

# THE YOUTH'S INSTRUCTOR

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## A TIME FOR ALL THINGS.

THERE'S a time for laughter, a time for tears,  
A season for hope and an hour for fears;  
There's a time to sing and a time to sigh,  
A time when the hours go speeding by  
On golden wings, and a time again  
When the moments are weighted with grief and pain.

Our life is a checkered page at best—  
Much time for work and a little for rest.  
It has its seasons of doubt and gloom,  
When about our path the shadows loom,  
When the sun shines never a golden ray,  
And happiness seems to be far away;

And then again when the clouds roll by,  
And show a glimpse of a sunny sky;  
When the heart is free and our spirits light,  
And life is joyous and fair and bright;  
When with happy laughter and merry song  
We smile and are glad some all day long.

Ah, yes, in our life we'll have time for all—  
Our cup of honey, our drop of gall,  
Our season of feast and our day of fast,  
The sunny ray when the cloud is past;  
For life is indeed a checkered page,  
From golden youth to silver age.

Written for the INSTRUCTOR.

## THE NEW YORK AND BROOKLYN BRIDGE.

THIS famous structure spanning the East River, was begun in 1870, and occupied thirteen years in building. It cost \$15,000,000. Brooklyn furnished two thirds of the amount, and New York City the remainder. The designer and engineer was John A. Roebling, "the master bridge builder of the world;" but meeting with a fatal accident, while making surveys for the towers, his son Washington A. Roebling, who was associated with him in the work, carried out his father's designs. Though he did not lose his life, he parted with the next best thing—his health, in his devotion to his work. He is an invalid for life, through exposure in and around the water, while laying the foundations of the towers.

During the thirteen years of its construction, twenty-five men were accidentally killed while working on the bridge. This bridge is suspended from four granite towers, two on either bank of the river, 278 feet above high water mark and standing 45 feet below the water. It is one and one eighth miles long, and has three spans, the middle, or river span, being over a quarter of a mile long, and 135 feet above the water. The two land spans make a gradual descent to either city from the great height.

The four large cables are composed of 5,296 parallel (not twisted) galvanized steel, oil-coated wires, closely wrapped to a solid cylinder  $15\frac{1}{2}$  inches in diameter. The length of each single wire is nearly three fourths of a mile. The strength of each cable is 12,200 tons. Running from each tower, are several guard ropes of steel, protected from rust by a coating of white paint.

The width of the bridge is 85 feet. A wide promenade for foot passengers occupies the center, and on either side are the carriage ways, and the railroad tracks on which the cars are run by a wire cable operated by machinery at each end of the tracks.

The trains consist of two ordinary coaches; and running one and one half minutes apart, can transport 7,000 passengers an hour. They carried more than seventeen millions of passengers last year; and three millions crossed on foot. The car fare is three cents, and the toll for foot passengers is one penny. And yet these insignificant pennies swelled to \$618,914 in the yearly report of earnings.

A force of policemen are detailed for duty on the bridge, and are called the "Bridge Police." Sometimes queer incidents occur here, as you will see.

Last summer a professional acrobat from Washington thought he could jump from the bridge into the river with safety, but he fatally miscalculated, and was picked up,

bruised and insensible, by friends waiting below in a boat. He recovered sufficiently to ask if he made "a good jump," and then died. That was his last thought while looking eternity in the face.

A few days later, a poor German, out of work, and failing after repeated efforts to get food for his family, wrote a letter telling his despair, and went to the bridge to end his life by jumping into the tide below. Fortunately, a policeman prevented him, and had his letter published in the papers. The next day his humble room was so filled with provisions sent in by kind-hearted persons who had read his story, that it looked like a prosperous grocery store; and employment was given him. Several others, hearing of his good fare, tried the same thing, but only met with arrest and imprisonment for attempting to take their own lives.

The promenade seems to be always thronged with people, some hurrying away to business, some taking it leisurely, enjoying the pure air and the view seaward, which includes Governor's Island, with its forts; Bedloe Island,

That it was early inhabited is seen from the fact that no less than 15,000 people died in Stockholm from pestilence in the year 1484. At present the city has about 250,000 inhabitants. Its circumference is about fifteen miles. It contains two hundred and ninety streets, and fifty squares and market places. The real estate taxed in 1881 was valued at eighty million dollars.

In the old city lies the king's palace, a magnificent building in Italian style, 420 feet long, and 390 feet wide, with a large yard inside. The interior of the chapel is highly adorned, and glitters with gold and marble. Here is a royal throne of silver, presented by a French nobleman to Queen Christina. At present the palace is not kept in very good repair outside, but its numerous halls and rooms are renowned for their costly furniture, and the precious works of art which they contain.

Near the castle lies Storkyrkan, a church edifice founded in 1264 by Birger Jarl. In this church all the kings of Sweden, from Frederick I. (except Gustavus IV.) have been crowned; and at the beginning and close of every session of parliament, opening and closing services have been held in this place.

On Riddarholmen we find the old Riddarholms church, which was at first the Catholic cloister of the Gray monks. No services are held here now, but the church is remarkable as a royal burying place. It is adorned with numerous coats of arms, and contains no less than six thousand flags, standards, and trophies, taken by the Swedes from their enemies in war.

The whole floor is covered with tombstones, memorials of the many renowned men who lie buried here. Among the many sepulchral chambers is the Gustavian. Here are the remains of Gustavus II. in a sarcophagus of green marble made in Italy. In honor of him, we find the following inscription in Latin under one of the windows: "He undertook difficult things; he loved piety; he conquered his enemies, extended his kingdom, exalted the Swedes, and delivered the oppressed; and he triumphed in death."

Next to this chamber is another, belonging to the present royal family. In this is a sarcophagus of Charles XII., of black marble, resting on a pedestal of green marble. On the top of this sarcophagus is a lion skin of gilt copper, on which rests a crown, a scepter, and a sword.

In a central part of the city is a fine Jewish synagogue, built in 1870, in ancient oriental style. It is spacious inside, and finely ornamented. It is well filled with worshippers every Sabbath. They have a large, fine reed-organ and an excellent choir.

Moses and the prophets are still read every Sabbath-day in the synagogue. How clearly this shows that God committed to the children of Abraham the keeping of his word! And how deeply the wonderful providence of God has impressed this upon their minds! Eighteen hundred years of exile and unbelief have not been able to obliterate a sense of duty in regard to this. Still they consider it a solemn duty to preserve the word of God, and to continue reading it.

There are many Jews in Stockholm, and in other parts of Sweden. It is a singular fact, that while the Jews have been hated in Norway, and excluded from that country till late years, they have been tolerated and favored in Sweden, and are, as a class, counted among the best citizens. Yet their sagacity and keenness in trade have here also raised an opposition party against them, which would like to drive them out of the country.

In another central place, lies Blasieholm church, a fine, large edifice built in 1867 for the use of a certain branch of Lutheran dissenters. In this temple a larger congregation assembles for worship than in any other church in the city.

The Baptists have a fine chapel that will seat some 1,200 persons. The members of their denomination in Stock-



with the foundation of the Statue of Liberty; and the distant shores of Staten Island. The low line of smoke along the horizon tells of the out-going ocean steamer; while nearer, the ferry boats and busy river craft make an interesting sight.

Coming up the bay, the bridge is so high that it looks like a huge spider's web spun from city to city; and at night its row of electric lights seem like a string of diamonds flashing across the river. It is the largest suspension bridge in the world, and has the greatest span.

New Yorkers always want to show the bridge to visiting friends as the first sight. They have something of the feeling Nebuchadnezzar had when he exclaimed, "Is not this great Babylon that I have built?"

L. E. ORTON.

Brooklyn, L. I.

Written for the INSTRUCTOR.

## STOCKHOLM.

STOCKHOLM, the capital of Sweden, is situated near the mouth of Malar Lake, where it empties into the Baltic Sea.

The city of Stockholm (from *stock*, pile, and *holm*, island, island of piles, so called because part of the city is built on piles) is beautifully located on a number of islands, whence the names, Riddarholmen (the Island of Knights), Kungsholmen (the King's Island), etc. One of these islands is used solely as a park, called Djurgarden, which is one of the most beautiful public resorts in Europe, if not in the world. The city itself is spoken of by travelers as one of the most beautiful in Europe.

holm number about 2,000. There are also two Methodist congregations, and a Catholic church, beside many of other denominations. English services are held in the Episcopal church, and French in the French Reformed church. In the last-named place many of the finest people attend. The Salvation Army is tolerated in Stockholm, and they are very active and prosperous there. They do not act quite as fanatical as in America. A rich Baptist brother, who is interested in their work, has built a large, fine chapel for them, which can seat about 1,200 persons, and is situated in Villa-staden, a part of the city where most of the rich people live.

Among the hotels may be mentioned the Grand Hotel, the largest in Scandinavia. It contains more than three hundred rooms, and is arranged in the most modern style.

The national museum has been built at a cost of \$600,000. The porticoes are of marble. In the halls are found eighty pillars of different kinds of precious marble. Among its collections of Egyptian mummies is found that of Queen Tapert, wife of Psametic I., about 2,500 years old; and there are some Apis oxen of stone, which are at least 4,000 years old. The museum contains fine collections from all ages.

Among the benevolent institutions, the general asylum for poor children is the largest. It was founded by Queen Christina, and it cares yearly for about four thousand poor children, of whom the greater part are born of parents unknown. These children are not only given good care, and well educated, but when they grow up, good places are found for them, where they can be employed.

The national library contains about 200,000 volumes and 10,000 manuscripts. Among these is the very rare *Codex Aureus*, a Latin translation of the Gospels, with alternate white and violet parchment leaves, and gilt letters; and another *Codex*, which contains not only the whole Bible, or *Vulgata*, but also the *Antiquities* of Josephus. Here is the so-called *Devil's Bible*, which was said to be written by a monk condemned to death. He was promised pardon if he in one night could fill out with writing as much parchment as could be made of one hundred and fifty asskins. This he did by the help of the evil one, who, however, left his portrait in the book. It was evidently written by monks between the ninth and thirteenth centuries. It was captured by the Swedes in a cloister library in Prag, when they took the city. In the reading-room of the library are sixty seats, with desks for those who come in to read. Most of the books can be borrowed and taken home.

A large part of Stockholm is built on lots mined out in the rocks. From a high elevation called Mosebacke, in the south part, the whole city may be seen, as in a panorama. This affords a beautiful view on a clear day, for the whole is arranged as though it were laid out for a painting.

J. G. MATTESON.

Copenhagen, Denmark.



Written for the INSTRUCTOR.

#### ABOUT COBWEBS.

THERE it hangs, from the rafters in the old barn, an unsightly cobweb, thick and heavy with dust. Before you ruthlessly tear it down, let us examine it a little. Only a spider's web, but how delicate the threads are, finer than the finest silk! How patiently the spider toiled, back and forth, back and forth, hundreds of times before his weaving was completed. Here hang two luckless flies, literally wound up hand and foot by their captor. Over in the darkest corner sits the grim bluebeard waiting for another fly to fall into his toils.

Out in the garden you may see these webs in greater perfection, as they hang suspended between the grass blades, and sparkling with the morning dew. You will almost invariably find the hostess at home, hanging in the middle of the web; or perhaps she is hidden under a leaf near by, with a telegraphic cord running up to her house to tell her when an intruder comes. Here is a fly, lazily brushing along, hardly awakened from sleep. Just a little too close he sails, and is tangled fast in the sticky, beaded



threads that the spider has woven in among the others. The spider feels the vibration, and putting out her foot, tries all the threads that radiate toward the center, till she finds the one her prisoner is on. Then she runs out, and approaching the fly, throws out a fine thread which she guides with her hind foot, winding it round and round until her captive is compelled to forego his struggles. She remorselessly eats him, throwing away those parts that she is unable to chew. After that she repairs her broken net, and goes back to wait for another unhappy victim.

Let us take a closer look at her. She has eight long, hairy legs, which she is careful to keep free from dust and dirt. There are six or eight eyes on the top of her head.

Spiders are different in a great many respects from insects. The butterfly, you know, is first a caterpillar, and after a time he rolls up in a silk cocoon, next year to come out a beautiful butterfly. With the spiders this is not so, though the young are not at all like the old ones. Perhaps you have found in the autumn a little silken ball hidden away in some corner of the piazza, or tucked under the loose bark of a tree. This is the soft nest that the mother spider spins for her little ones. In this ball are a hundred or more eggs, only waiting for the warm spring weather to come and hatch the little spiders out, when they will make themselves free from their covering. At first they are so small you could hardly see them. They cast off their old clothes a good many times before they are fully grown.

The most wonderful thing about the spider is her ability to spin gossamer threads. This is how she does it. On the under side of the abdomen are six little spinnerets, each having, at least, one hundred holes. In the engraving at the right you can see these six spinnerets greatly magnified. Behind these are glands which secrete the fluid, and this hardens into silk when exposed to the air. Think how very fine these threads must be so that when six hundred of them are put together, it would still take over a million of the larger threads to make one as great as a hair. The spider can control these spinnerets perfectly, opening and closing them at will, and making the threads fine or coarse.

There is another wonderful thing in regard to their spinning. Spiders' eyes, as I have told you, are in the top of the head, and their spinning apparatus is on the under side of the back part; so they cannot see what they are spinning. They do it by the sense of touch, for they spin as good webs in the dark as in the daylight.

Notwithstanding spiders spin such quantities of silk, they are very economical in regulating the supply, and never spin when there is a storm approaching. If they did not take this precaution, the quantity of silk would soon be used up in rebuilding their homes so many times. There are many curious things you can learn by watching the habits of these interesting little creatures. And now spring is coming, in fact, is really here, and all created things are waking up from their long winter's sleep, I hope the boys and girls of the INSTRUCTOR family will make good use of their eyes, and really find out for themselves what a wonderful world they live in. W. E. L.

CHEERFULNESS makes the mind clearer, gives tone to thought, and adds grace and beauty to the countenance.

#### MASTER B. WIRT.

"ANY mail for our folks?" asked Ben Wirt, as he paused before the long rows of letter-boxes. The surly postmaster looked over the contents of the general delivery box, ending his search by throwing him a postal card. Ben glanced at the address, and was surprised to read, "Master B. Wirt," instead of the customary name of his master. Who could have written to him? It was post-marked Mifflin, and the superscription indicated a business hand. As soon as he passed out of the office, he stopped to examine its contents. All that it contained was, "Master B. Wirt: I am happy to inform you that out of over twenty answers to my advertisement, I have decided to give you the situation, more because you are an orphan than for anything I know of you, as I have never seen you, or even heard of you, until I received your note yesterday. Your duty will consist in folding and wrapping goods, and it will require but little practice to make you proficient. I will pay you three dollars a week besides furnishing you with board and lodging. I shall expect you by Friday noon. Yours, etc., W. Golden."

Ben read and re-read the card, although he was certain that it did not belong to him, for he had never answered an advertisement. There was a mistake somewhere; but it did seem strange that in a town of two thousand inhabitants there should be two orphan lads

named B. Wirt, and both wanting for the same thing—good, honest work.

Ben could not resist the good fortune that seemed to have come to him unasked. No one would ever know of his treachery, and how much better times he would find behind Mr. Golden's counter than in doing all manner of drudgery for the hard task-master he now served. The other B. Wirt would never know of the answer sent, and consequently would be no worse off than before.

All the evening, Ben went round whistling, for was not this the last evening he would be compelled to perform work he so much detested? But when he had crept up the



SPINNERETS, MAGNIFIED.

rickety stairs to his hard bed in the loft, better thoughts came crowding in upon him. He fancied that the little stars looked reprovingly in at his window, and he seemed to hear the voice of his dead mother in the deep silence that prevailed. "My son, always be true to yourself, to others, and to God."

"God knows, and I know, and that is enough; and back that card must go, even if I have to do chores all my life," he said determinedly. So by day-break he arose, and was waiting at the post-office when the postmaster made his appearance.

"There is a mistake about this card," he said quickly. "It belongs to some other B. Wirt."

"That must be for the boy who seemed ready to cry because there was no mail for him last night," answered the postmaster, examining the card attentively. "Come to think of it, he did say his name was Wirt. They live in the old Dixon house, and are mighty hard run."

"As I have been the cause of the trouble, I'll take the card to him," Ben said quietly.

"It is the least you could do," replied the man, tossing the card into his hands.

The joy that card brought to that distressed household more than repaid Ben for doing his duty. The blessings that the mother heaped upon his head when she heard his story brought back the early teachings of his own dear mother, and he returned to his hard life, glad that it was Barton and not Ben Wirt that had been meant.—S. S. Classmate.

The Sabbath-School.

FOURTH SABBATH IN MARCH.

IMPORTANT BIBLE SUBJECTS.

LESSON 12.—THE MILLENNIUM.

1. WHAT blessing is promised to those who have part in the first resurrection?
2. To what are they called?—*To the marriage supper of the Lamb.*
3. What blessing is recorded in Luke 14:15?
4. How is the same blessing recorded in Rev. 19:9?
5. What is said in verse 7 about the marriage of the Lamb?
6. What is meant by the Lamb's wife? Rev. 21:2, 9.
7. When is this bride presented to him?—*At his coronation.* Dan. 7:13, 14.
8. What does he do on receiving this bride, the capital of his earthly kingdom?—*He comes to the earth for his saints, and takes them to the marriage supper.*
9. Describe the scene that will take place when they all arrive in heaven. Rev. 7:9-12.
10. How are the saints to be engaged during this thousand years?—*In a work of judgment.* Rev. 20:4.
11. What will be the nature of this work?—*They will unite with Christ in examining the cases of wicked men and fallen angels.*
12. How is this work alluded to in 1 Cor. 6:2, 3?
13. What will be the condition of the wicked during the thousand years?—*They will all be silent in death.* Rev. 20:5.
14. What will be the condition of Satan during this period? Verses 1-3.
15. What do we understand by the bottomless pit? (See note.)
16. What will take place at the end of the thousand years?—*The wicked will have a resurrection, and Satan will be loosed.* Rev. 20:5, 7.
17. What will Satan induce the wicked nations to do? Verses 8, 9.
18. How does the beloved city come to be upon the earth? Rev. 21:2.
19. How are those to be destroyed who besiege the holy city? Rev. 20:9.
20. What is to be done with Satan? Verse 10.
21. What will be the fate of all those whose names are not found written in the book of life? Verse 15.
22. What did John see after this? Rev. 21:1.
23. Who will inhabit the new earth?—*The righteous.* See 2 Pet. 3:13.
24. Seeing we look for such things, what admonition is given us? Verse 14.

NOTE.

Satan's abode,—the bottomless pit.—The original word signifies an abyss, bottomless, deep, profound. Its use seems to be such as to show that the word denotes any place of darkness, desolation, and death. Thus in Rev. 9:1, 2, it is applied to the barren wastes of the Arabian desert; and in Rom. 10:7, to the grave. But the passage which specially throws light upon the meaning of the word here, is Gen. 1:2, where we read that "darkness was upon the face of the deep." The word there rendered deep is the same word that is here rendered bottomless pit; so that that might have been translated, "darkness was upon the face of the abyss, or bottomless pit." But we all know what is meant by the word deep as there used; it is applied to this earth in its chaotic state. Precisely this we believe it means in this third verse of Rev. 20. At this time, let it be borne in mind, the earth is a vast charnel house of desolation and death. The voice of God has shaken it to its foundations, the islands and mountains have been moved out of their places, the great earthquake has leveled to the earth the mightiest works of man, the seven last plagues have left their all-desolating footprints over the earth, the burning glory attending the coming of the Son of man has borne its part in accomplishing the general desolation, the wicked have been given to the slaughter, and their putrefying flesh and bleaching bones lie unburied, ungathered, and unlamented, from one end of the earth to the other end thereof. Thus is the earth made empty and waste, and turned upside down. Isa. 24:1. Thus it is brought back again, partially at least, to its original state of confusion and chaos. See Jer. 4:19-26, especially verse 23.—*Thoughts on Daniel and the Revelation, p. 157.*

SIX REASONS FOR ATTENDING TEACHER'S MEETINGS.

1. To encourage the Superintendent and teachers by our presence.
2. To discipline the mind by study and the contact of other minds.
3. To gain information from the leader and teachers, and get the benefit of their study and research on the lesson.
4. To give the teachers any thoughts, points, or ideas we may have on the lesson.
5. To meet all fellow-teachers at the throne of grace, and with them invoke wisdom from on high for the study of the word of God.
6. And so, by these reasons, be ready to meet our classes, and instruct them in Bible history, geography, commands, invitations, warnings, and doctrines, and exalt over all, Jesus Christ, the Redeemer of a lost world, and win souls to Christ.

Our Scrap-Book.

ARTIFICIAL EGGS.

THE practice of adulterating food, that is, of mixing with a pure article an inferior grade of less value, or something which cannot be detected from the genuine, although it may have but few, if any, of the elements of food, has become so common that one who depends upon the market hardly knows what he eats. But perhaps no greater or more ingenious fraud has ever been invented in the food line, than the manufacture of artificial eggs, a specimen of which the inventor recently exhibited to a number of provision dealers and merchants on Broadway, N. Y. The report of the experiment, as published in the *Christian Union*, says the imitation is so perfect that, placed upon a platter with real eggs, they stood the test; when scrambled or made into an omelet, the artificial could not be told. But the inventor said that when they were boiled, occasionally an expert would detect that the white and yolk did not remain separate as in the genuine. In taste, they were pronounced delicious.

According to the recipe given, the shells are formed of a clear, transparent composition, and are perfectly modeled. The portion surrounding the yolk is made of albumen, and the yolk, of ground carrots and saffron. The inventor claims that he can manufacture them at one half cent each, and that it is his intention to place them upon the market soon.

A knowledge of such facts makes one long for the happy day when deception shall be ended.

HOW MUCH SALT DOES THE OCEAN CONTAIN?

Of the ocean's saltiness, C. K. Bolton said in an article in the *Independent*:

"One of the first things a boy will do, on arriving at the sea-shore, is to taste the water to see for himself if a whole ocean can be salt. If a box six feet deep were filled with sea water, and allowed to evaporate under the sun, there would be two inches of salt left on the bottom. Taking the average depth of the ocean to be three miles, there would be a layer of pure salt 230 feet thick on the bed of the Atlantic. If all the seas could be dried up, there would be 1,000,000,000 cubic miles of common salt. Where a fresh-water river empties into the sea, the surrounding water is, of course, more free from salt; and where there is little outlet, and continual evaporation, as in the Dead Sea, and Salt Lake, Utah, there is correspondingly more sediment to a thousand parts. In the Dead Sea, the water is so dense that a man's body will easily float."

But there are other lakes more appropriately called salt lakes than is the Salt Lake of Utah, if the captain who claims to have crossed them gives an accurate description of them. An exchange says:—

"In the Murghab Valley, Afghanistan, are two lakes of solid salt, which Captain Yate has ridden over and described. One, from which the Tekke-Turkomans of Merv get their supplies of salt, is in a valley about six miles square, which is surrounded by a steep, almost precipitous descent, impassable for baggage-animals except by a single road. The bed of the lake, which is about 1,430 feet above the sea, is one solid mass of hard salt, perfectly level and covered by only an inch or two of water. To ride over it was like riding over ice or cement. The bottom was covered with a slight sediment, but when that was scraped away, the pure white salt shone out below. No one has ever reached the bottom of the deposit.

"The second lake is the one from which the Saryks of Penjdeh take their salt, and is about 800 feet above the sea. The salt in this lake is not so smooth as in the other one, and does not look so pure. It is dug out in flakes or strata, generally some four inches in thickness, and is loaded into bags and carried off for sale without further preparation."

TWO HUNDRED MILLION.

WHEN Wm. H. Vanderbilt died, Dec. 8, 1885, you remember it was announced that the richest man in the world had fallen, and that his wealth was estimated at \$200,000,000? We all knew that was an immense sum of money, but we were not able to comprehend the vastness of his riches. The fact that the interest of his money brought him about twenty dollars every minute, both night and day, gives some idea of the value of so much money; but the following clipping from the *Christian Union*, will make the worth of this vast estate more comprehensive to the young mind:—

"Nothing is more difficult than for the human mind to fully grasp the idea of numerical immensity. Certain Australian tribes cannot count beyond ten. To other races low in intelligence, twenty is the limit; to others, a hundred. As we advance in civilization, our mathematical comprehension broadens, yet it is doubtful if many of us really know what a hundred million is. The *New York Times* thus describes in terms of linear, square, and cubic measurement the late Mr. Vanderbilt's great fortune:—

"If this sum of \$200,000,000 were in standard silver dollars, it would present such features as these:—

"Put lengthwise, dollar after dollar, it would stretch a distance of 4,672 miles, making a silver streak from New York across the ocean to Liverpool.

"Piled up, dollar on dollar, it would reach a height of 355 miles.

"Laid flat on the ground, the dollars would cover a space of nearly sixty acres.

"The weight of this mass of silver would be 7,160 tons.

"To transport it would require 358 cars, carrying twenty tons each (this is the capacity of the strongest freight cars), and making a train just about two and a half miles long.

"On ordinary grades it would require twelve locomotives to haul this train. On roads of steep grades and sharp curves, fifteen or twenty locomotives would be needed.

"In one-dollar bills this two-hundred-million-dollar fortune would assume such shapes as these:—

"The bills stretched lengthwise would extend 23,674 miles, or nearly the circumference of the earth at the equator.

"Piled up one on another, close as leaves in a new book, they would reach to a height of twelve miles.

"Spread out on the ground, they would cover 746 acres, or nearly the whole surface of Central Park, including ponds and reservoirs.

"A safe deposit vault to contain these bills would require to be 23 feet long, 22 feet wide, and 20 feet high."

The impressive words of Matthew Henry are very appreciable here: "There is a burden of care in getting riches; fear in keeping them; temptation in using them; guilt in abusing them; sorrow in losing them; and a burden of account at last to be given up concerning them."

HOW THE SALMON JUMPS.

It seems very natural that fish should descend water-falls, in fact, one would think they could hardly avoid it; but that they can climb those of much height, seems almost incredible. Naturalists, however, have frequently made the discovery that they will ascend a fall of several feet in height. A few paragraphs from a late paper are of interest in showing their manner of doing this. We quote as follows:—

"Professor A. Landmark, chief director of the Norwegian fisheries, has published some interesting particulars of his studies of the capability of salmon to jump water-falls. He is of the opinion that the jump depends as much on the height of the fall as on the currents below it.

"If there be a deep pool right under the fall, where the water is comparatively quiet, a salmon may jump sixteen feet perpendicularly; but such jumps are rare, and he can only state with certainty that it has taken place at the Hellefos, in the Drams River, at Haugsend, where two great masts were placed across the river for the study of the habits of the salmon, so that the exact measurement may be effected. The height of the water in the river varies, of course, but it is, as a rule, when the salmon is running up stream, sixteen feet below these masts. The distance between the two is three and one half feet, and the professor states that he has seen salmon jump from the river below across both masts.

"As another example of high jumping, he mentions some instances of Carratunk water-fall, Reumbeek, in North America, where jumps of twelve feet have been recorded. Professor Landmark further states that when a salmon jumps a fall nearly perpendicular in shape, it is sometimes able to remain in the fall, even if the jump is a foot or two short of the actual height. This, he maintains, has been proved by an overwhelming quantity of evidence.

"The fish may then be seen to stand for a minute or two a foot or so below the edge of the fall in the same spot, in a trembling motion, when, with a smart twitch of the tail, the rest of the fall is cleared. But only fish which strike the fall straight with the snout are able to remain in the falling mass of water. If it is struck obliquely, the fish is carried back into the stream below.

"This, Professor Landmark believes to be the explanation of salmon passing falls with a clear descent of sixteen feet. The professor believes that this is the extreme jump a salmon is capable of, and points out that, of course, not all are capable of performing this feat."

OUR COINING MINTS.

GEORGE B. GRIFFITH, writing for *Golden Days*, says:—

"There are four coining mints, situated at Philadelphia, Pa.; San Francisco, Cal.; Carson City, Nev.; and New Orleans, La., the last one being put in operation on January 20, 1879. The largest proportion of assaying and refining is done at New York City; Helena, Montana; Boise City, Idaho; and Denver, Colorado.

"The Philadelphia mint is capable of turning out about \$1,500,000 in coined money a month; the San Francisco mint, \$1,000,000; the Carson City mint, \$500,000, and the New Orleans mint, about 500,000 pieces of various denominations.

"In gold coin the alloy was at first a compound of silver and copper. It was forbidden by statute that the alloy should be more than half silver. It is now nearly all copper, owing to advances in the art of assaying and improved methods in coinage.

"Under the law of February 28, 1878, which required that between 2,000,000 and 4,000,000 of the new (Bland) dollar should be turned out by the mints every month, the coinage facilities of the government were severely tested to produce this particular silver coin, and maintain the usual supply of gold and subsidiary coins.

"Silver is sent from the assay offices to the mints pure, or 999 fine, which is about as pure as silver can be. It is sent in large bars, and when received at the mint, is melted and alloyed with copper. Coin silver is 900 fine. The amount of standard silver dollars coined in the thirteen months preceding October 31, 1882, was \$30,007,175."

INVENTION OF A LADY.

A LADY in Depere has invented a machine to indent sheets of wax so as to form artificial honey-comb foundations. It is regarded as a waste of time for the bees to be obliged to gather the material and construct the comb. Sheets of wax are passed between two rollers, and marked by them with the outline of the cells. Pieces of this foundation are placed in the different sections of the hive and fastened there, and the bees quickly take the hint and fashion the cells according to the marking, using the material provided, and deftly stretching it out into the walls of the cells. When they have accomplished their task, and filled the cells with honey and capped them over, the apiarist carefully removes the comb without damage to the bees, skillfully cuts the cap from the cells, puts the comb in the extractor, and by a few rapid revolutions empties the cells of honey, and replaces the comb in the hive, ready to be filled again.—*Treasure-Trove.*

THE German Bible for the blind costs \$25, and consists of no fewer than sixty-four volumes. This is owing to the fact that the letters have to be very large, that they are in high relief, and can therefore be printed on one side only, and that the paper must be very thick. Some of the blind can read five or six hours without feeling fatigued. They use both hands in reading, the right forefinger being used chiefly to separate the words and syllables, while the left forefinger recognizes the word by itself.—*Sel.*

## For Our Little Ones.



**W**INTER SCENES.  
 HURRAH! hurrah! the children cry—  
 The echoes linger long—  
 The fire of youth in every eye,  
 Upon each lip a song.

The frost is glistening on the snow,  
 And ice in every stream;  
 On each dear face a ruddy glow  
 Bright as an artist's dream.

No thought of winter's bitter cold,  
 Winds whistling in the trees,  
 Could daunt a spirit half so bold,  
 Or check such hearts as these.

Let those who sigh for warmer days,  
 And say that winter's drear,  
 Their voices join with ours in praise,  
 And welcome winter here.

—Golden Days.

Written for the INSTRUCTOR.

### TO THE INSTRUCTOR CHILDREN.

DEAR CHILDREN: I want to say a few words to you for myself. I wish you were all before me in one large church like our great Tabernacle at Battle Creek. That will seat about three thousand. But even that would not hold nearly all the children who read the INSTRUCTOR; for I think it has over ten thousand little readers, besides the grown folks.

I have tried to write some for you; but I have feared that few would read what I wrote, and perhaps none would be benefited by it. But now I notice that in the Letter Budget are words of encouragement from several dear children in different parts of the country. One writes from way out West, another from Virginia, and another from Texas. Each one has made some good resolve,—to be more obedient, to take better care of his own things, or to be more kind and patient. These words from the little ones are more precious to me than money. They give me new courage to try again and to try harder. When you have forgotten what you have said, forgotten me, or are fast asleep hundreds of miles away, I shall be working harder and with more courage on account of the help you have given me.

I have yet another reason for saying this to you, and that is that you may see how even little children can do much to help others if they only will try. It is not simply in doing work, in earning money, or in giving gifts, that they can help. Almost all persons sometimes get tired and discouraged. They feel as if they could not do much, or that their work was not appreciated, or that no one loved them. What they need is just to have some one encourage them a little; and even the children can do this.

There is your own mother. See how hard she works, and how tired she gets. How sad her face is! If you will tell her that you are sorry she is so tired, that you love her, and will do any little thing you can for her now, and will help her more when you get larger, oh, how it will rest her and make her heart sing! Try it, and you will see.

Does your father come in cold and tired? Run for a chair, bring his slippers, tell him he is a good papa to work so hard for you all. You will see his face brighten up immediately. He may not say so aloud, but in his heart he will say, "That is a dear child. I can afford to work hard for such children." In this way even the smallest ones can help a great deal.

Thank your teacher when she tries to help you. It will encourage her. Sit still, and watch the minister when he talks. It will help him preach better. What, can a little boy or girl help the minister preach? Yes, indeed, I know that is so; for I myself can preach a great deal better when I see the children watching me. There are so many ways in which children can help if they will try!

There is grandma. She has to sit there in her room all day long, and many such days. How tired and lonesome she gets! Take her a flower, read to her, tell her about your school. It will shorten the hours and cheer her heart.

Have you a brother or sister older or younger than yourself? If so, you know they have many troubles. Sometimes they don't feel well. Sometimes they cannot get their lessons; or they are behind with their work, and it is almost school time. Now is the time for little hands to help, for little words to encourage. Think what you can do for them, what you can say to help them. A loving heart will find some way to do it.

The one great work which God has given little children

to do is to bring sunshine, rest, and comfort to all around them by their innocence, by their love, by their cheerfulness, and by their words of encouragement to others. How it has often rested me to see the smiling face of a little child, to take it in my arms, and to listen to its prattle! God bless the children; we could not do without them!

D. M. CANRIGHT.

Written for the INSTRUCTOR.

### A TRUE MISSIONARY SPIRIT.

THE evidence increases that a missionary spirit is growing in the hearts of the children of the INSTRUCTOR family; for often the news comes of some sacrifice that this or that dear boy or girl has made to help in the work we all love so well. How it must please the angels to see the children interested in the same work they are,—that of doing others good, and trying to lead them to the Lamb of God. And how it must delight them when they can bear record to heaven that such a child is really denying himself for somebody else; that he is really earning and saving money for missionary purposes. There is rejoicing in heaven at such times, dear children.

But when the report is carried that some of our boys and girls are living in sin, and just to please themselves, the angels grieve, and there is sadness in heaven. Remember that whatever record the angel carries, it is preserved.

When we have a real, genuine missionary spirit, we shall love to give so well that it will be easier to give than to keep. We once read about a little cripple boy, who we think had some of that spirit. He certainly had the love of Christ in his heart. This little boy asked a gentleman for a ball of twine to make a net. "I can sell the net for three pence, sir," said he. "I want to help them print Bibles for the poor heathen, and three pence will print a page."

The gentleman gave him the twine, telling him to bring the net to him when it was finished.

This the child did, whereupon the gentleman gave him three pence for making, and three pence for himself. "Oh, please let me give it all," cried the little lad; "it will print both sides of the page."

May all of us get the spirit of the little boy, that when we have helped to print one side of the page, we shall remember the other side; in other words, when we have helped in one direction, we shall look beyond for something more to do. And if we are faithful in the work, our alms and good deeds will all come up as a memorial before God, and he will remember his promise to us when his wrath is visited upon the selfish, wicked ones of earth. What records are the angels carrying for you, dear children?

M. J. C.

### MAKING BABY GOOD.

BERTIE, TOM, and baby were playing together, not in the pleasantest way, though; for baby could not always understand when his turn came, and when it did n't, or why it could n't be his turn all the time, so he took "turns" when he ought not to, and became cross if any one tried to stop him.

Bert was not the most patient boy in the world, and, boylike, he began to think baby a little tyrant, which he was without meaning to be, and to rebel against his frequent interferences.

"Mamma!" shouted he, "come and make baby play fair;" and then, when mamma arrived on the scene, he added, more thoughtfully, "I don't see why God could n't have made a good baby instead of a cross one."

Mamma looked amused, rather than shocked; indeed, it was master Bert who looked quite shocked when she quietly replied, "Judging from your work since you began to make him, baby would not be much improved if you had him made just to your liking."

"Me make baby?" and Bert looked very much puzzled.

"Yes; you have been helping to make him ever since God gave him to us. God only made him a baby; it is you and Tom who, more than any one else, make him either a good or a bad baby. Look at him now."

Bert, who was standing with his hands behind his back, wondering what his mother meant, cast his eyes upon his little brother, and saw him standing in exactly the same position, his hands behind him, trying to look as much like him as possible.

"Push your hat to one side of your head," said mamma.

Bert did so, and the baby immediately did the same with his hat.

"Whistle a little," suggested mamma. In an instant, as soon as he heard the sound, baby, too, was puckering little lips, doing all he could toward making a whistle.

This vexed Bert, who turned and said, "Stop mocking me!" and gave baby a push. The reply was a scream and an angry push from baby.

"See, you are making him still after your own pattern. He is just a small copy of yourself. Now try making him another way. Put your arms around his neck and kiss him."

Bert obeyed, though rather unwillingly, and baby's face at once cleared, and Bert got a loving hug and kiss from him.

"I told you he would n't be cross if you were not," said Tom, who had been an interested listener.

"He will be just what you boys make him. He is only acting now by imitating you boys and others, and as he is most with you, you are really making him."

"Well, Tom," said Bert, after a moment's thought, "let's not make any more cross into baby;" and Tom agreed.—Selected.

## Letter Budget.

WE wanted to have a chat with each faithful little correspondent, but instead have decided to give the space for as many letters as we can crowd into your column this time, for at best it will take us a long, long time to print all the letters you have written us. We pray every day that God may bless all the boys and girls who read the INSTRUCTOR, and that they may be true soldiers of the cross. Our first letter is from the far East.

LEONA I. TOWLE, writing from Androscoggin Co., Maine, says: "As I have not written for the INSTRUCTOR in quite a long time, I thought I would write again. We are the only Sabbath-keepers in the place, but we hope there will be others soon. I attended the camp-meeting held in Portland this year. We had some very interesting meetings, and there were quite a large number of people present. I want to be a good girl, so that I may have a home in the kingdom."

MANCIE L. WITTY, of Greenwood Co., Kan., says: "I never wrote before, but I thought I would now, and tell you about our meeting held Christmas eve. We all gave some money. I gave fifty cents. There were \$86.30 given, but we do not know how much more there is to come in. We shall know before we send it off. There are nine of us girls, and one boy. I am fifteen years old, and was baptized last September. I hope to live so as to have a part in the first resurrection."

NETTIE B. PIKE, writes from Windham Co., Vt. She says: "I like to read the letters in the Budget, so I thought I would write one. I am ten years old. I have two sisters, but I have no brothers of my own. Papa has gone canvassing, and my oldest sister has gone to South Lancaster, Mass., to school; so I bring in the wood and help mamma in other ways. We all keep the Sabbath, and I go to Sabbath-school most every Sabbath. I had a perfect lesson every Sabbath last quarter, and was there on time, too. I shall try to be this quarter. I want to be a good girl, and meet you all in heaven."

LELA F. EUBANK writes from Metcalfe Co., Ky. She says: "Dear INSTRUCTOR, I came in possession of you by a dear aunt, Mrs. Bradford, and I am much pleased with the Budget column. I thought I would like to write a letter for it,—if you do not put it into the waste basket. I have a father, mother, and one little sister. I have no brother. My sister is six years old, and I am eight years old. My mother teaches me at home. I am going to Sunday-school; am in the second class. Ma is my teacher. There are twelve in this class. I don't know the number of scholars in the school. My pa is superintendent of it. I must close, by telling you I love the INSTRUCTOR dearly."

VOSA L. NUTTING, of Fayette Co., Iowa, writes: "Not having seen any letters in the Budget from this place, I will write one. We are having a two weeks' vacation. School will begin again next Monday. I live one mile from the school house, and last term I was neither tardy nor absent once during the term. I have no brothers or sisters. I keep the Sabbath with my parents. We go to meeting and Sabbath-school nearly every Sabbath. It is not very cold here this winter, and I have nice times sliding down hill. I have four little kittens that I love to play with. We keep them at the barn, for mamma don't like to have kitties in the house. I received a nice book for a Christmas present. I am trying to be a good girl and help my mamma all I can. I wash all the dishes, and sometimes help her sweep. This is the first letter I ever wrote for the Budget."

Two letters have come in one envelope away from Idaho, Ada Co. It would be well to look on a map and see where the little girls live who wrote them. Their names are DELLA POPE and JENNIE CROONER. Della writes: "I have never seen a letter in the Budget from this place, so I thought I would write and tell you that there are a few Sabbath-keepers out here in this country, and that we have a Sabbath-school. I get my lessons in Book No. 2. There are a great many mountains here, and it is so pleasant in the valleys. It never gets very cold in the winter, and in the spring it is so nice to go out on the hills and mountains and gather flowers, and see the nice, clear water rippling over the pebbles. In the summer and fall we have such nice fruit of all kinds which grow in the north temperate zone. Yet nothing here will compare with the earth in its renewed state. I go to school every day. I am now taking music lessons. I want to be a good girl so when Jesus comes I can meet the INSTRUCTOR family in the new earth. I think it will be so nice to live where Jesus is."

JENNIE CROONER writes: "I am a little girl ten years old. I go to school every day, and read in the fourth reader and study arithmetic, geography, and grammar. We have a splendid school, and I love to go. I attend Sabbath-school every Sabbath with my parents, little brother, and sister, and learn my lessons out of Book No. 2. We all love our good Sabbath-school. Eld. Fero is here now to preach. We love him very much. I don't see why everybody don't love the Lord and keep his commandments. I love to read the INSTRUCTOR, there is so much good reading in it. I would like to see all the INSTRUCTOR family together. I think there would be a large company of us. If we love the Lord and do his will, we may all meet when Jesus comes and live together in his kingdom."

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