers are ground bone-dust, nitrate of soda, and salt. If nitrate of soda and coarse salt are sprinkled over the ground, twenty-five pounds of the former and fifty pounds of the latter, for each quarter-acre, or city lot about four by eight rods, just as the early vegetables begin to peep through the ground, they will grow like mushrooms. This fertilizer should be applied during or just before rain, so it will be dissolved and carried into the ground. It may also be used after the garden is well up; but the sooner, the better, after roots have formed so that it will be used by the plants. A smaller quantity may be sprinkled on every two weeks.

As to the quarter-acre garden, but little need be said as to its location; for the necessities of the situation will often require it to be placed

back of the house. The arrangement of the beds may be followed as indicated in the accompanying diagram, or it may be changed to suit the taste of the gardener. To plant radishes, lettuce, etc., in long rows, rather than in small beds, will assist in the cultivation with the wheel-hoe; and if the small and more frequently needed vegetables are planted near the house, much tramping of the soil will be avoided.

To set out cabbage and tomato plants, have the soil mellow and in good condition. Be sure to use a rope or strong cord to keep the rows straight. Crooked rows show careless and slovenly work. They are not like some little sins, that can be covered from mortal eyes as soon as they are committed, but are a constant witness the whole season. Never set out plants of any kind until afternoon,



unless it is cloudy, or there is an approaching rain, in which case make all haste possible. Always press the soil firmly about the roots of plants, with the fingers. If the soil is dry, leave a small pit by the side of the plant. Into this pit pour about a pint of water; after the water has disappeared, fill up the trench with soil. This should be repeated once each day in dry weather, until the plants have a good start.

Muskmelons do well in any rich soil. It must be mellow and in good condition, and plenty of good fertilizer will not be amiss. Three or four shovelfuls of well-decomposed manure should be mixed with the soil at each hill. With a hoe make hills five feet apart, scatter ten or more seeds in each, cover with an inch and a half of soil, and firm with the back of the hoe.

Watermelons require the same care as do muskmelons, except that the hills should be made from six to eight feet apart, according to the variety planted.

Squashes will do well under the same care. Summer varieties may be planted four feet apart, but the later winter varieties should be planted eight feet apart in the rows.

The same treatment will give an excellent crop of cucumbers. They should be planted four feet apart.

ARTHUR F. HUGHES.

## THE ROLLING PLANT.

THE Kansas valley is the home of a queer plant. It grows in the form of a ball, its stem being extremely small in proportion to the size of the entire plant, which varies from a foot to four feet and a half in diameter. While growing, it is firmly fixed to its stem, which, in its turn, is rooted in the ground; but as soon as the plant has arrived at maturity, the stem shrivels up, and then a gust of wind is quite powerful enough to set the ball rolling across the prairie. It rolls, leaps, bounds, sometimes even jumping over bushes, impelled by the force of the wind. When the winds are high, it is impossible to imagine anything stranger than the sight of these light, elastic balls, which appear to pursue one another, rapidly skimming the surface of the soil.

It is related that two hunters, overtaken by a violent storm of wind and dust, descried some curious objects bounding toward them, which they at first thought to be wild animals; on coming nearer, however, they were found to be none other than the rolling plants of Kansas, borne before the wind.—Selected.

## HEALTH HINTS

BOTH sneezing and coughing can be arrested by pressing firmly on the upper lip or in front of the ear.

CHILDREN should be trained to eat slowly, and chew their food thoroughly, no matter how hungry or anxious to finish the meal and do something else. A scant meal, well masticated, will be of far more value to the body than more food hastily eaten.

## HOT WATER.

HOT water taken freely half an hour before bedtime is helpful in constipation.

Headache almost always yields to the simultaneous application of hot water to the feet and the back of the neck.

A towel folded, dipped in hot water, wrung out, and applied to the stomach, acts like magic in cases of colic.

Nothing so promptly cuts short congestion of the lungs, sore throat, or rheumatism, as hot water, when applied promptly and thoroughly.

A towel folded several times, dipped in hot water, and quickly wrung out and applied over the toothache or neuralgia, will generally afford prompt relief.

Many diseases would be washed out of the system by the free use of pure, soft water, taken into the stomach, or absorbed through the skin.—Selected.

## WHAT IS A "COLD"?

THE majority of the difficulties of the nose and throat have their origin in "colds." The question of "taking cold" is one of great importance, because of its prominence in the production of disease in these organs. A cold, whether it be in the head, in the throat, or "on the lungs," is a congestion of the mucous membrane of those parts, due to a sudden chilling of the skin, either in whole or in part; and because of the exhaustion of the nerve-centers, the skin fails to react, the equilibrium of the circulation is broken, and the part in which there is the least resistance suffers. This is usually some part of the mucous membrane. The most intimate relation exists between the skin on the outside, and the skin on the inside, of the body, or the mucous membrane. The slightest change of temperature affects the skin. In health there is an equilibrium in the circulation in all those parts; but in exhaustion, this equilibrium is broken, and disease follows. Colds are indicators, on the dial of health, of a lowered vitality.—F. M. Rossiter, M. D., in *Good Health*.





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Entered at the post-office at Battle Creek, Mich., as second-class matter.

NEXT week the INSTRUCTOR will give extracts from another interesting letter from Mrs. F. E. Braucht, of Apia, Samoa, telling some of the experiences of our missionaries there during the recent troubles on the islands.

BROTHER C. V. S. BOETTGER, 218 Bank St., Christian Help Mission, Ottawa, Ontario, has an excellent opportunity to distribute clean copies of the INSTRUCTOR and the *Little Friend* to orphans and children in hospitals. Where two copies of the paper are taken in the same family, as is often the case, or where the papers are laid away after reading, it would be well to remember that they would cheer many a lonely hour if put into the proper hands.

### A MODERN HERO.

WHEN the great Windsor Hotel burned, a few weeks ago, there were many opportunities for the display of courage. Outside the building, undismayed by the fierce flames, dense smoke, and toppling walls, brave firemen climbed to the upper stories on their work of rescue, going up from window-sill to window-sill by means of the eighteen-foot scaling-ladders a man can carry in one hand, and descending with insensible or frightened, struggling persons on their shoulders. No wonder the crowds gathered in the streets held their breath in horror when these men rushed into the flaming windows or made their perilous descent; and cheered as one man when they stepped down to safety.

Inside, too, away from the cheering multitudes, the work of rescue went on. The man in charge of the elevator,—a most dangerous place in time of fire,—brought down load after load of persons from the upper floors. Finally the police took him by force out of the elevator, but even then he did not run. Thinking he heard the bell ring again, he started up for another trip: on the way down, the shaft fell in, and he was killed.

There is no need of moralizing on the courage of this man, who counted not his own life dear, but gladly laid it down in the effort to save others. Some one was calling him, up in that fiery furnace, and he had no thought of not answering the summons. For twenty years he had been employed in humble service in the building, with apparently no opportunity for doing heroic deeds,—but he was ready when the opportunity did come, and met it grandly.

### A QUEER COMBINATION.

John Brown n<sup>o</sup> 30

ON the first page of this paper, or on the wrapper in which it came, is a small yellow address-label, with the year, month, and day of the month to which your subscription extends. If on that label you find "May, 99," it means that you should renew, and the small figures name the day when the paper should stop.

Hereafter our subscribers are to be notified through the paper, by this plain, inexpensive method, instead of by printing a special letter, bearing a special letter-head, enclosed in a special envelope, addressed by a special copyist, and carried by a one-cent postage-stamp, which alone costs *eight times* as much as to send you a full copy of the INSTRUCTOR; or, in all, about \$1,000 needless expense in five years (on the basis of our present circulation), and more, if readers increase.

This \$1,000, now given in part to paper-makers, and to railroad companies who carry government mails, can be used to much better advantage in making the INSTRUCTOR so excellent that as soon as your attention is called to the fact that the time has expired, you will need no expensive coddling to induce you to renew. If you prefer thus to receive, and also enable other readers to receive, the value of this \$1,000 during the next few years, rather than that we use it in elaborate notifications of expiring subscriptions, kindly keep your eye on the address-label as we call attention to it once a month, whether you receive one copy or many.

If your subscription expires this month, and you object to mutilating your INSTRUCTOR by clipping out the following blank, use writing-paper, being particular to give YOUR NAME AND FULL ADDRESS PLAINLY, following the form indicated below, and stating the amount that you enclose, sending post-office money-order, express order, bank draft, or registered letter.

Look over the full last-page Prospectus, given on the last page of the last two numbers, show it to your neighbors and friends, and see how easily you can secure a club of from "5 to 9 copies," which will be sent to one address for only 55 cents each; or 50 cents each in a club of ten, thus giving you \$2.50 if you secure the 10 names at 75 cents each, and all are sent to you, or to any other person, *in one package*. If you choose to give your 25-cent commission to each of the 10 persons, they coming to you every week for their INSTRUCTOR, or you delivering to them, we do not object. But please remember that there is no reduced rate on fewer than *five copies to one address*. See subscription terms at head of this page.

### MAY, 1899.

If the yellow address-label on first page of this paper, or on the wrapper, bears this month and year (John Brown n<sup>o</sup> 30), it indicates that the following blank should be filled out by you *now*, and mailed to Review and Herald, Battle Creek, Mich., before the end of this month:—

Name, .....

Post-office, .....

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Enclosed find \$..... (money-order, express order, registered letter, or bank draft), for which please send ..... copies of the YOUTH'S INSTRUCTOR ..... months to above address.

P. S.—If you object to clipping this out of your paper, or wish to forward other subscriptions, please write names and full addresses on a separate sheet, stating amount enclosed for that purpose.

IS THERE any sadder sound, on a pleasant spring evening, than the sharp "ping!" of the toy gun, followed by the frightened twittering of the birds? A recent paper told of a lad in Pennsylvania, who, one morning when "the robins flew temptingly near," shot his sister instead of the bird he aimed at. This was thought worthy of an extended notice; but if the little robin had been killed, or wounded and left to die after hours of suffering, it would have been unnoticed save by Him who clothes even the smallest blade of the grass of the field, and notes the sparrow's fall.

The study of bird-life lends a new attraction to the pleasant country rambles and walks in the woods. "Making Friends with Birds," page 337, gives some timely suggestions to those interested in this study.

### WANTED, QUICK!

THE name and address of any person who can preach as well as the truth is presented in "Great Controversy," "Patriarchs and Prophets," and "Thoughts on Daniel and the Revelation."

Address Dep't of Circulation, Review and Herald, Battle Creek, Mich.



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## Grand Trunk Railway System

Time Card in Effect February 5, 1899.

### C. & G. T. DIVISION.

#### WEST-BOUND FROM BATTLE CREEK.

No.	Train	Leave
No. 11	Mail and Express, to Chicago	12.00 M.
No. 1	Chicago Express, to Chicago	9.00 A. M.
No. 3	Lehigh Valley Express, to Chicago	3.40 P. M.
No. 5	Pacific Express, to Chicago, with sleeper	12.55 A. M.
No. 75	Mixed, to South Bend	7.30 A. M.
Nos. 11 and 75, daily, except Sunday.		Nos. 1, 3, and 5, daily.

#### EAST-BOUND FROM BATTLE CREEK.

No. 10	Mail and Express, to Pt. Huron, East, and Detroit	3.45 P. M.
No. 4	Lehigh Express, to Pt. Huron and East	8.27 P. M.
No. 6	Atlantic Express, to Pt. Huron, East, and Detroit	2.25 A. M.
No. 8	Lehigh Exp. to Saginaw, Bay City, Pt. Huron, and East	6.50 A. M.
No. 74	Mixed, to Durand (Starts at Nichols)	7.35 A. M.
Nos. 10 and 74, daily, except Sunday.		Nos. 4, 6, and 8, daily.

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