

THE YOUTH'S INSTRUCTOR

REMEMBER NOW! THY CREATOR IN THE DAYS OF THY YOUTH!

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FARMING IN QUEENSLAND

ANY one familiar with the great farming districts of the Western States would be likely to look with some amusement upon what he would see of farming operations in Queensland while traversing the country by rail. The people have not departed very far from the primitive methods employed by most English and Old-World farmers, who till their small patches of land on a sort of one-horse principle. Nevertheless, a large

amount of produce is turned out in this way. Much of the small grain is harvested before ripening, and then cut into feed, called chaff, and thus sent to market in bales. Corn is more extensively raised here than in any of the other colonies, and always brings a good price. It is now selling for one dollar a bushel. What a treat this would be to our Kansas and Nebraska farmers! Potatoes are extensively raised, and can always be seen

growing in different stages of development. Fresh garden vegetables of some variety are to be procured the year round. In the later winter months of August or September, frosts may come on the higher lands.

Fruit-farming is carried on to some extent, but pests and disease often rob the orchardist of his reward. In the warmer sections, pineapples, bananas, mangoes, oranges, and lemons are extensively grown. In the Brisbane market, bananas cost from two to four cents a dozen; and in the season, good "pines" may be had for twice that price. When a banana stalk has grown one bunch, it is cut down; but from its stock spring up other shoots, so that a plant is constantly bearing, there being no special season for the fruit. After a time the plants deteriorate, and require renewing; but they bear well for a term of years, during which they continually increase in size and capacity. The same is partly true of pine-

apple plants. The first crop produces one pine from each plant; but the number of plants increases with each crop, until the entire ground is a solid mat of bristling plants, well-nigh impenetrable, unless it be kept within bounds by vigorous training. Brisbane is said to be the center of the finest pineapple district in the world. Perhaps none but a Brisbaneite would say it; but we had a ten-pound pineapple on our table, bought out of a common lot.

Leaving the lines of railway, and penetrating the broad interior districts, one enters a region that might be regarded as a world of its own. It is the sheep world. Here on vast ranges live hundreds of thousands of these gentle quadrupeds, tended by a set of men, who, being cut off from the outer world, by long years of association have in some instances become

endless controversy. The latter feature is greatly modified by laws regulating the traffic, and controlling the treatment of the poor laborers, who, in the past, have been treated more as slaves and chattels than as human beings. The principal objection to their being employed now is on the part of white laborers, who think the work should be performed by themselves, at prices that would give white men a support.

Many branches of small farming could be profitably carried on in Queensland. Bee-keeping is one of these, though good strained honey can be had for four cents a pound. But bees work nearly or quite the entire year; and two hundredweight from one colony is not an unusual yield for a single season.

But for the lack of rain to which the country is exposed, Australia in general, and Queensland in particular, would be the garden of the world. The climate of Brisbane is, on the whole, a most desirable one. In the hot summer months the forenoons are sultry, but the evenings and mornings are delightful, or at least have been so up to the present time since our coming.

On one of the famous palaces in Delhi, India, is found this inscription: "If paradise be on earth, it is here, it is here."

I would not quote that sentiment for Queensland. The *if* is so overtowering as to render the whole legend nonsensical. Paradise is not on earth. It will be: but "how unlike the present world will be the one to come."

G. C. TENNEY.



A QUEENSLAND SUGAR-MILL.

assimilated to the society of their quiet companions. In northern Queensland shearing begins in early spring, and extends southward with the season, until nearly the entire year is occupied, and an army of men have sheep-shearing as their sole occupation. It is said that except at shearing time, many of the sheep-tenders never see human beings. Their food is left at certain specified places; and when it is required, they visit the repository to obtain it. Wool is brought to the railways by long teams of oxen or horses. The annual wool crop of Queensland brings not less than fifteen million dollars. The amount exported last year was 84,814,139 pounds.

Another industry rapidly gaining ground along the costal regions of Queensland is sugar-planting. For this labor, men are imported from the islands. These men are known as Kanakas, and their introduction and inhuman treatment have been the source of

WHERE the sun does not go, there goes the doctor. All sorts of diseases, from consumption down, are mitigated or cured by sunlight and pure air. Watch for the sun; for life and health dwell in its beams. When it is shining, open every window in the house until it goes down again. Not only has the sun the power of making germs die, but it is equally endowed with the potency of making men live. Let men and women make sure that not only themselves, but also their children and their servants, have the fullest opportunities of taking in unlimited quantities of the inexpensive, life-giving sunshine.—*The Hospital*.



LIGHT, CAMERA OBSCURA, AND LENS

LIGHT is defined as "radiant energy," propagated by the wave-like motion, or vibration, of a hypothetical something called ether. Ether is indefinable, immeasurable, almost inconceivable. We simply presume that it is capable of transmitting the wave-like motions of light and heat, and that it fills universal space.

Toss a pebble into the water, and immediately there spring up many little waves, which travel, in gradually widening circles, from their starting-point. Just so with the waves of light; only instead of creeping along at a snail's pace, they move at the rate of more than one hundred and eighty-six thousand miles a second. When light-waves strike the surface of an object, they are reflected, or "bounced back," and thus we are able to see the object. Some surfaces absorb light instead of reflecting it; these appear black to us, simply because we can see nothing in the space that they occupy. Other surfaces reflect light-waves of one sort and absorb those of another. This gives them color.

When not interfered with by some outside influence, light moves in a straight line. In the camera obscura, light is admitted at only a small aperture; consequently the rays coming from the bottom of an object move upward, while those coming from the top must move downward, to reach the interior of the camera.

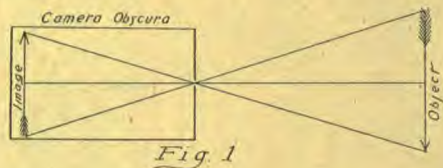


Fig. 1

These rays all cross at one point, and each continues its course until intercepted, when it gives an inverted image, as illustrated in Fig. 1.

A simple experiment will clearly demonstrate this truth. Take an empty tin fruit can, which has had one end removed. In the middle of the other end make a hole with a tack or small shingle nail. Now black the inside of the can with boot-black, or anything convenient, to prevent reflections. Cover the open end with oiled paper, and the camera obscura will be complete. In order to see the image formed on the oiled paper, in will be necessary to cover your head with a dark cloth, just as the photographer covers his in focusing. Unless the object is well lighted, the image will be dim and indistinct.

Cameras, as now made, are truly marvels of convenience and compactness. But good photographs depend more upon the care and skill of the operator than upon the tools with which he works. All that is necessary to take a prize-winning picture is a light-tight box, with a small hole at one end, and a sensitive plate at the other.

Although photographs may be taken without a lens, the lens is, generally speaking, of greater importance than the camera. I advise my readers to become reasonably expert in photographing with a lens before they attempt to photograph without one.

A perfect photographic lens will condense every light-wave that reaches it from an object, and of them form an image of the object, which is its exact counterpart, except in size. An absolutely perfect lens has never been made,

but some come sufficiently near perfection for all practical purposes.

The action of a lens in forming an image is quite simple, and it should be understood by all who expect to use one intelligently. Figure 2 illustrates the manner in which a simple form of lens affects light-waves. *A* is a point on some object, from which the light-waves are reflected. *B* is a plano-convex lens. *C* is the point where the light-wave is condensed to form the image.

As the wave leaves *a*, it grows larger, but only that part of it is shown that will ultimately reach the lens. The middle of the wave strikes the flat surface of *b* first. As it moves through glass much more slowly than through air, the ends of the wave "catch up," and it becomes more nearly straight. The back of the lens being curved, the ends of the



Fig. 2

wave emerge first, and run ahead of the middle, so that when it finally does get free from the glass, it is curved in the opposite direction. Before it can regain its former curve, it must come to a point, which it does at *c*. The image is made up of countless numbers of waves of light, reflected from every point of the surface of the object, and condensed to a corresponding point in the image.

The light-waves do not affect one another, no matter how often their paths cross. But if they are intercepted at any point, either in front or behind *c*, they will remain crossed, and the resultant image will be indistinct. The farther from *c* the image is intercepted, the less distinct it will be.

Now if *a* is moved farther away, the waves of light will be much flatter when they reach *b*, as they will be arcs of a larger circle. The nearer flat they are when they reach the lens, the more curved they will be when they leave it, and the sooner they will come to a point. The farther *a* is from *b*, the nearer *c* will be, until *a* has been removed so far that the light-waves are practically flat when they reach the lens. After this point has been reached, *c* remains stationary, no matter how far *a* is removed. When *a* has reached this point, the distance between *b* and *c* is the focal length, or equivalent focus, of the lens.

The focal length of a lens is proportionate to the curvature of its surface. It will be seen, by referring again to the drawing, that if the lens was thicker in the middle, the light-wave would be still more curved when it had passed through. It would, consequently, come to a point sooner.

If any of my readers have found this article rather dry and hard to understand, I advise them to study it carefully, until they do understand it. Photography has been made a pastime by many; but if I did not believe that at least some of the INSTRUCTOR family would make it a study, I would not write another word.

J. EDGAR ROSS.

LEARN to laugh. A hearty laugh is better than medicine.

Learn how to tell a story. A well-told story is as welcome as a sunbeam in a sick-room.

Learn how to keep your own troubles to yourself. The world is too busy to care for your ills and sorrows.

Learn to hide your aches and pains under a pleasant smile. No one cares whether you have the earache, headache, or rheumatism.—*Selected.*



BE GLAD

Be glad when the flowers have faded?
Be glad when the trees are bare?
When the fog lies thick on the fields and moors,
And the frost is in the air?
When all around is a desert,
And the clouds obscure the light?
When there are no songs for the darkest day,
No stars for the longest night?

Be glad when the heart is failing,
And the brain is losing power,
And the cunning skill of the strong right hand
Wearies in one short hour?
We are glad in the merry morning,
And glad at the noon again;
But the wintry night is a tired time—
Do we look for gladness then?

Ah, yes! for the truest gladness
Is not in ease and mirth:
It has its home in the heart of God,
Not in the loves of earth.
God's love is the same forever,
If the skies are bright or dim;
And the joy of the morning lasts all day
When the heart is glad in him.
—Marianne Farningham.

JUSTIFICATION BY FAITH

I

FAITH in Christ is the only condition upon which justification can be received; and the gift is bestowed only upon those who realize that they are sinners, and undeserving of mercy. The merits of the blood of Christ must be presented to the Father as the offering for the sins of men. When sinners seek God, and in repentance confess their sin, he pardons their transgressions, remits their punishment, and receives them into fellowship with himself, as if they had never transgressed. He imparts to them the righteousness of Christ.

The faith that accepts Christ as One who is able to save to the uttermost all who come unto God by him, means perfect belief and trust. To be intelligently convinced is not enough. The apostle James writes: "Thou believest that there is one God; thou doest well: the devils also believe, and tremble." Many there are who believe that Christ has died for the sins of the world, but they make no appropriation of this grand truth to their own souls. Their hearts are not enlisted in the service of God, their lives are not reformed. They are not sanctified by the truth they profess to believe. Not having the faith that works by love and purifies the soul, no genuine good appears in their lives. "Was not Abraham our father justified by works, when he had offered Isaac his son upon the altar?" asks the apostle. "Seest thou how faith wrought with his works, and by works was faith made perfect? And the scripture was fulfilled which saith, Abraham believed God, and it was imputed unto him for righteousness: and he was called the Friend of God."

The offering of Isaac was designed by God to prefigure the sacrifice of his Son. Isaac was a figure of the Son of God, who was offered a sacrifice for the sins of the world. God desired to impress upon Abraham the gospel of salvation to men; and in order to make the truth a reality, and to test his faith, he required Abraham to slay his darling Isaac. All the agony that Abraham endured during that dark and fearful trial was for the purpose of deeply impressing upon his understanding the plan of redemption for fallen man. He

was made to understand in his own experience how great was the self-denial of the infinite God in giving his Son to rescue man from ruin.

To Abraham no mental torture could be equal to that which he endured in obeying the command to sacrifice his son. But he girds up his soul with firmness, ready for the work that God requires him to do. With a breaking heart and unnerved hand, he takes the fire, while Isaac inquires, "Behold the fire and the wood: but where is the lamb for the burnt-offering?" But oh, Abraham can not tell him now! Father and son build the altar, and the terrible moment comes for Abraham to make known to Isaac that which has agonized his soul during all that long journey,—that Isaac himself is the victim.

Isaac is not a lad; he is a full-grown young man. He could refuse to submit to his father's design, should he choose to do so; but he does not even seek to change his purpose. He submits. He believes in the love of his father, and that he would not make this terrible sacrifice if God had not bidden him do so. Isaac is bound by the trembling, loving hands of his pitying father, because God has said it. The son submits to the sacrifice because he believes in the integrity of his father. But when everything is ready, when the faith of the father and the submission of the son are fully tested, the angel of God stays the uplifted hand of Abraham, and tells him that it is enough. "Now I know that thou fearest God, seeing that thou hast not withheld thy son, thine only son from me."

MRS. E. G. WHITE.

OBJECT IN SCRIPTURE STUDY

If everything that Jesus said and did while here on earth, was written, the world itself, says John, "could not contain the books;" "but these are written that ye might have life." In 1 John 5:11 we read that eternal life is in Jesus Christ; and again, that "this is life eternal, that they might know thee the only true God, and Jesus Christ, whom thou hast sent."

The object, then, for which the stories and incidents in the life of Jesus were written, was that we might know Jesus; hence it follows that something of Jesus is to be learned in every bit of his life that is recorded in the Scripture story. Of Jesus it is said that he came to declare the Father; and he himself said, "He that hath seen me hath seen the Father:" therefore in knowing Jesus, we also know the Father.

If we truly appreciate the real object of Scripture study, we shall keep our spiritual eyesight bright with prayer and faith, that we may be able to distinguish Jesus in everything that is recorded of him in the Word. Shall we not look upon the wording of these incidents as the frame holding a beautiful picture, or as the setting to a precious gem? and should we not be careful lest we so study and admire the frame, or setting, that we do not appreciate the beauty of the picture or the value of the gem?

If, then, each incident in the Scripture story contains a precious gem of truth, and the object of study is to know Jesus, who is the Truth, we are to deal with each particular only so far as it will help us know the Jesus found therein. I have read somewhere of an artist who, from the chippings of stone discarded and trodden underfoot by his master, with skillful cutting and setting, inspired by artistic genius, formed

a mosaic excelling that of the master himself. To find the precious gem of truth in each bit of inspired story, and to give it its proper place, must certainly be the object of all study; and each incident, if studied with this end in view, becomes a part of Jesus, who is the all in all of the Scriptures. W. D. LARKIN.



OUTDOOR SKETCHING

IN drawing outdoors from nature, there are some difficulties that one does not meet in drawing from still-life groups, or in drawing indoors. The light changes; the shadows remain in one place hardly long enough for the beginner to draw them; there is the constant swaying of trees and vines in the wind, and the fluttering of one's paper: yet in spite of all these difficulties the student will realize that the most crude efforts bring with them a deeper delight than a finished study of still-life or any indoor work.

It will be best in the beginning for the stu-



dent to take only the most simple subjects, such as a group of trees, or several old buildings, or a road. If these are too difficult, a single tree, a vine, or the corner of some building will do, until he becomes familiar with the work.

Many hours must be spent in the study of trees alone, to insure a good drawing of them. The individuality of trees is as strong as that of persons. The different species differ in form, color, and foliage; while no two, even of the same species, have just the same manner of growth. These all need careful study.

One of the most important matters in drawing is to know how to place upon paper the subject one is about to draw. The interesting scene may become flat and unattractive if drawn on a scale too large for the sheet of paper, or if drawn too high, too low, or so close to the edge of the paper as to leave no margin for possible needful additions. All sketches or drawings should be placed so as to leave an ample margin on all sides. If, after the drawing is made, there proves to be too great an expanse of paper, it can be easily cut down to a suitable size; while the opposite difficulty—the addition of an inch or two to the margin—can not be so easily remedied.

Having decided on your subject, sit so that you can see it from the best point of view. This point being once chosen, keep to it. Many an otherwise good picture has been

spoiled from the inability of the artist to draw his choice of subject, and that alone. The temptation is strong to add, to this side and that, points which in themselves are interesting, but which, if added, will detract from the general interest of the picture. No more should be put in the drawing than is essential to complete the idea to be expressed. Parts that are not necessary to complete the idea should be omitted or suppressed. To suppress these parts, we should make them lighter, or in outline, so that the main idea shall be seen first; then the suppressed, or secondary, parts will be seen without interfering with the main idea.

Make your drawing at the time when the shadows are most interesting,—a point that can be determined only by previous observation. Shadows are strongest in the afternoon, so that for some the afternoon is the most desirable part of the day in which to sketch.

Having placed your drawing, and sketched in the main forms, it will be best to outline all the shadows carefully; and no matter how much they change afterward, keep your drawing of such shadows within the limit of the penciled indications. This will prevent a mistake frequently made in outdoor work; namely, the different shadows in one picture appearing as if cast at different times in the day.

All the houses, sheds, roads, and windows that enter into outdoor sketching must conform to the principles of perspective with which we first started. Houses are only big blocks, so to speak, and all their vanishing lines retreat in accordance with the principles that govern the elementary forms. Use such knowledge with judgment, however, lest your drawing become too architectural and stiff.

PEDRO LEMOS.

HOW TO HELP

To HAVE willing feet,
A smile that is sweet,
A kind, pleasant word
For all that you meet,—
That's what it is to be helpful.
In a mild, gentle way,
To help through the day,
To make some one happy
In work or in play,—
That's what it is to be helpful.

—Union Signal.

THE TRUE KING OF BEASTS

M. FOA has a great admiration for the elephant, of which he says: "The elephant has only one enemy—man. It fears none of the animals. In addition to the intelligence relatively superior to theirs, it possesses strength, size, courage, and, moreover, a sense of touch more delicate than that of any of them, even the monkey. It travels everywhere, swims like an amphibian, and crosses ravines and rivers, forests and thickets, without distinction. Everything gives way before it. It climbs and descends hills that one would think inaccessible to it; it crosses whole countries in a night, like an undisputed master in his vast domains; it is here, there, everywhere, hiding like a mouse, despite its great size, and noiselessly disappearing like an unseizable Proteus, much to the discomfort of the hunter; finally, if its life is spared, it is ready to become once more, as in former times when it fought by his side, the ally, the friend, the servant, and the protector of man. The elephant is the true king of animals. Compare this noble animal with the useless lion, the nocturnal prowler at the mercy of a pack of wolves."



BEREAN LIBRARY STUDY

Dan. 10: 1-21; "Thoughts on Daniel," pages 213-221

The regular Outline of these studies is published in the *Review and Herald* and also in the *Missionary Magazine*. What is here given is only supplementary, and should be studied in connection with the Outline.

NOTES ON LESSON 14

(March 4-10)

1. *Hired Counselors.*—Two years before the events of this lesson occurred, the decree of Cyrus had been issued, which provided for the return of the Jews to Jerusalem and the restoration of the temple. As before stated, this work began, but it was successfully opposed by the Samaritans,—the mixed races of Samaria, who were then spread over into desolate Judea. An interesting account of their doings is recorded in Ezra 4: 1-24. The efforts against the Jews were systematic and determined, so that they "weakened the hands of the people of Judah, and troubled them in building, and hired counselors against them, to frustrate their purpose, all the days of Cyrus king of Persia." Daniel must have had an intimate knowledge of all this; for he was still prime minister at the court of Cyrus. Doubtless he became greatly concerned for the success of the work of God, but instead of scheming against those ancient lobbyists, he simply appealed to God, with the result recorded in our lesson.

2. *An Ancient Custom.*—Reference is made to the general habit among the Hebrews and other Oriental nations of anointing the hair, head, and beard with oil or specially prepared ointments. The omission of this was an outward sign of fasting and mourning. The real intent of this ancient custom had become so perverted in the days of Christ that he gave the instruction in Matt. 6: 16-18.

3. *A Sentence from the Spirit of Prophecy.*—In the study of this lesson it will be noted that the description of the one who appeared to Daniel in vision (Dan. 10: 5-7) is strikingly similar to the description of Christ in Rev. 1: 14-16, and that the effect of his presence is about such as was experienced by Paul and his companions when the Lord appeared to them as they were going to Damascus. In "Great Controversy," Vol. IV, page 470, after a comment on Daniel's prayer, the following statement is made: "And when at a later time the Son of God appeared, to give him instruction, he declares, 'My comeliness was turned in me into corruption, and I retained no strength.'" From this we learn that it was the Son of God who appeared to Daniel in the vision. The prophet was so overcome that he fainted, or "was in a deep sleep," lying with his face toward the ground. He was aroused by the touch of a hand, which seems to have been, not the hand of the One whom he had seen in vision, but the hand of the angel Gabriel, who proceeded to instruct Daniel still further in that which he did not understand.

4. *Titles of Christ.*—In this lesson Christ is referred to by the name Michael, which

means "like unto God." The significance of the different names by which he is called is an interesting study. Christ, or Messiah, means "anointed." Jesus, meaning "Saviour," was the common name used by the writers of the Gospels, although Christ refers to himself eighty-one times as the "Son of man." The sacrifices of the Jewish dispensation make the name Lamb of God, used by John the Baptist, a peculiarly appropriate one. The word Redeemer indicates the "paying of a price." False teachers are called "wandering stars," in Jude 13; and in contrast Christ is called "the bright and morning Star." Rev. 22: 16.

5. *Greatly Beloved.*—Twice is the message given to Daniel, "Thou art greatly beloved." Is it not a beautiful thought that unswerving loyalty to God inspires in heaven a love for an individual person that is different or greater than the love that has been made manifest for the human race? "Thou art greatly beloved"! Who does not long with his whole heart thus to be beloved by heavenly intelligences?

6. *"Whom Jesus Loved."*—The words "greatly beloved" will doubtless call to mind that other expression of special regard that is used four times in reference to John, the disciple of Christ. What could betoken a more mutual, loving, sympathetic companionship than the simple declaration given us in John 13: 23? "Now there was leaning on Jesus' bosom one of his disciples, whom Jesus loved." John is again singled out, in the dying moments of Jesus, as one specially loved. See John 19: 26. Lazarus and his sisters seem also to have been very dear to the Saviour. When Lazarus was sick, the sisters sent the message, "He whom thou lovest is sick."

7. *Most Wonderful of All.*—It is a wonderful thing to be so loved that the life of the only begotten Son of God should be given that one might be saved. But when that lost one accepts the sacrifice, and pours out his heart's love in trusting obedience to the One who is his salvation, then it is that the divine love is realized in all its blessedness. Then it is that the heart's longings are more than satisfied. Then it is that poor humanity is endeared to the heart of divinity, as was Daniel, as was John, as were Lazarus, Mary, and Martha. And the richness of that mutual love, the blessedness of that communion, the overwhelming power of that responsive love, are the most wonderful of all.

MARCH STUDY OF THE FIELD

Part I: "In the Land of Mexico"

(March 4-10)

1. *Basis of Study.*—Part I of the study for March will be based on the article in the *Missionary Magazine* of that month, entitled, "In the Land of Mexico."

2. *Explorations in Mexico.*—Before the introduction of railroads in Mexico, exploration was difficult and dangerous, and was rarely attempted. There were no roads and no inns; barren and waterless tracts had to be crossed; the people were inhospitable, and life and property were not safe. A large portion of the country has not been penetrated, especially on the Pacific Coast and in the southern part. There are some tribes that have never been brought in contact with the white man.

3. *Mexican Foods.*—Tortillas and frijoles are national foods, and are used by rich and

poor alike. The tortilla is prepared in the following manner: Corn is placed in a jar of hot lime-water to soak overnight, the lime being used to soften the corn. When desired for use, the corn is ground on a stone roller into a paste, and is then slightly dried, or baked, on an earthen tray, or pan, over a small fire. Frijoles are boiled black beans. Among the poorer classes the tortilla serves as bread. It is rolled together like a spoon, and used to scoop up the frijoles, all being eaten together. Both green and red peppers are eaten with every meal, and are regarded as almost indispensable. Meat is rarely used by the laborers; but when it can be obtained, every part of the animal is eaten. Lard is largely used, even in sweetmeats. Coffee and chocolate are the principal beverages.

4. *The Maguey, or Metl.*—This plant is largely cultivated throughout the temperate regions. It requires from ten to seventy years to mature, according to the climate. It is used in many ways. Pulque, an intoxicating drink, is made from the sap. Other intoxicating drinks are also made from it. Strong thread and tough paper are made from the leaves. Sandals are also made of the plaited fibers of this plant. Another name for the maguey is the century plant.

5. *Mexican Towns.*—The towns are generally situated on the upland plains. The streets are broad and straight. The houses are large, built of sun-dried bricks, in the form of a quadrangle, with a court. They are one story high, with flat roofs. The cathedral is usually in the form of a dome, richly ornamented. The central square and the public pleasure-grounds are usually laid out with great taste, and are made beautiful with trees, shrubs, and fountains. Most of them also have shady promenades.

6. *Vera Cruz.*—This is the most important seaport on the Atlantic coast of Mexico. It is a very unhealthy town. Malaria is prevalent, though not fatal to the natives. Yellow fever rages for eight months of the year. It is fatal to foreigners, and does not spare the Mexicans. Sanitary conditions are bad. Vera Cruz was formerly a flourishing town, but is now decaying. The ruins of many palaces are seen, and are the homes of carrion-kites. These birds may be seen hopping about in search of food, or perched on the roofs of the houses. There are no trees, shrubs, nor springs. The cisterns contain muddy, warmish water. The people either have to drink this or go to the taverns for liquor. These places are frequented by half-drunken, brawling men.

7. *Popocatepetl.*—This is an Aztec name, meaning "smoking mountain." The volcano is 17,784 feet high. The crater is at the summit, is from one thousand to sixteen hundred feet deep, and measures about two thousand feet across. Its walls are almost perpendicular. About three hundred years ago the volcano was active, but since then there have been only two or three moderate eruptions. The mountain still smokes, is constantly emitting gases, and sometimes throws up cinders and stones. Pine forests encircle it to the height of about twelve thousand feet. About two thousand feet higher the snow-line begins. Between these two altitudes, grains of sulphur are found in the loose sand.

NEVER does a man portray his own character more vividly than in his manner of portraying another.—*Richter.*



OUR DAILY KEY

Just to be tender, just to be true;
 Just to be glad the whole day through;
 Just to be merciful, just to be mild;
 Just to be trustful as a child;
 Just to be gentle and kind and sweet;
 Just to be helpful, with willing feet;
 Just to be cheery when things go wrong;
 Just to drive sadness away with a song;
 Whether the hour be dark or bright,
 Just to be loyal to God and right;
 Just to believe that God knows best,
 Just in his promises ever to rest;
 Just to let love be our daily key,—
 This is God's will for you and for me.
 —Emma C. Dowd.

A SPOILED VISIT

EARLY one beautiful morning last fall I had a long-wished-for opportunity to visit a lonely sister in the country. The ride was a pleasant one, and the dear sister and her children gave me a cordial welcome. Margaret, the eldest, is about ten years old, and is an unusually bright, active little girl. Six-year-old Jamie is quiet and grave, while little May is a living picture of good health and good nature.

After a reasonable time had passed in first greetings and general conversation, the mother said, gently, "Margaret, this is an opportunity for which we have sometimes prayed. Now if you will finish up the kitchen work, we will all give the afternoon to Sister Wilson's company."

"O mama!" exclaimed the child, impetuously, "why not let the work go? I want to hear every word Sister Wilson has to say."

There was a reproachful look in the mother's eyes, but nothing more was said; and Margaret brought a comb, and sat down for her mother to rearrange her long braids, all the time chatting gaily concerning things that seemed important to her. Finally her mother said, "Daughter, won't you keep quiet until Sister Wilson tells us about the late meeting she attended?"

I began the recital, and by and by the mother remarked, "I wish Sister King was here today. She called last Tuesday, and spoke of how glad she would be to hear about that meeting."

"No, mama!" broke in Margaret, "it was Monday—don't you remember?"

"I thought it was Tuesday," said the mother, but Margaret reiterated, "No, it was Monday. Little May fell down the back steps—don't you know?"

"After some time had been spent in convincing me of her mother's mistake, the thread of my remarks was again taken up, this time to be broken by Margaret's exclaiming: "O Sister Wilson! you have a new cape, have n't you?"

"No, dear, only one made from another garment," I replied.

"It looks as nice as new," she continued, examining it critically. "The trimming is new, anyway, is n't it?" Another ten minutes of precious time passed in discussing the merits and demerits of my wrap.

"Elder Gains called on us the 23d," I said, as soon as the cape question was settled; "and —"

"Oh, it was the 22d, Mrs. Wilson; I am sure it was," came from Margaret, and the mother exclaimed, "Margaret! Margaret!" with an expression of real pain in look and voice.

"But it *was* the 22d," persisted the child, "don't you remember that Mary Jones came out from town to see me the 23d, and it was Jamie's birthday?"

□ Fearing another loss of time, I said, "It is immaterial as to the day; it is rather the importance of the message he brought us of which

Glancing down the road, I saw my neighbor coming; there was only time for a few parting words with the mother, while Margaret exclaimed many times, in tones of real regret, "What made him come so soon? You must n't go! Can't you stay all night? We wanted to hear about the meeting and Brother Gains's visit; and mama has been wanting to have a long talk with you, too."

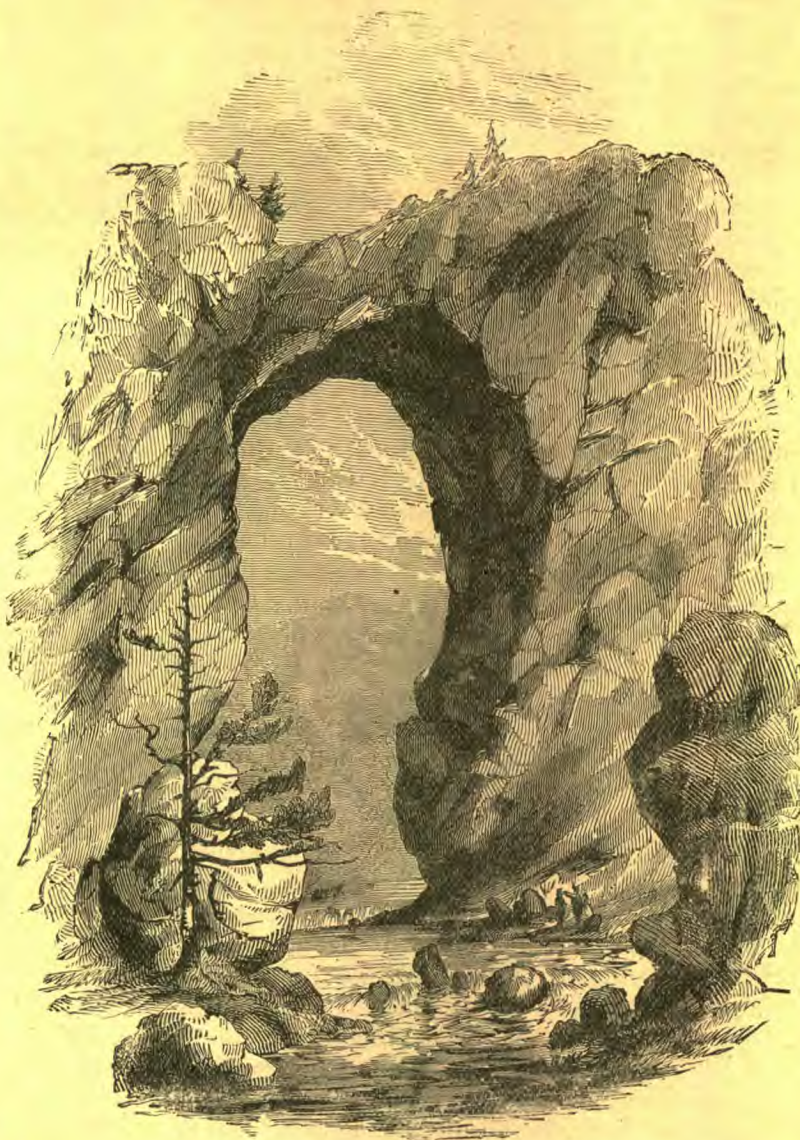
"Too late," I said, as I tenderly kissed the dear child, who has so many things to learn.

"Pray for my dear children," said the mother, tears in her eyes; "pray that I may have wisdom and patience. My daughter is so helpful when we are alone. I do not see how I could manage all my work without her, and I know she loves the truth of God; but she has some grievous faults."

With a fervent clasp of her hand, I said good by, and rode home, thinking of the visit I had looked forward to so long; of the many things I had hoped to say; of the sister's desire to unburden her heart, hoping for Christian counsel, love, and sympathy—all spoiled by a thoughtless child's selfishness. At first it seemed as if the afternoon had been wasted; then the thought came that if I would tell the INSTRUCTOR family about my spoiled visit, it might help some little Margaret to be more thoughtful under similar circumstances.

AUNT RUTH.

THE NATURAL BRIDGE OF VIRGINIA



THE NATURAL BRIDGE OF VIRGINIA.

AMONG the remarkable natural curiosities of the United States, the Natural Bridge of Virginia occupies a prominent position. Its peculiar and picturesque formation has gained for it the admiration of thousands of tourists, and the attention of geologists the world over, by many of whom it is supposed that the bridge and chasm are remnants of what was once an immense cavern. However this may be, the present scene is one of almost indescribable charm and beauty.

The bridge is situated in the county appropriately named Rock-bridge, and is formed of a limestone stratum fashioning an arch two hundred and fifteen feet high. Its length is ninety-three feet, and the thickness of the crown of the arch is about forty feet, while the average width of the arch is eighty feet. From the public road there may be had an ample and enchanting view both of the solemn chasm below, through which a little stream dreams its way along, and the distant Blue Ridge Mountains. The bareness of the rocky walls and road is relieved by the great forest trees, which wreath themselves in vivid green foliage from the floor of the chasm far up the rocky height, and protect both sides of the road with steadfast guardianship.—*Baptist Union*.

AN ISLAND FAR AWAY

OFTEN I have wished that some of the children in America could be with me for a little while on one of these islands of the Pacific Ocean. I would not wish that you should stay long; for I know you would be lonely so far from home, among these half-wild people, whose language you could not understand.

I desire to speak. His visit was short; he came on the evening train, and our meeting was a kind of 'call meeting'—"

"Oh, he came on an afternoon train, Mrs. Wilson!" said Margaret, decidedly; "Mary Jones said on the four-o'clock. She said—"

"My dear," interposed the mother, "there are some things I have wished to talk over privately with Sister Wilson. Put baby in her carriage, and take her down the lane for her afternoon ride."

"Yes, Maggie," piped in Jamie, who had been devoting himself to his playthings in the corner.

"Go, dear," said the mother, as Margaret hesitated. "Jamie needs the walk, and baby needs the ride. The fresh air for a few minutes will do you all good."

"Oh, let us miss it this one afternoon, mama! Sister Wilson hardly ever comes, and I want to hear every word she has to say," and the child seated herself as if to listen intently.

You would find the climate very warm; and you would not like the foods we have to eat here, and would miss many things that you have in America.

Sometimes I think of how we would spend the time if you were here just for one day. Were you as seasick on the way as I always am when at sea, you might not be strong enough to walk about much for a few days; but as children generally do not become as seasick as older persons, we will suppose you would be able to go sight-seeing with me as soon as you arrived. You might be landsick on leaving the ship; and if so, you would stagger about so much that the island people might think you were drunk.

There are but few horses on any of these islands, so we must either walk or else hire strong natives to carry us. This island, like many others of the Pacific, is mostly mountains, with only a narrow strip of level land along the shore. You will find no wild animals here larger than rats, and no snakes; but there are scorpions, centipedes, and many troublesome insects. There are many sea birds, and tall, wading birds, and, on some of the islands, wild parrots, but no singing birds. When once I told some of the children about our American song-birds, one girl asked whether the birds sing English, the same as I do. Then I had to explain that bird-music is more like whistling than like our singing.

As we walk along the shore, we see many of the dark-skinned people crouching in the doorways of their huts, or lying on the ground, or strolling along the beach. They wear but little clothing, usually merely a strip wrapped about the hips. This one garment may be of cloth shipped from America or Europe, or it may be made of bark, or woven of grass or leaves. Some have other garments, which they have bought from white traders. These people never wore hats till they learned that custom of white people, and many of them still wear none.

By the wayside are women washing clothes in a small stream, which flows down from the mountains to the sea. They crouch in the water, wet the clothing, and lay it on smooth stones, then pound it with a stick. Those who own flatirons sit on the floor of their huts to iron, and spread their garments before them on the floor.

If we pass a hut when the people are eating, they are sure to call to us to come and eat; or if they are cooking food, they may ask us to stop and wait till it is done. That is their idea of politeness. Some of their manners would not seem very polite to you. Visitors, when about to go away, say to those on whom they have been calling, "You stay here." Then the one at whose house they are, says, "You go away." These people would think us very rude if, when they are ready to leave our house after calling upon us, we should fail to tell them to go.

When your grandparents were of your age, they would not have found a visit to this island as pleasant as you would now find it; for then the islanders were savage pagans. But missionaries came here, even though it was not a pleasant place, and through their efforts the people have become greatly changed. Still, there is much to be done for the natives of all these islands, and there is need of many more missionaries to teach the islanders how to live.

—Mrs. Ada D. Wellman.

QUEEN WILHELMINA of Holland is said to be, with the exception of the czar, the richest monarch in the world. Her annual income is fifteen million dollars.

OUR CONTRIBUTORS

THE DAY OF SMALL THINGS

GIVE the boy a hammer, an auger, and a saw,
Some little bits of boards, and some nails to drive and draw;

Fence him off a workshop in a corner of the shed;
Pat him on the shoulder, and bid him, "Go ahead!"

Let him make for mama a table or a chair,—
Funny things they 'll be, no doubt, but mind you speak him fair.

By and by he 'll tinker up the invalided clock,—
But if you *always* carry him, how 'll he learn to walk?

Give the girl a needle, teach her how to sew;
Let her have some patty-pans and a piece of dough:
Let her test her muscles wrestling with a broom:
Soon her proudest act will be to "tidy up" a room.

Let her set the table, and learn to set it right;
Teach her, what she finds to do, to do it with her might.
By and by she 'll learn to cut and make herself a frock;
But if you *always* carry her, how 'll she learn to walk?

ELIZABETH ROSSER.

HOW TO CLASSIFY WHAT IS STUDIED

In order to receive strength and nourishment from the food you eat, it is not necessary that you remember every detail concerning its purchase and preparation. Likewise the exact source of every statement or quotation that you meet in your reading from day to day need not be carried in your mind, in order for you to secure mental discipline and power from what you read. Nevertheless it is certainly convenient, and sometimes almost absolutely necessary, to possess just such knowledge. None but a giant mind could be expected to do this, without some artificial aid; so it is essential to adopt some plan of systematically classifying the choicest and best portions of what you read. Who has not spent hours in trying to find some statement that he felt sure he had read in a certain book, only to find at last that he had read it in some other book?

I will briefly outline a plan that has proved of great value to me. No doubt there are other systems which, in the hands of others, may be of greater value to them, and perhaps they will feel disposed to give the readers of the YOUTH'S INSTRUCTOR the benefit of their experience. I have one plan for preserving what I read in books, which may be referred to at any time, also bound volumes of magazines, journals, etc. By another plan I keep extracts from floating literature, such as newspapers, etc.

Years ago I discovered that the ordinary scrap-book is a delusion and a snare. It soon becomes bulky and unwieldy if its owner does the right thing by it, and so is of no use when traveling. Therefore I have adopted the plan of securing a number of cheap envelopes, about twelve by nine inches in size, and setting aside one envelope for each general subject on which I am saving material, having a definite place for it on my shelves. When the envelope becomes conveniently full, I simply get another, and put it on top of the first one. On the outside of each envelope are written the titles of the articles dealing with the particular topic treated, so that at a moment's notice I can see exactly what it contains.

To make this quite clear, I will take up at random one of these envelopes. It is marked "Tuberculosis and Milk." Here are a few of the titles on the envelope devoted to that subject: "Channels of Infection with Special Reference to Water and Milk," Dr. Smith; "Dangers in Milk and Its Products," Dr. Edson; "How to Avoid Tuberculosis," Dr. Wise;

"Lecture on Tuberculosis and the Milk Supply, and the Dangers of Bad Milk," Dr. Delphine; "Milk Legislation," W. H. Ford. It will thus be seen that I have at a glance not only the name of the article but also that of the author.

In my class work I am constantly saved hours of useless labor because of taking pains, whenever I read an article, to preserve it then and there. It takes only a moment of time to do this; and none but those who have had the experience know what a quantity of valuable material on scores of important subjects can thus be collected in a few years.

To enable me to refer readily to what I have read in books, bound magazines, etc., I adopt a different plan. I have a book called an Index Journal, having in the front two pages for each letter of the alphabet, which indicates the place in the book at which the subject may be found. For instance, I turn to "M" in the Index, and take the same subject that was classified as "Milk" on the envelope. There I find such titles as these: "Cows' Milk Cause of Disease," *Modern Medicine*, Vol. V, page 220; "Milk an Ally to Tuberculosis," *Dietetic and Hygienic Gazette*, Vol. XIII, page 352. These two instances will make my meaning clear.

It is not necessary to have a large and expensive book for this purpose; one can be bought for a few cents that will do excellently for a beginner. The letters of the alphabet can be written for an index, and the work begun. It is only necessary to put down in a few words the chief thought, which perhaps it takes a paragraph to state in the original. It is an excellent drill for the mind to practice condensing into a single line a great quantity of material, and then put at the end of it the book and page where it may be found enlarged upon. Thus you have located it forever. It is a wonderful satisfaction to be able to turn to such an Index Journal, and there find a hundred references to some important subject, when you know you could recall only two or three without some such aid.

DAVID PAULSON, M. D.

(Concluded next week.)

WHO IS YOUR MASTER?

MANY a young man boasts that he is his own master, meaning, of course, that he can do as he pleases, without restraint. Such forget that if they are not under the direction of our great Master, Christ, they are under the control of Satan; for "know ye not, that to whom ye yield yourselves servants to obey, his servants ye are to whom ye obey?"

What think you, young man? Are you really your own master? Are you strong enough to master yourself? Others have tried to master themselves, and have failed. If by being your own master, you mean that you can do as you please, and cast off all restraint, you are in most abject slavery to a hard and cruel master. To give loose reign to evil passions, to indulge in selfish pursuits, is not real freedom.

You have been bought with a price: you belong to God. He gave his Son to die for you. You owe your service to him. He is your rightful Master,—a tender, loving Master, whose service may be your joy and delight. Why will you leave his service for that of Satan, the worst paymaster in the universe, whose wages are death? Be deceived no longer. You are not your own master; unless you acknowledge your allegiance to Jesus, you are on Satan's side. Your rightful Master, who says he is no longer a master, but a friend, to those who love him, does not compel any one to enter his service;

he invites, he entreats, he sets before you the results of obedience, the terrible destruction that will surely come to those who enter the service of the enemy of souls,—all this he does, but leaves you free to choose your service. O choose Christ for your master! Let him keep your conscience, cultivate your heart, govern your temper, and instruct you in the way everlasting. Then will your life be indeed a grand success. MRS. M. C. DU BOIS.

God. But pride choked out the good, and by the decision of a moment he settled his destiny. He longed to do right, but would not exchange the world to obtain the experience. But though he did not accept Jesus as a Saviour, he was satisfied that the charges made against him were false; and henceforth he sought to deliver him from his enemies.

2. Palestine was divided into three provinces,—Judea, Samaria, and Galilee. Pilate's jurisdiction extended only over Judea; Herod was tetrarch, or king, of Galilee. As a Galilean, therefore, Jesus was more truly a subject of Herod. From Luke 23:12 it is evident that Pilate and Herod had not been at peace with each other as rulers (a common thing in those days), and Pilate thought to heal the wound of enmity by sending the Saviour to Herod. It was only a political trick, but it succeeded in drawing them together, at least in opposing Christ. To-day, religious bodies, all at variance and fighting one another, join hands in opposing the truth of Christ.

3. Knowing that Pilate had made his decision against the truth, Jesus had no burden to help him as at the first. And Pilate, though troubled and anxious, only became angry at Jesus' silence. How different from their first talk together! There comes a time in the lives of individuals when, by their rejection of the right, they place themselves beyond the reach of the Spirit of God, and heaven becomes closed against them. If no other lesson were learned from Pilate's experience, we should at least fear lest indecision, and indifference to the present pleadings of a loving Saviour, lead us to step over the line into darkness and death. At the resurrection of the wicked, Pilate will look back to a time when the kingdom of heaven was all but within his grasp; but, too late, he will see only what *might* have been, *if*—Ah, that terrible word! Dear student, Jesus is now speaking to *you* of truth. Will you heed his word?

4. The Jews knew that these words would touch Pilate's weakest spot, and bring him to decide against Christ. For if the charge were to reach Rome that Pilate was unfriendly to Cæsar, it would undoubtedly cost him his position as governor, if not his life. At this time Pilate was not standing well in the estimation of the Roman emperor, Tiberius; hence the words of the Jews meant much to him. It did not take him long to decide to deliver Jesus to be crucified, that he might thereby keep in favor with the emperor. It was only a very little while, however, before he was dethroned, and ended his own life by suicide. It never pays to give up Christ for the world. "The world passeth away."

5. The custom of washing the hands as a token of innocency was one with which the Jews were familiar. See Deut. 21:6, 7.

It is a great mistake to set up our own standard of right and wrong, and judge people accordingly; to measure the enjoyment of others by our own; to expect uniformity of opinion in this world; to look for judgment and experience in youth; to endeavor to mold all dispositions alike; to look for perfection in our own actions; to worry ourselves and others with what can not be remedied; not to yield in immaterial matters; not to alleviate all that needs alleviation, so far as lies in our power; not to make allowances for the infirmities of others; to consider everything impossible that we can not perform; to believe only what our finite minds can grasp; to expect to be able to understand everything. And the last and greatest mistake of all is to live for time alone.—*Selected.*

SABBATH SCHOOL LESSON No 10

SCOURGED AND CONDEMNED

(March 10, 1900)

Lesson Scriptures.—Matt. 27:11-26; Mark 15:2-15; Luke 23:2-25; John 18:29 to 19:15.

Memory Verse.—John 18:36.

Time: A. D. 31. **Place:** Jerusalem. **Persons:** Jesus, Pilate, priests and elders, Herod, soldiers, Barabbas, mob, Pilate's wife.

QUESTIONS

1. What question did Pilate at once ask when Jesus was brought before him? What answer was given? John 18:29, 30. What did Pilate tell them to do? What did they retort? V. 31. In their dilemma, what lying charges did the priests make? Luke 23:2.

2. Turning to Jesus, what did Pilate say? What reply did Jesus make? V. 3. As Jesus made no answer to the accusation of the Jews, what were Pilate's feelings? What did he further say to Jesus? Mark 15:3-5. Amazed at Jesus' silence, what did he then do? Relate the conversation that took place. John 18:34-38; note 1.

3. When Pilate returned, what did he say to the Jews? Luke 23:4. What stormy answer followed? V. 5. What did Pilate, as a result, decide to do? Why? Vs. 6, 7; note 2. What were Herod's feelings when he saw Jesus? What took place in his court? Vs. 8-11.

4. Displeased at having Jesus returned to him, what irritable remarks did Pilate make to the Jews? Vs. 13-16. To what custom did he refer in saying he would "release" Jesus? Mark 15:6; Matt. 27:15. About this time what remarkable message did Pilate receive? V. 19.

5. What noted prisoner was at this time held by the Romans? Mark 15:7. Hoping to create sympathy for Jesus, what did Pilate ask? Matt. 27:17; Mark 15:9. Who excited the people against Jesus? Matt. 27:20.

6. As the mob wildly called for Barabbas, what questions did Pilate ask? What answer was shouted out by priests and people? Mark 15:12-14. In harmony with his proposition to chastise Jesus, what did Pilate do? John 19:1-3.

7. Thinking the people would be touched at sight of the bleeding prisoner, what was he led to do and say? With what result? Vs. 4-6. When Pilate learned that Jesus claimed to be the Son of God (v. 7), what were his feelings? What conversation passed between himself and Jesus? Vs. 8-11; note 3.

8. Seeing that Pilate still sought to release Jesus, what strong argument did the Jews bring? V. 12; note 4. When Pilate again called Jesus their King, what reply did they make? V. 15. What did the governor then do and say? Matt. 27:24; note 5. What terrible curse did the Jews invite upon themselves? V. 25. What was then done with Jesus? V. 26.

NOTES

1. Though Pilate was hardened in crime, his heart was at this time touched by the Spirit of

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IN EFFECT SEPT. 24, 1899.

Trains Pass Battle Creek, as follows:

WEST-BOUND.	
No. 21, Mail and Express	6.58 P. M.
No. 23, Accommodation	2.07 P. M.
No. 27, Local Freight	8.25 A. M.
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No. 5, Pacific Express, to Chicago, with sleeper	1.10 A. M.
No. 75, Mixed, to South Bend	8.20 A. M.
Nos. 9 and 75, daily, except Sunday.	
Nos. 1, 3, and 5, daily.	

EAST-BOUND FROM BATTLE CREEK.

No. 8, Mail and Express, to Pt. Huron, East, and Detroit	3.45 P. M.
No. 4, Lehigh Express, to Port Huron, East, and Detroit	8.27 P. M.
No. 6, Atlantic Express, to Port Huron, East, and Detroit	2.25 A. M.
No. 2, Lehigh Exp., to Saginaw, Bay City, Pt. Huron, and East	6.50 A. M.
No. 74, Mixed, to Durand (starts at Nichols)	7.15 A. M.
Nos. 8 and 74, daily, except Sunday.	
Nos. 4, 6, and 2, daily.	

A. S. PARKER, Ticket Agent, Battle Creek.



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FOR EVERY DAY OF THE WEEK

SUNDAY:

The world is too much with us: late and soon,
Getting and spending, we lay waste our powers.
— Wordsworth.

MONDAY:

If any work is really God's giving, and he puts it either into our hearts to devise or into the power of our hands to do, no fear but he will also provide stuff sufficient, whether metal or mental.— F. R. Haver-gal.

TUESDAY:

"Being perplexed, I say:
Lord, make it right!
Night is as day to thee,
Darkness as light.
I am afraid to touch
Things that involve so much;
My trembling hand may shake,
My skill-less hand may break;
Thine can make no mistake."

WEDNESDAY:

Sins of commission are the usual punishment for sins of omission. He that leaves a duty may well fear that he will be left to commit a crime.— Gurnall.

THURSDAY:

"Being in doubt, I say:
Lord, make it plain!
Which is the true, safe way,
Which would be vain?
I am not wise to know
Nor sure of foot to go;
My blind eyes can not see
What is so clear to thee.
Lord, make it clear to me."

FRIDAY:

"An empty soul is always in danger. It is not enough to cast out evil; the entrance of good must follow, or the soul is not safe. We sometimes forget this in urging a sinner to forsake his sin. That is only the negative side. The only remedy for any sin is the opening of the heart to God, so that he may fill it and possess it."

SABBATH:

"I have blotted out, as a thick cloud, thy transgressions, and, as a cloud, thy sins: return unto me; for I have redeemed thee."
Isa. 44:22.

By an oversight no credit was given to the "Science Letter from Uncle John," in the INSTRUCTOR of February 15. It should have been credited to Miss Ethel Terry Reeder, who has written many valuable articles for our paper.

ARE you reading carefully the Notes prepared on the two topics under consideration by our Missionary Reading Circle? You will all be likely to read the notes on the field; but let me urge you not to neglect those on the *Berean Library* study. They are prepared with earnest thought and prayer, and it is important that all should read and reread them. Those for this week are especially valuable.

DOES YOUR SUBSCRIPTION EXPIRE

In March? Look at the yellow address-label on the first page of your paper, or on the wrapper; and if it bears any date in March, fill out and mail to the Instructor Office, at once, the blank inclosed in last week's paper. This will insure the paper's reaching you promptly, and will save considerable extra work at the Office.

AN ANSWER OF PEACE

THE great king of Egypt was perplexed. Strange dreams troubled him at night, and their memory haunted his waking hours. All the wise men of the kingdom, who spent their whole time in studying and trying to explain mysteries, were summoned before him; but when Pharaoh had told them his dreams, they were dumb. They could not interpret them. What should he do? When the wisdom of the wise men failed, to whom should he turn?

Then the chief butler spoke to the king, and told him of a certain "young man, a Hebrew," Joseph by name, who had interpreted a dream for him when he was in prison, and whom he had promised to remember when his liberty should be restored. It was a strange thing for the king to do—to send to a prison for a despised slave, in hope that he might throw light on a matter that had baffled the magicians and wise men; but Pharaoh's anxiety was great, and he sent "in haste" for Joseph.

When Joseph came before the mighty ruler, and Pharaoh told him what he wished, Joseph quickly gave to his God the glory for the gift of interpretation granted him. "It is not in me," he said: "God shall give Pharaoh an answer of peace."

And as the king repeated his dreams, and the interpretation was revealed to him, he recognized that it came from a Power high above that of the gods he worshiped, and showed his confidence in it by following the advice of Joseph. So the thing that had puzzled the king, and caused him deep anxiety, resulted in great good: the end of the perplexity was peace.

So with the things that trouble us. We may take them to Him who invites us to bring our burdens to him, and waits to bear them for us, sure that he will give us an answer of peace. "I know the thoughts that I think toward you, saith the Lord, thoughts of peace."

MISS JESSIE TAYLOR, of Syria, to whom the INSTRUCTOR Mission Fund contributors are sending two copies of the paper for use in her girls' school at that place, says: "I shall always feel an interest in your excellent paper, which we greatly enjoy. Allow me to thank you most cordially for still sending it. May the Lord prosper more and more your every effort to send forth pure literature. Long may the YOUTH'S INSTRUCTOR continue, to give pleasure and profit to its readers."



NATURE'S PAINT SHOP



THE color of the leaves of many trees in autumn rivals the color of the most brilliant flowers, and approximates even to the gorgeous colors of the rainbow. This color is due to certain pigments in the leaf-tissue. Two of the most important pigments to which the color of leaves is due are calcium oxalate and anthrocyanin.

It is not known precisely what purpose the anthrocyanin serves, but it is supposed that at least one purpose is to act as a screen to prevent light from decomposing some substances in the tissue of the plant. It serves as an umbrella for these substances, and prevents the sunlight from having an injurious effect upon them.

In support of this view, the fact is pointed out that plant organs which are covered very thickly with hairs do not usually develop anthrocyanin. And so where anthrocyanin appears in plants exposed to strong light, we may suppose it to be the awning, or screen, which nature erects for protection against injurious light-rays.

If you dig up the rhizome of the violet, you will find it colorless. It has been in the dark forest soil. It is almost as clear and white as if carved from ivory. Put it in a glass, fill the glass with water, and set it in the sun, so that the rhizome is lighted with the sun's rays. After a while you will notice the white turn to a violet, and in a few days the surface of the whole rhizome will assume a deep violet hue. It is supposed that the coloring-matter is brought to the surface as a protection from the injurious effects of the sunlight. In a similar manner anthrocyanin serves some good purpose while the changes are going on in the leaf preparatory to its separation from the tree in the fall of the year.

The colors of autumn foliage are caused by different coloring pigments present in the tissue of the leaves. Some think that these different tints all originate from one coloring-matter, which is red, violet, or blue, according to the presence or absence of certain acids. Thus anthrocyanin appears red in the cell-sap in the presence of acids, blue when no acids are present, and violet when there is present but a small quantity of free acid. If there is present an abundance of yellow granules, calcium oxalate, together with the acid, the yellow granules and the red anthrocyanin mingle to produce an orange.

We thus account for the various colors of leaves in autumn. The larger the number of plant species associated in one particular spot, the more varied and brilliant is the play of color produced. Some leaves are hairy or felted: no coloring-matter is produced in these; but when the green tissue of these leaves is changed, the new tint is but little more apparent than was the former color. Such leaves appear white or gray. And if plants with brilliantly colored foliage grow together with these, with a sprinkling of evergreens among them, we have a variety and contrast of color most marvelous and pleasing.

L. A. REED.