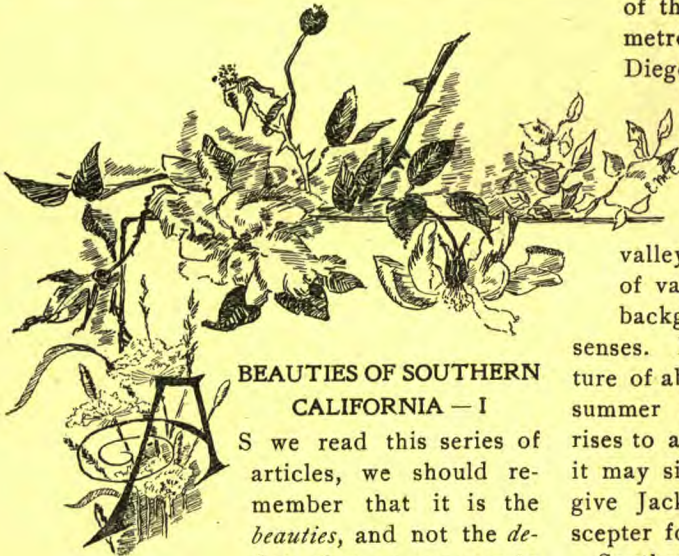


# THE YOUTH'S INSTRUCTOR

REMEMBER NOW THY CREATOR IN THE DAYS OF THY YOUTH

VOL. XLVIII. BATTLE CREEK, MICH., APRIL 19, 1900. No. 16.



## BEAUTIES OF SOUTHERN CALIFORNIA — I

As we read this series of articles, we should remember that it is the *beauties*, and not the *defects*, that we are now to dwell upon. If this is done, we shall simply be brought to realize that the Originator of beauty, regardless of the traces of sin, has left some marks of his Eden handiwork in this extreme corner of his great vineyard.

If upon entering a garden that nature has profusely decked with her garb of flowers, we should mourn because of the entrance of sin, and continually look for its traces, the place would soon appear infested with the monster; the thorns would seem never so sharp, and the thistles never more prickly. But on the other hand, were we looking for the beauties, the defects would sink into their proper place in the background.

However, Southern California is by no means a garden of perpetual fruit and flowers.

South of Point Conception a range of mountains follows the inland turn of the coast; this range is met from the east by another mountain chain, and that by still others from the south, thus forming a natural fence around the greater part of this earthly paradise. The western side is protected from the dashing billows by a line of beautiful summer isles, which seem to echo the voice of their Creator, "Hitherto shalt thou come, but no further." The land that is hemmed in by the mountains is a vast, dreary desert of sandy plains and barren mountains, seldom reached by the moisture-freighted clouds from the great Pacific. Travelers approaching the coast from the east are almost imperceptibly transported from this bleak, barren region, which knows neither song of bird nor the fragrance of flowers, into a valley radiant with perennial beauty.

This region is what is best known as Southern California proper. The fame of this part

of the State, of which Los Angeles is the metropolis, and Santa Barbara and San Diego are the extreme northern and southern cities, reaches, one might almost say, to the ends of the earth. It is a land of perpetual snow — on the mountains twelve thousand feet high; and of eternal summer — in the valleys below. The climate is an element of value that is frequently placed in the background by the constant appeal to the senses. It possesses an annual mean temperature of about sixty-four degrees. During the summer months the temperature sometimes rises to a hundred degrees, and in the winter it may sink so low in certain localities as to give Jack Frost an opportunity to sway his scepter for a few short hours.

Southern California is a garden, in many corners of which flowers bloom continually. In some seasons we have a perfect riot of

successive dry seasons, a failure of grain is expected this year; and where the irrigation is poor, fruit will not be so abundant as usual. Notwithstanding this, the tourists are flocking in by thousands, and the hotels and boarding houses are already filled with pleasure-seekers from the East. Twenty thousand is a fair estimate of the number who spent the winter months in this pleasure resort.

MRS. KATHLEEN WAGNER-GILMORE.

## TREES THAT HELP SUPPLY US WITH FOOD

NONE of the trees with which I was familiar in Wisconsin are found in Raiatea, except the weeping willow, which is grown in a few private gardens. I have already mentioned the most important tree we have, the cocoanut. Other trees that help provide our food are the breadfruit, orange, lime, mango, avoca, island chest-



flowers. Calla lilies are cultivated by the acre, also carnations and roses, marvels of size, color, and perfume. In the illustration is shown a gold of Ophir rose-tree in full bloom. An estimate was made of the number of its blossoms, and it was found to have ten thousand roses on it at one time. Nothing was said to me about the thorns; it is not likely that they were counted. Could you have seen this tree, wrapped in its mantle of gold (some who live in Pasadena may have seen it), there would have been no room for a thought of aught but the beautiful.

This part of California depends largely upon fruits, grains, and the patronage of tourists for its prosperity. Having experienced three

nut, guava, banana, papaw, or mummy apple, custard apple, mountain apple, and rose apple.

The breadfruit has leaves shaped much like those of the oak, only larger. There is no time here when all the trees shed their leaves; but the old, faded leaves fall to the ground every day. When we wish to use a fan, we can easily make one by picking up a breadfruit leaf, and trimming off the uneven edge. The stem answers for a handle. Though such a fan is not durable, soon becoming dry and brittle, and breaking to pieces, we can easily make another. The limbs of the breadfruit tree are far apart, and the bark is smooth, so it is a hard tree to climb; we frequently hear of persons falling from one, and receiving serious



injury. Some of the fruit can be reached and pulled off with the aid of a long bamboo pole having a stick fastened diagonally across the end. This implement is called a *rou*, and is much used in gathering fruit from high trees.

The fruit of the breadfruit tree is shaped much like a cocoanut, though larger. It is green outside, but a creamy white within. There is a small core in the middle, and the fleshy part outside the core—the part that is eaten—is two or three inches thick. It is vegetable in its nature, and not palatable eaten raw. Prepared by baking, boiling, or roasting, it tastes well enough; but I can not understand how any one can see in it such a resemblance to bread as some writers profess to. When first ripe, it tastes more like Irish potatoes than anything else. It comes the nearest to tasting like bread when it has become very ripe and soft; then it is like dough, and is made into a “poi,” which one might imagine to taste something like sweetened bread or bread pudding. When in this condition, the fruit is sweet, and has a strong odor, which is quite offensive to those unaccustomed to it. In time, however, most foreigners overcome their dislike for its peculiar flavor.

Nearly all are familiar with the orange, though many have never seen an orange tree laden with its beautiful, golden fruit. Though we have summer all the year round, we can not have oranges all the time; for there is a certain season for them. In this group of islands, oranges begin to ripen in February, and last until October, though there are often trees that bear out of the regular season. From April to the end of the season, we generally have all the oranges we can use, and many decay on the ground. Last August we sold from our school farm thirteen thousand oranges, at the rate of \$1.25 a thousand, to be shipped to New Zealand. When the trees are in blossom, the air is filled with fragrance. Besides the glossy leaves, the branches are also covered with sharp thorns from one to two inches long, with points of a hard, transparent substance, and very strong. These thorns make excellent toothpicks. The natives use them instead of needles for piercing the ears. Fresh orange leaves are much used for making a native tea.

Lime and citron trees resemble the orange, except that the thorns are much smaller. The lemon used in the United States has not been introduced here, but the lime takes its place. For some time I could not enjoy the strong flavor of this fruit, but have grown accustomed to it now. Its juice is much used as vinegar, and some can hardly enjoy a meal without it. The juice is also used to whiten yellow hats, and unpainted floors. After a floor has been scrubbed with cocoanut husks, and well rinsed, lime juice is applied, with the result that it is much whiter than it would otherwise be. The use of the juice in this way is not an extravagance; for limes are so plentiful here that many decay, and we seldom have to buy them.

The citron looks like a lemon, only it is several times larger, and contains but little juice. The people here make little or no use of this fruit.

Another large fruit-bearing tree is the mango, which has a very dense foliage of long, narrow leaves. There are two mango seasons during the year; but the fruit is most abundant from November to February. As mangoes are very juicy, they help make up for the lack of oranges at this time. There are many varieties. One, called the peach mango, has a decidedly peachy flavor, and is considered one of the best varieties. Mangoes are oval in shape, and vary in size from those as large as

a small peach to those as large as a good-sized apple.

Another useful tree is the avoca, or alligator pear. The fruit is shaped like a large pear, though I have seen some shaped more like a gourd with a long handle. The pulp seems to be quite rich, and merits the name “native butter,” which is sometimes applied to it. Those who do not have bread eat it alone as a fruit; but it is better eaten as a relish with bread. Salt can be added, according to the taste. It resembles a pear only in shape.

MRS. B. J. CADY.



#### MY NEW NAME

Oh, joy! oh, bliss! for I shall see His face,  
And wear his blessed name upon my brow,—  
That name which stands for pardon, love, and grace,  
That name before which every knee shall bow.  
No music half so sweet can ever be  
As that dear name which he shall write for me.

Then, till I go to meet my Father's smile,  
I'll keep my forehead smooth from passion's scars;  
From angry frowns that trample and defile,  
And every sin that desecrates and mars,  
That I may lift a face unflushed with shame,  
Whereon my Lord may write his holy name.

—Selected.

#### BEREAN LIBRARY STUDY

Dan. 11:44, 45: “Thoughts on Daniel,” pages 281–292

##### NOTES ON LESSON 21

(April 22–28)

1. *A Lesson on Turkey.*—The week's study is the history of Turkey, spoken of in the prophecy as the king of the north. We can do no better than to give here a brief outline of the history of the Turks, leading up to that portion of their history which is the substance of the Reading Circle lesson.

2. *In the Middle Ages.*—The principal Asiatic nations that influenced history during that period were the Mongols and the Turks. These were races having their homes on the vast plateau of Middle Asia. One division of the Turkish race was called the Seljukian Turks, in distinction from the Ottoman Turks, so named from Othman, the founder of their empire.

3. *Jerusalem Captured by the Turks.*—In 1076 the Seljukian Turks captured Jerusalem. At that time a pilgrimage to the Holy City was the most popular of penances. Devout Catholics believed that to bathe in the River Jordan, to spend a night on Calvary, or to worship before the Tomb of tombs, would atone for the greatest sin; hence the paths of Asia Minor were thronged with those who were going to and fro on pilgrimages. These pilgrims were made welcome until the ferocious Turks conquered Palestine; then they were treated with every indignity that fanaticism could invent. In defense, all Europe seemed to rise as if by a common impulse, and there followed the period of the Crusades. Though these vast military expeditions failed of their direct ob-

ject, the obnoxious Turk being still left in possession of the Holy Land, the tide of Mohammedan conquest was no doubt checked.

4. *The Turks in Europe.*—In 1356 a body of the Ottoman Turks crossed the Hellespont, and gained a footing on European soil. Fifty years later, an army of two hundred and fifty thousand Turks besieged Constantinople, and battered its walls for fifty-three days, finally bursting through them. The flag of the crescent, emblem of Turkish power, then waved over the city.

5. *The Turks Are Mohammedans in Faith,* therefore a brief sketch of the founder of this pagan religion will be in place. Mohammed, or Mahomet, was born at Mecca about 569 A. D. Left an orphan at an early age, he became a camel driver. Afterward he married a very rich lady, and so had abundant time to indulge his fancy for meditation. At the age of forty, while musing at the mouth of a favorite cave, he claimed that the angel Gabriel visited him, and announced to him that he was the chosen prophet of God, and commissioned him to preach a new faith. Mohammed then renounced idol-worship, and proclaimed his message, the burden of which was, “There is but one God, and Mohammed is his prophet.” He was fiercely persecuted, and had to flee for his life. The new faith spread rapidly, and the leader soon found himself at the head of an army. His followers were fanatically devoted, and in their warfare displayed the greatest enthusiasm and bravery. Mohammed made known his doctrines in fragments, and these were written by his followers upon sheep-bones and palm-leaves. Abu-Bekr, the successor of Mohammed, collected the pretended revelations into the Koran, the sacred book of the Mohammedans. In a recent carefully classified list of the number of adherents to the various religions of the world to-day, the number of Mohammedans is given as one hundred and twenty-two million four hundred thousand.

6. *An Interesting Interview.*—In 1895, Elder A. T. Jones visited Europe; and the following account of a conversation he had while in Constantinople, is of importance in connection with our study. In his tract, “The Eastern Question,” he says: “In Constantinople, in September and October last, I met a reliable Christian man, who told me that in a conversation which he had with a Turkish judge, the judge told him that they expected, as the outcome of the dealings of the powers, that they would be dispossessed of Constantinople; that after that their capital would be Jerusalem; that against them there at last they expected the ‘Christian nations’ to come to fight; and that then Messiah and Mahomet would come. With the exception of Mahomet, this explanation, as stated by the Turkish judge, is precisely the thing that is predicted of this same time in the Scriptures of truth.”

7. *A Few Questions.*—Is it not a wonderful chapter? Does it not revive your faith, yes, and increase it, too, to read the accurate fulfillment of Daniel 11, in all its details? Can there be any failure in the events of verse 45, when all the forty-four verses preceding it have come to pass to the letter? Are you watching for indications of its fulfillment? Would not your friends and neighbors be interested in watching for the fulfillment of this verse, if they knew about it? Can not you tell them? Will you not tell them?



## APRIL STUDY OF THE FIELD

PART IV: "AMONG THE MAROONS;" "THE PAST YEAR IN HONOLULU;" "PROGRESS IN FIJI;" "PROGRESS IN BRAZIL"

(April 22-28)

1. *Jamaica*.—As this field will be treated in a series of articles in the *Missionary Magazine*, we have not touched upon it this week, further than the regular article for study. It may be of interest, however, to know that the last year's report from this island shows two hundred and twenty-nine persons baptized, and one hundred more keeping the Sabbath.

2. *First Work in Hawaiian Islands*.—It is almost seventeen years since the third angel's message was first carried to the Hawaiian Islands. Among the early laborers were Brethren Scott and La Rue, who engaged in colportage and missionary work. As a result several became Sabbath-keepers. Brother La Rue has since spent a number of years in China. Sister White visited Honolulu in the fall of 1891, while on her way to Australia. Although there but a short time, the vessel remaining only sixteen hours, she delivered a temperance lecture in the Y. M. C. A. hall. A number of workers have touched at these islands while on their way to other fields. Progress is reported, especially in connection with the school.

3. *Latest News from Honolulu*.—By many our school work in Honolulu is looked upon with peculiar interest, affording as it may an open door to China. Although this work has been retarded by the bubonic plague in that city, the greater part of the Chinese quarters being destroyed by fire, still the Chinese show a commendable interest in the school, and are pushing the erection of the new buildings as rapidly as possible. The outside work is almost entirely completed, and at the time of the last report, the workers were laying the floors and making window-frames. The following from a late letter from Prof. W. E. Howell, who has the school work in charge, will be read with interest: "In my letter to you a few days ago I said that I had about decided to return to the Coast till fall. When I was brought to the test of making preparations to leave, I could not. The Lord laid upon me a heavy burden to remain here, and I could get no peace till I decided to do so. Since then I have been happy in my decision, and in the work I am doing. I find rest in the consciousness that I am meeting the mind of the Lord in remaining here until he orders it otherwise. The field is not left entirely destitute. I have settled in a cottage near the new school, and have a class of our old boys coming every day for instruction. I am also taking lessons in Chinese. As I move about among the Chinese, they seem to appreciate my being here, even if I am not able to help them much. But I find much to do; the secretary of the Chinese consulate is getting somewhat in the habit of calling on me for help along some lines; the reform society, recently organized, has suggested giving me a column in a newspaper they are just starting, for instruction in health and the progress of the world's events; one or two of the progressive Chinese societies desire me to lecture to them now and then. Some literature ought to be prepared to meet the present emergency, and I have partly written one leaflet, entitled, 'What Do These Things Mean?' Indeed, my whole time could be well spent outside the schoolroom. I hope we may some time have

a girls' school also. We have had requests for one for a year or two."

4. *Fijians without the Gospel*.—Before the gospel was carried to the Fijians, they held many interesting traditions. "They believed they had originated from one pair of parents. They also told of a great flood that had inundated their world, when only eight persons were saved in a boat. They had a great festival to celebrate the ingathering of the fruits. They also believed in a second death. Their religion held them to a number of deities, one of which was the great presiding god, whom they worshiped in the form of a serpent. Connected with their religion was the most revolting type of cannibalism that the world has perhaps ever witnessed. At the building of a chief's house, when the large posts were sunk into the ground, several men had to yield themselves, willingly or unwillingly, to be buried alive, clasping the posts of the house in their hands. At the launching of their big war canoes, men were compelled to lie down like so many stringers, and have their lives crushed as the heavy boats slid over them. Their bodies were then roasted and eaten. At their feasts, hundreds of persons were brought to the town and slaughtered like so many cattle. Polygamy was common. The chiefs might have from one to two hundred wives, the middle classes ten or twelve; while the lower class could not support more than one. The women did all the hard work. Girls were betrothed while young, and much unhappiness was caused by rival wives. At the death of the husband the wives were strangled. Infanticide was very common. When a child was weakly, or slow to recover from an illness, the mother, after an apparently tender caressing, would bring its suffering to an end by strangulation. The old and decrepit were likewise helped to depart this life. Instances are told of those who were burdensome being buried alive." But the gospel has done much for this people. Fiji to-day does not present such a picture. As a race, the Fijians rank high physically. They are also far above many other island people intellectually. They are kind and hospitable, and will share their food to the very last morsel. Through the faithful efforts of the missionary, they have become enlightened. Cannibalism has been abolished, schools have been opened, and many have become Christians. The presentation of the third angel's message has met bitter opposition, yet in no other island field has it made more rapid progress among native peoples.

5. *Your Life-Work*.—The choice of a vocation is a momentous question in the life of every young person. May it not mean even more to those who know the third angel's message? The first thought that presents itself in making such a decision is, What obligation rests upon me that will in any way condition my choice? While we are deciding, let us remember that this life that we call ours is really God's life; anew are we made debtor to him by every breath we draw. As a Father, he has a plan for the life of each child; and we are in his world—a lost world, to every nation, kindred, tongue, and people of which he has commissioned us to carry the closing message of mercy. Again we call him Master who has redeemed us from bondage and made us free in him. If he is indeed our Master, can we lay any plan that will not be pleasing to him? "Seek ye first the kingdom of God." To-day there are fields white to the harvest. Where are the laborers? Can you answer?



5—Wood Anemone, or Windflower

THIS plant is among spring's early comers. It is called "windflower" because it comes in the windy season, and being short lived, its coming and going were formerly attributed to the wind. The leaves are characteristically wedge-shaped.

The flower is large, one inch broad, and slightly nodding. When it appears in protected nooks, it is a sure evidence that winter is gone. The blossom is white or tinted with blue.

6—Rue Anemone

The rue anemone is similar to the wood anemone, and grows near it. But there is no need to confuse the two. The rue anemone bears a cluster of flowers, usually three, the central one developing first; while the wood anemone is one-flowered.

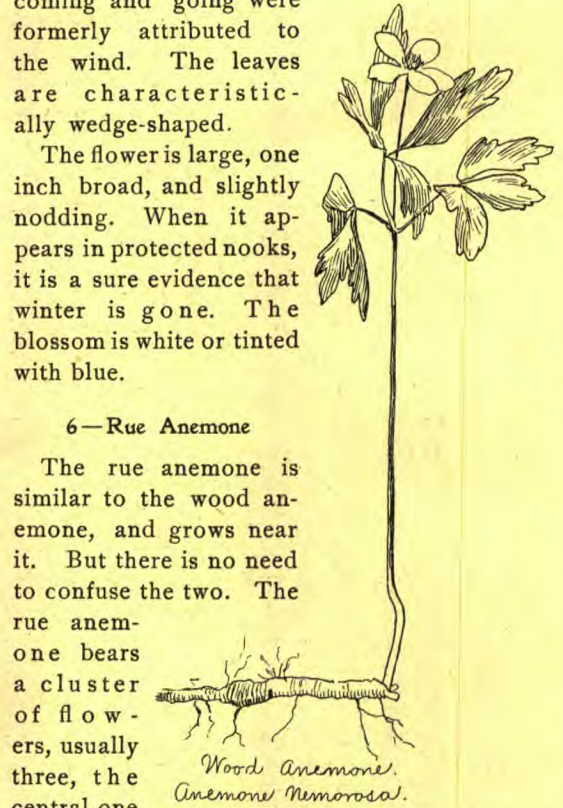
The leaves of the rue anemone are heart-shaped at the base; those of the wood anemone are wedge-shaped.

The wood anemone grows from a long root stock; the rue anemone from a cluster of tubers, like dahlia roots.

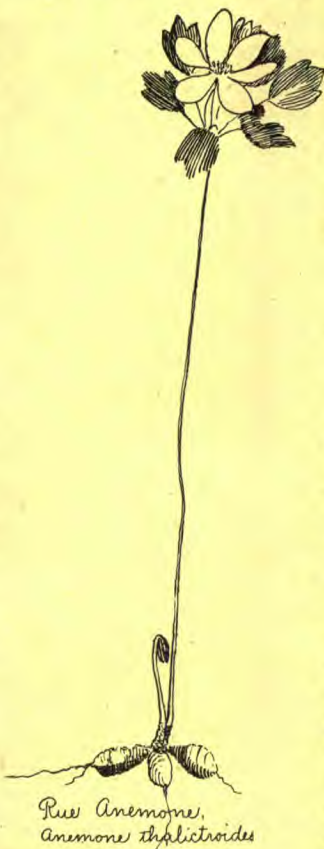
L. A. REED.

THE Temple of Ammon, at Karnak, in the Nile Valley, has long been regarded as one of the most notable ruins in Egypt. Something over a year ago work was begun on the ruins, with a view to restoring the famous temple, that men might have an idea of Egyptian architecture as it existed four thousand years ago.

Excavation was being carried forward rapidly, when a lotus-shaped column eighty-eight and one-half feet in height gave way, and in its fall threw down six other columns, with the result that the work of restoration has received a serious check.

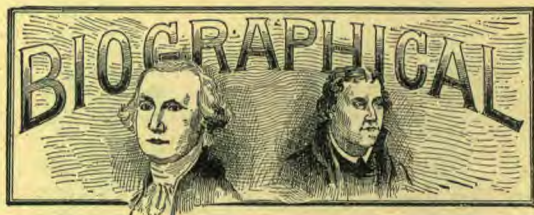


Wood Anemone.  
*Anemone nemorosa*.



Rue Anemone,  
*Anemone thalictrifolia*.





### GEORGE BORROW—THE WORD MASTER

I AM sure the readers of the INSTRUCTOR would like to know something of this remarkable man. He was born in Norfolk, England, in 1803. His father was a Cornish gentleman, and an officer in the militia; his mother's people were French Huguenots, who had been banished from their country by the revocation of the Edict of Nantes.

As a little child, George was quiet and somewhat reserved. He cared nothing for company, but loved to hide away in some wild, secluded nook, where he could sit and dream undisturbed.

The family were always on the move, as the regiment to which the elder Borrow belonged was often called from place to place,—now through England, then away to Scotland, and again to the green fields of Erin. This nomadic life was a great pleasure to the little boy.

One time when at Hythe, in England, he went into a building called a "pent-house," close to the village church, and saw the great skull of some old Danish pirate lying on the floor. Though he was not afraid, he felt a kind of awe, which inspired him with curiosity to know something of the dead man and his people. He questioned the old sexton, and listened with rapt attention as he told the story of the Danes, of their piracies, and of the long struggle they made to gain a foothold on English soil. Afterward, when he grew older, he studied the old Norse language and its dialects, in order to learn all he could about the strange Danish people of the sexton's story: he could not forget the great skull of Hythe. At Norman's Cross he learned Latin grammar, and a little later entered the high school at Edinburgh. Here he kept on with Latin, and began the study of other languages, laying the foundation for an education that was, in after-life, to be of great use to him, and, through him, to others. He also learned to speak in the brogue of Burns, much to the disgust of his father, who did not at all like the quaint, sweet language of the Scots.

He was now eleven years old, and had been two years in Scotland. The corps to which his father belonged was at this time called back to England, and its members were all sent home. A year later Mr. Borrow was sent to Cork with his men, and from there, far up into the country, where the regiment pitched their tents. It was a wild road that they passed over, and the language of the people was Irish-Celtic,—a strange, rough, guttural tongue.

It was a queer place for a school, but there certainly was a school, either in the camp or close by; for young George at once went to work to learn Irish, one of his schoolmates becoming his teacher.

Presently the militia disbanded, and the Borrow family came back to their Norwich home, where George learned French, Italian, and German.

But the boy loved the wild scenes of nature better than books; and when out of school, was off to the fields, fishing and hunting. He enjoyed athletic sports, too, and was very fond of horses. At a horse fair he met one day the son of an old serpent charmer, who had been his childhood friend when his people lived at Norman's Cross, years before. Many a day

when the old man was out searching for vipers, George tramped with him through the woods, to learn his art. The elder Gypsy and his wife had been banished; but the son had been left behind, and had come to be looked up to by his tribe as a sort of king. George followed this Jasper Pentulengro to his tent; and afterward made frequent visits to the Gypsies, that he might learn their language, and study their manner of life. His father and mother were much distressed at what they regarded as a foolish and reckless way of spending time. He was now almost a man; and in order to break up his wild life, they bound him to a lawyer in Norwich. Here, instead of bending his whole mind to the study of his law books, George translated ballads and poems from the Danish and Welsh, and devoted considerable time to reading. When his time was up, his father having died, he went to London to get his poetical translations published; but no one would touch them. He then tried other literary work, and finally wrote a story that brought him a little money. With this he left the city, and traveled a while as a tinker.

When he was twenty-two years of age, George Borrow was brought to the notice of the British Bible Society. The society wished to send a man to Russia to distribute Bibles through that country. Borrow was chosen. He went to Russia, lived there, mastered the Slavonian language, and afterward learned its Gypsy dialects. Now he was ready for work. He translated the New Testament into the Tartar-Manchu, and in 1835 it was published at St. Petersburg. After doing much more work here, he went to France; then back to Russia, through Norway, afterward working a while with the Tartars, the Turks, and the Bohemians. At last he made his way to Spain, and across into the Barbary States, scattering Bibles wherever he went.

It was a dangerous mission. Not one of my young readers would like to go over the road he traveled; but he never faltered, though he was thrown into half the jails in Spain during his sojourn there.

His outdoor life when young had made him strong. His knowledge of Gypsy ways in England helped him to become better acquainted with them on the Continent. At Norwich he had learned from the Gypsies both to shoe and tame horses; and this simple accomplishment was a passport to their favor. He easily made friends with them because of his knowledge of their language and manner of life, and went freely among them to gather the words that he needed to enable him to put the Gospel of Luke into their tongue, and also into the Basque language,—a language so hard to learn that Humboldt gave up the task in despair. It had no grammar and no books, yet George Borrow conquered it. He also brought out a version of the New Testament in the Spanish language, and translated it into many other tongues besides the Manchu, the Basque, and the Romany.

He knew "nearly every language of Europe and the East," and was fascinating in conversation and powerfully eloquent as a preacher. "His frame was one of iron;" and in daring and intrepidity he could not be matched anywhere.

Of course this Bible missionary met with many strange adventures and wonderful escapes while he was working for the dear Heavenly Father, but we can not stop to tell you of these, as our story is already much too long. Our object has been to show you how God's hand shapes human lives when they know it not, making of them just what he needs to carry out his purpose. S. ROXANA WINCE.



### DEVELOPING

THERE is no art about developing: it is pure science. Some amateurs look upon it as drudgery, and send their plates to a professional photographer to be developed; one who thus slights a part of the work will never have the success he might attain if he did it all himself.

Before closing the dark-room, everything should be in readiness to begin work. The fixing bath should be prepared, the developer mixed and in the tray, and the washing-box or miscellaneous tray filled with water; it will also be well to have a small vessel of water to use should an emergency arise. Often it is necessary to dilute the developer, or mix a fresh one; and unless you have water in the dark-room, you may have trouble.

After the dark-room has been closed, it is well to wait a few minutes before beginning to develop. When your eyes become accustomed to the dim light, you will be able to see much more clearly than at first. If your plate-holder contains an exposed and an unexposed plate, you must be careful not to get the wrong one. One side of the dark slide is always marked. This side should be turned in when loading the plate-holder; but when it is replaced after an exposure, it should be reversed.

Remove the plate from the holder, and drop it into the developer, *film side up*. Rock the tray quickly once or twice, to make sure that the developer covers the entire plate, else some spot may remain untouched. Sometimes an air-bell, or bubble, will form on the surface of the film. If this is allowed to remain for even a few seconds, it will leave its mark on the negative; for the part it covers will protect the film from the developer till it breaks. The rest of the plate will have such a start by that time that the protected spot will never "catch up." But if the tray is rocked vigorously for a few minutes, there will be no danger from this source. The developer, flowing back and forth over the plate, will sweep away any air-bells that may form.

Some photographers rock the tray continuously while the plate is developing. This is advisable if pyro. is used, but it need not be done with any of the developers I have recommended, though it is well to rock the tray occasionally.

If the plate has had a normal exposure, it will soon begin to turn dark in the high lights,—the spots where the image of white or light-colored objects fell. The half-tones and the shadows will quickly follow the high lights; and all the detail of the negative will appear long before the development is complete. No definite rule by which to tell when a plate has been sufficiently developed, can be given. That is something you must use your own judgment about; and judgment, you know, must be acquired by experience.

The negative should frequently be examined by transmitted light; this is done by holding the plate between the eyes and the dark-room lantern. When the high lights are quite black, and the detail is only faintly visible in the shadows, the negative is generally ready for the fixing bath. With some plates the development is complete when a faint image of the high lights can be seen on the back of the plate, when examined by reflected light. After a little experience, you will have no trouble in



deciding upon the proper time to stop the development. If you are in doubt, it is best to err on the side of over-development, as that can be readily corrected.

It is impossible to tell how long it will take to develop a plate. That will depend on the brand of plates and the developer used, and on the subject photographed and the time of exposure. With a properly exposed plate and a normal developer, it should take ten or twelve minutes. If the plate has been exposed a longer or shorter time than it should have been, the time required for development will be increased.

To tell whether a plate has been over- or under-timed is often perplexing to the beginner. In an under-timed plate the high lights will appear quickly, and will be quite strong and black before the shadows can be seen at all. When the plate has received the right exposure, the high lights will develop first; but they will be not more than fairly started before the half-tones will begin to be seen. The shadows come next, and all will gain density in correct proportion. An over-timed plate, when placed in the developer, will slowly darken all over, and will show little or no detail until examined by transmitted light. If a plate is known to be over-timed before development begins, it may, unless too far wrong, be almost wholly corrected in development. Even after the plate is in the developer, and the first symptoms of over-exposure are seen, it may be greatly helped. More will be said on this subject at another time.

When the plate is developed, the back—the glass side—will have a dirty white appearance. The plate should be immersed in the fixing bath until all this white disappears. It is well to leave it a few minutes longer to insure thorough fixing. There is no danger of leaving it too long; and once the plate reaches the fixing bath, it is beyond danger of injury from light; so the dark-room may be fearlessly opened. After the plate is fixed, the chemicals must be washed out of the film by soaking it in water for three quarters of an hour. If you use a shallow tray, the water should be changed once or twice; but if you have a washing-box, this will be unnecessary. When thoroughly washed, the surface of the film should be carefully wiped with a roll of wet absorbent cotton to remove any particles of foreign matter that may adhere to it. The negative may then be placed in the rack to dry. Do not attempt to dry it in the sun or near a fire, as the film melts at a low temperature while wet.

Developing is to me the most interesting part of the photographic process. There is another kind of developing, in another science; and as I compare the two, I am surprised at their many points of similarity.

We carefully mix the chemicals that make our developer, pour them on the plate, and watch the result. If we have made no mistake, there comes forth a picture that delights, not only ourselves, but every one who sees it. God never makes a mistake. He never exposes us to temptation too long. His blessings always contain the right proportion of joy and sorrow, of hope and fear, of temptation and triumph; for he knows the needs of every soul.

When we have spared no pains to make our negative a success, and through some accident it turns out a failure, we are disappointed and sad. So when we receive God's blessings in vain, and under them develop an evil character, the hosts of heaven turn away in sadness, and the Saviour mourns, not for his wasted blessings, but for the sorrow that each disobedient child is bringing upon himself.

J. EDGAR ROSS.



#### ASTRONOMICAL STUDY—NO. 4

##### Orion

ORION, the most beautiful constellation of our northern heavens, is now the most conspicuous collection of stars to be seen, during the early evening hours, in our western sky. By noticing the accompanying illustration, no trouble need be had in definitely locating this remarkable portion of our field of study. We shall learn some very interesting facts regarding this special constellation before it sets too early in the evening to afford favorable observation. The Lord calls the special attention of his people to this constellation; the reason for this we shall better understand as we learn more about this subject. "Canst thou bind the sweet influences of the Pleiades [a small group of seven stars, known also as "the seven sisters," lying a little north and west of Orion], or loose the bands of Orion?" asked the Lord of Job.

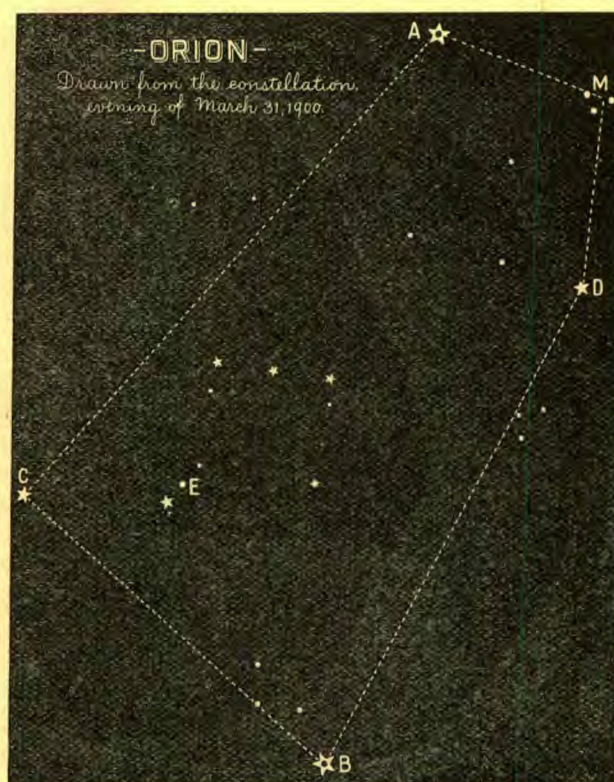
To the imaginative minds of the ancient astronomers, Orion was a gigantic being, bending upon one knee, holding in one hand the head of a slain lion, and in the other brandishing a large club, ready to meet the fierce charge being made upon him by the constellation Taurus, the bull,—whose flaming eye is the red or orange-colored star Aldebaran, lying still farther to the west. This worship of the twelve signs of the zodiac, mentioned in 2 Kings 23:4, 5 (please read), consisted of the most abominable heathen practices.

Orion is outlined by four principal stars and one group, as will be seen in the illustration, which shows the position of the constellation as it appears during April. "A," Betelgeuse, at the upper left-hand corner, is a variable, orange-colored star, or sun, of the first magnitude; "B," Rigel, at the lower right-hand corner, is also a star of the first magnitude; "C," Saiph, a star of the second magnitude, marks the lower left-hand corner; while "D," Bellatrix, also a star of the second magnitude, marks the upper right-hand corner of this remarkable constellation. The apex of the triangle, or head of the giant, marked "M," is a beautiful cluster of lesser stars. Under the eye of our larger telescopes, this cluster becomes a bewildering blaze of glorious illumination. Near the center of the group is a line of three bright stars which, being nearly equidistant from one another, and, at this season, lying nearly horizontal, form a conspicuous part of the constellation; this is known as the belt of Orion. A little below, and forming a nearly perpendicular line with the constellation, hangs the sword of this mythical giant. This sword is composed of three stars, the lower one having a much smaller companion, which can be seen by the sharpeyes of our younger readers. The central star, marked "E," is known as Theta of Orion. To every Christian who is looking for the soon coming of our Saviour to this earth again, this star marks an important point in the heavens; for it is here, we are told in that interesting little book, "Early Writings," that the city of God will appear at the end of the one thousand years. To the naked eye, this star marks the location of what is known as the great nebula of Orion, which is so different from all other

nebulae as to be a matter of much scientific investigation and comment.

In our next study we will spend the whole hour learning what we can of this interesting phenomenon. Compare the engraving with the constellation, and get the position of the different stars firmly fixed in the mind; for in a few weeks the sun will have reached a point, in his apparent eastward course in the starry vault, that will make actual observation of this group impossible before next fall, unless we sit up very late at night,—a thing we trust none of our class will do.

By the time the sun gives us that much-looked-for eclipse, on the morning of May 28, he will have passed so far toward the east in his yearly journey among the stars as to reach a point somewhat below and to the east of the Pleiades, or seven sisters, and to the west of Orion. It must be remembered, however, that as that eclipse is to take place in the morning, the portion of the heavens that we now study in the early evening will be in the eastern sky at that time of day. This seeming change in the direction of its location is due to the diurnal



nal revolution of our earth upon its own axis, which simple problem will afford a pleasant hour's study for some future evening.

DR. O. C. GODSMARK.

#### GOOD-BY

GOOD-BY! for now our paths divide;  
I leave you with a sigh;  
But earthly joys all have an end,  
And so we say, Good-by.

O raindrops! murmuring as you fall,  
Your lonely voices tell  
Of cloudy home you sadly left,  
With many a fond farewell.

And gently, softly, pattering down  
You weep in sympathy  
With hearts that say Good-by to those  
Whom they have loved to see.

But some fair day the sun will call  
The little raindrops home  
To some great, fleecy, snow-white cloud  
Afloat in heaven's dome.

So as they patter softly down,  
The voices of the rain  
To us do whisper of a time  
When we shall meet again.

MINNIE ROSILLA STEVENS.





## A BUNCH OF VIOLETS

'T was a little hand that held it—  
A bunch of violets white;  
And a little face looked upward,  
Eyes full of tenderest light:  
"Take it, please, teacher," and quickly  
Reached out the flowers clasped tight.

I stooped to take the treasure,  
And answered smile with smile;  
They were bruised, and bent, and broken,  
But the giver had no guile;  
As sweet the gift as simple;  
And, turning, I mused the while.

The flowers had no less beauty,  
Though crushed; for like a life  
That the winds of the world have driven  
Through cruel storm and strife,  
They shed a precious perfume,  
That o'er all around was rife.

As men count worth, so worthless  
The childish gift might be;  
But as showing her loving spirit,  
The lowly flowers to me  
Were dearer than gifts far richer  
From one less true than she.

MIRIAM E. WEBBER.

## THE CROWN OF MODERN FICTION

THIS is the double-column heading given to the article that told of an address by W. F. Stewart, in a leading church of Detroit, Mich., on a recent Sunday night. The subject was a popular religious novel.

Mr. Stewart says, in substance, that times are different now than they were formerly. Though novels were once looked upon as inventions of the devil, he declares that to-day nothing is doing greater good in the world. He further says that he questions the brilliancy of the intellect of the person who comes to him with the statement that he never read a novel. He gives the novelist a dignified seat by the side of the historian, and says that the Christian story is the crown of modern fiction. As proof of this, he calls attention to the fact that the ministry and the religious press quote and copy copiously from these "crowns."

It is evident that what gives the novelist and his production their dignified position at the present day, is not the fact that they are any better than they were formerly; but that the people, by long reading of just such literature, have slid down to a low level in thought and conscience.

The "Christian" novel is one of the favorite instruments the devil uses to prepare the minds of the people for the conditions of society that exist in the last days. It weakens the intellect, takes up the time, and distracts the mind from doing the work God has given each one to do. It is written so entertainingly that the average novel reader will not pass it by, but will readily assimilate its false principles. There is just enough good in it to give it free passport into many Christian families.

There are no good novels. The devil mixes only enough good with his various schemes to get the well-meaning to partake of the poison he has hidden in them. The novel under discussion gives the revolting details of the base practices of Nero's court, and paints in horrible pictures the suffering and martyrdom of thousands of Christians during his reign. Of course the author shows the sudden and violent end of the chief sinners, and the remarkable composure and fortitude of the Christians;

but there is engendered in the reader no longing for the saving of souls.

A novel usually takes many pages to bring out a principle expressed in few words in the Bible. The novel is at least half bad. If you say you will take the good, and leave the bad, I would ask, How are you to distinguish the one from the other unless you first learn it from the Bible? And if you have already learned it, why spend so much time taking in thoughts, ideas, suggestions, and temptations that you must reject or overcome?

FRANK HOUGHTALING.

## MERIT OBSCURES THE COLOR LINE

"WE have a good creamery and dairy at Tuskegee," said Booker T. Washington, who is president of that institution. "It is in charge of a colored man who is one of our most capable teachers. Under his instruction, classes of young men learn the best modern methods of dairy work."

"It came to our knowledge that the owner of a certain creamery wished to hire a superintendent. We had recently graduated a man who was thoroughly capable of filling the place in every way, but he was just about as black as it is possible for a man to be. We sent him on, to apply for the position."

"When he made his appearance before the owners of the creamery, they said: 'A colored man? Oh, that would never do, you know.'"

"The applicant for the position said very politely that he had not gone there to talk about his color, but about making butter. His hearers said it was out of the question to hire a colored man for the place. Our graduate still declined to talk about any color except butter color and similar details of dairy work. Finally, something he said happened to attract the attention of the owners, and they said he might stay for a two weeks' trial, although they still assured him that it was out of the question for him to think of being hired."

"Well, the first week's make of butter was shipped; and when the returns were received—would you believe it?—that butter had sold for two cents a pound more than any product ever before sold from that creamery."

"The owners said to each other, 'Now, this is very singular,' and waited for the second week. When that week's product was heard from, it was found that the butter had sold for a cent a pound more than that of the week before—three cents a pound more than the creamery's best record before our man had taken hold of it!"

"This time the owners of the establishment did not say anything. They just put that extra and unexpected dividend into their pockets, and hired that colored man to run the creamery for a year. Three cents a pound on the price of the butter he could make had knocked every bit of color out of his skin, as far as they were concerned."

## THE ENCIRCLING ARMS

THE baby was taking his first steps, faltering and uncertain; but he was a very proud baby, laughing and crowing over his own achievement as he tottered across the carpet with his mother following, her outstretched arms surrounding but not touching him.

"He thinks that he is doing it all alone," said grandfather.

"And so he is," the mother answered. "I am not carrying him, I am not hindering him; my arms are only so close that I can catch him in a moment if he falls."

So it is that we older children walk, and fancy often that we are going on our way alone.

God does not hold us back as we turn in one direction or another. He does not carry us; step by step we must make our own way, but always his loving arms are close to uphold us if we fall. Sometimes we are proud of our strength and freedom, sometimes in our weakness we fear and falter,—but our changing moods never change the guarding care that enfolds us. Unseen, unfelt, the everlasting arms surround us, and we can not fall beyond their upholding strength and tenderness.—*Selected.*



## THE FALL OF MAN

ADAM and Eve, in their innocence and purity, were placed in the garden of Eden, not to idle away their time, but to improve it in dressing the garden and keeping it beautiful. Perfect harmony reigned throughout the earth. As we look about us now, we do not see the peace and harmony that are pictured in the word of God. What has brought about this great change? By reading the second and third chapters of Genesis we learn the reason for the present sad condition of things. God could have created Adam and Eve as machines, who could do nothing wrong; but such service is not pleasing to God, so he gave to man the opportunity of choosing between good and evil. Of the fruit of all the trees in the garden they were privileged to eat, except that of the tree of knowledge of good and evil. The tree of life, which was to perpetuate their existence, stood near the tree of knowledge of good and evil; and of its fruit they were allowed freely to partake. The simple test of loyalty which the Lord placed upon our first parents was that they abstain from the forbidden fruit. It seems to us like a very simple thing, yet we all know that when our parents or teachers ask us not to do this or that, we are curious to know the reason. This was the way with Adam and Eve.

The serpent, the most subtle of all the beasts of the field, was used by Satan, who, before he sinned, was called Lucifer, which means "the light-bearer," to tempt Adam and Eve. After Satan sinned, he was not contented unless he was doing something to cause others to share his own fate. He influenced many angels in heaven to rebel against God, and then he went to other worlds to deceive their inhabitants, and lead them away from their Creator. As soon as God had finished his work in this world, Satan visited the garden of Eden, and tempted Adam and Eve to disregard the command of God with reference to the tree of knowledge of good and evil.

Eve was admiring the fruit of the tree of knowledge of good and evil when the serpent spoke to her, and told her that what the Lord had said about the effect of eating the fruit was not true; but that it would make her wise. It was not long before Eve was eating the fruit, and urging Adam to partake of it.

After they had disobeyed the command of the Lord, Adam and Eve felt guilty, and lost their peace of mind. When they heard the voice of God, they hid themselves instead of welcoming their Creator as they had always done before.

The penalty for disobeying the command of God was death. Adam and Eve had sinned, and the seeds of death were planted in their



being. With the curse of God resting upon them, they were driven from the garden of Eden. The earth was also cursed in consequence of the sin of our first parents.

Let us notice a few of the ways in which the curse of God has rested upon the earth on account of the disobedience of our first parents. First, the human family has degenerated so that instead of living nearly a thousand years, the average life of man at the present time is about thirty-five years. Man has greatly decreased in size and in vitality. Disease of every kind and description preys upon men and women everywhere. Secondly, the plant world is marred by thorns, thistles, and briars. The Lord told Adam that the ground should bring forth thorns and thistles, and that by the sweat of his brow man should obtain bread. Thirdly, the animal kingdom has degenerated, and the giant animals that lived in the days of Noah, have become extinct or much smaller in size. Not only has there been a physical degeneration; but a spirit of antagonism, quarreling, fighting, and destroying of life prevails. All this is the result of sin. The earth itself suffers from the violence of earthquakes and volcanoes, and thousands of human lives are sacrificed by these visitations. Great tidal waves sweep across the ocean, and destroy whole cities and villages. The very atmosphere has in it the spirit of evil, as shown by the cyclones, tornadoes, and whirlwinds that visit the earth. Even the sun, which was appointed to be the ruler of the day, and to dispense life and blessing to the inhabitants of the earth, gives out intense heat, so that thousands of lives are sacrificed by what we call sunstroke. Truly we can understand the words of Paul, "The whole creation groaneth."

M. E. CADY.



### THIRD MEETING WITH THE DISCIPLES

(April 28, 1900)

**Lesson Scriptures.**—John 21:1-23.

**Memory Verses.**—Acts 20:28; 1 Peter 5:4.

**Time:** A. D. 31. **Place:** Sea of Galilee. **Persons:** Jesus, disciples.

#### QUESTIONS

1. What message had been sent to the disciples by the angel at the tomb? Mark 16:7. At what point in Galilee did Jesus choose to reveal himself? John 21:1. Who were present on this occasion? V. 2.

2. What suggestion was made by Peter? How was it received by the others? What success did they have? V. 3. At what time of day did Jesus come to his disciples? Why was his presence not regarded? V. 4.

3. By what question did the Saviour introduce himself? What reply was made? V. 5. What did he request them to do? What was the result? V. 6; note 1. Seeing this, what did John exclaim? What did Peter do? V. 7. What did the other disciples do? V. 8.

4. What did they find upon reaching shore? V. 9. What request did Jesus make? V. 10. Who was first in carrying out the request? What did he find in doing so? V. 11. What invitation was then extended to all? How were they entertained by Jesus? Vs. 12, 13.

5. At the completion of the meal, what question did Jesus address to Peter? What was Peter's humble response? What commission did Jesus then give him? V. 15. In re-

peating the conversation, what change did Jesus make in the charge to Peter? V. 16.

6. When Jesus the third time repeated his question, what were Peter's feelings? What did he say? What did he again receive from Jesus? V. 17; note 2.

7. Taking Peter to one side (see "The Desire of Ages"), what did Jesus privately say to him? V. 18. To what did he refer? V. 19, first part; note 3.

8. What did Jesus then command him? V. 19, last part. What did Peter notice as he obeyed? What did he say? Vs. 20, 21. What words of correction did Jesus then utter? V. 22. What misconception was placed upon his words? V. 23.

#### NOTES

1. This was the second time that Jesus directly commanded his disciples to let down their nets. The object of both occasions was to impress on their minds deep spiritual lessons concerning their relation to his work. On the first instance (see Luke 5) he closed the lesson with the thought, "From henceforth thou shalt catch men." Just as, in obedience to his word, they had caught fish so abundantly, so, in obedience to that same word, they would catch souls for the kingdom of God. That was in the early part of Jesus' ministry. Now, at the close, when about to leave them, he designs first to impress once more upon their minds the fact that they are to continue in the work previously given them,—that of catching men. At the first he had said, "Launch out into the deep;" at the last he commands, "Cast the net on the right side." He who, in the fear of God, launches out into the very depths of human experience, and casts his net on the right side of the ship of life, will find his efforts successful; he will have souls for his hire.

2. The second great object of this third meeting was to take Peter, who had so cruelly denied his Lord, and whom his brethren considered unfit for the gospel ministry, and reinstate him in the work of God. Three times he had denied Jesus, and three times the question came, "Lovest thou me?" In the presence of his brethren Peter confessed his sin and his love for Christ, thus removing, as far as he could, the reproach he had brought upon his Master's service. And then Jesus gave to him the tenderest work that can be committed to mothers,—that of feeding the lambs and the sheep. By comparing this commission with the words of Luke 22:31, 32, it will be seen that Peter was now thoroughly converted, ready for his lifework. All his self-assertiveness was gone; and his work on the day of Pentecost, when three thousand were converted, shows that Peter, when changed, was a wonderful instrument in the hands of God for saving souls. Oh that we may be as truly converted, that we may know the same experience!

3. It is said by the Spirit of the Lord that Peter never forgot his terrible denial of Jesus, and was so humbled thereby that when his time came to be crucified, he requested to be fastened to the cross head downward, feeling unworthy to take the same position that Jesus had. He was therefore placed on the cross in that position.

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### TIME TABLE NO. 3.

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.
EAST-BOUND.	
No. 22, Mail and Express	8.25 A. M.
No. 24, Accommodation	1.45 P. M.
No. 28, Local Freight	5.30 P. M.

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Trains arrive and leave Battle Creek.

### WEST-BOUND FROM BATTLE CREEK.

No. 9, Mail and Express, to Chicago	12.15 P. 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	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.





### THE MARVELS AND POSSIBILITIES OF LIQUEFIED AIR

THEORETICALLY it has been accepted as a scientific possibility that there is not a solid on earth, but what, if sufficiently heated, could be transformed into a gas: likewise that there is not a gaseous substance that could not, if subjected to sufficient cold, be changed into a liquid or a solid. Notwithstanding this, it has always seemed like a wide stretch of the imagination to think that we should ever see air running like water or frozen like snow: yet this has been accomplished, and will no doubt soon excite no more wonder than to see steam changed into water.

It was my privilege recently to attend, in the Auditorium in Chicago, a lecture and series of demonstrations on this subject by Professor Tripler, whose name has become famous in connection with this achievement. After thirty years of careful experimenting he has discovered practical methods of producing the intense cold—*three hundred and twelve degrees below zero*—to which it is necessary to subject air before it will liquefy. He has not only succeeded in doing this as an interesting laboratory experiment, but has invented the necessary apparatus with which to carry on this work on a large scale. This discovery will no doubt rank with electricity as one of the marvels that God has allowed man to bring to light in the closing years of earth's history. After watching these remarkable experiments, the words of the psalmist had a new meaning for me: "He casteth forth his ice like morsels: who can stand before his cold?"

Professor Tripler brought with him in a metal can, from his New York laboratory, ten gallons of liquid air. The can was really made of five cans, set one inside another, with the space between each lined with felt. This prevented the cold, winter air (compared with the intense cold of liquefied air, this air was really hot) from warming the liquid, and causing it to turn back into a gas.

Professor Tripler began his experiments by taking a tumbler of liquid air, dropping into it a few rubber balls, and allowing them to remain a few moments. When they were taken out, and dropped on the floor, they broke into a thousand fragments.

He next dipped some roses in the liquid. When they were taken out, they appeared as beautiful as ever, but a mere touch shivered them into ashes. The flowers did not have time to turn black before freezing; and if they could have been preserved in that condition, it would have been impossible to tell, by sight alone, that they were frozen.

Four or five grapes were then dropped into the fluid. In less than thirty seconds, Professor Tripler moved the dish about, and we could hear the grapes rattle as if they had been pebbles. When he took them out a few minutes later, and dropped them on the floor, they broke as easily as the most brittle glass.

These articles, being so cold, will freeze the hands of the person handling them, unless the greatest care is exercised. In performing one experiment, Professor Tripler made a slight mistake, and allowed the frozen articles to remain in contact with his hand a moment too long; as a result, his fingers were frozen.

In one of the experiments a piece of beefsteak about the size of a man's hand, was put in the liquid, causing it to boil: this was an instance in which, instead of the water boiling the beefsteak, the beefsteak boiled the water. As soon as the steak became as cold as the air, it was frozen to a crisp.

The next experiment I shall never forget. Professor Tripler took a tin dipper, and tried as hard as he could to crush it, but without success. He then filled it with liquid air, allowing it to remain for about half a minute; then he poured the air out, and gave the dipper a tap with his hand, when it broke into hundreds of pieces.

In reading of the destruction of the world, I have sometimes wondered how this earth could be burned up so quickly; but after seeing these experiments, I shall never for a moment allow the question a place in my thoughts. As before stated, there are no solid substances on this earth that could not, if heated sufficiently, be changed to gas; and no gas but which, if cooled enough, would become a solid.

The explosive power of liquid air is great; and before the Lord comes, it may figure largely in the munitions of armies. When it expands suddenly under heat, it does so with the setting free of terrific force.

In ordinary climates the temperature is never sufficiently low to freeze mercury; but when surrounded by liquid air, mercury becomes so hard that nails can be driven with it. In one experiment Professor Tripler filled a mold with mercury, put two screw-eyes into the ends, and poured liquid air around it. In a few minutes the mercury was frozen so solid that when the mold was removed, a man weighing two hundred pounds could sustain his entire weight from the screws. Professor Tripler cooled alcohol down to two hundred degrees below zero; when it began to thaw, it could be pulled like taffy.

The medical possibilities of liquid air are also great. Professor Tripler told of a case of cancer just below the eye, so near that an operation was considered dangerous. He filled a tiny teakettle with liquid air; and as the atmosphere began to warm it, a small stream of the air was sprayed over the flesh around the cancer, thus completely freezing, not only the surrounding flesh, but also the supposed cancer organisms. When this frozen flesh sloughed off, the spot healed over rapidly, not leaving even a scar. The same experiment was tried with cancer of the nose with equal success. To me there is a wonderful lesson in all this; for while humanity is apparently doing everything it can to ruin itself, God is continually allowing man to search out and discover remedies that will co-operate with nature in the cure of disease.

Liquid air boils without fire. Professor Tripler filled a glass with the air, and made it boil by simply placing his hand against it. I look upon this as one more illustration of what God can do. When I see how he can store up in a few drops of liquid air such wonderful power, I can understand how he can put power into me; just as when I see how beautifully God clothes the field, I can understand how, when he said, "Consider the lilies of the field, how they grow," he expects me to grow like them, and develop a beautiful character.

DAVID PAULSON, M. D.

THE world-famed cliff-dwellings of Colorado are in danger of destruction at the hands of vandal tourists, who, for the sake of obtaining a few pieces of early pottery, batter down and undermine the walls of these ancient dwellings, and open to the destructive influences of the

air, rooms closed for hundreds of years. The people of Colorado are awaking to the fact that if the cliff-dwellings are not protected by legislation, they will soon be entirely destroyed. It is hoped that the ruins—if they can be preserved by appropriate State legislation—may at some future day be included in a national park.

### FOR EVERY DAY OF THE WEEK

#### SUNDAY:

Forenoon and afternoon and night,—forenoon  
And afternoon and night,—forenoon and—what?  
The empty song repeats itself. No more?  
Yea, that is life: make this forenoon sublime,  
This afternoon a psalm, this night a prayer;  
And time is conquered, and thy crown is won.

—Edward Rowland Sill.

#### MONDAY:

THE greatest test of character is to be found in what is common rather than in what is extraordinary. It is easier for the soldier to be faithful in the rush of battle, when sustained by enthusiasm, than to maintain a high tone of consistent principle under the many trials of daily drill.—  
Dr. Macleod.

#### TUESDAY:

"Only be steadfast—never waver,  
Nor seek earth's favor,  
But rest.  
Thou knowest that God's will must be  
For all his creatures, so for thee,  
The best."

#### WEDNESDAY:

"If we labor to make a name for ourself, it will pass away; but if we endeavor to make a name for Christ, it will endure forever. Whatever is for the glory of the Lamb lasts through the endless ages."

#### THURSDAY:

"There is no calm like that when storm is done;  
There is no pleasure keen as pain's release;  
There is no joy that lies so deep as peace,  
No peace so deep as that by struggle won."

#### FRIDAY:

You can keep impure thoughts out of your mind by thinking of that which is pure. You can keep yourself out of your mind by thinking of other people. The mind is beneath your own control if you will choose to assert that control early. Not at once, indeed, yet by slow training, that control is possible.—Edward Everett Hale.

#### SABBATH:

"What? know ye not that your body is the temple of the Holy Ghost which is in you, which ye have of God, and ye are not your own?" 1 Cor. 6:19.

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