

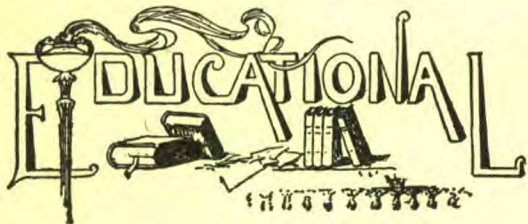
THE YOUTH'S INSTRUCTOR

REMEMBER NOW THY CREATOR IN THE DAYS OF THY YOUTH

VOL. LIV

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No. 48



What is Denatured Alcohol?

"DENATURED alcohol is simply ordinary alcohol mixed with some substance that makes it unusable as a beverage." In some European countries such processes have been long in use; the alcohol thus treated is used in the arts, and is free from tax. We learn that during the year 1903 there were used in Germany 26,080,505 gallons, which were employed for heating, lighting, and various processes of manufacture.

There are quite a number of substances which are used in the process of denaturation, among which are the following: pyridin, shellac, camphor, ether, soap, and castor-oil. In the *Scientific American* the following description is given of the process in use in Germany:—

"There are two general classes or degrees of denaturizing; namely, the 'complete' and the 'incomplete,' according to the purposes for which the alcohol so denatured is to be used.

"Complete denaturation of alcohol by the German system is accomplished by the addition to every one hundred liters (twenty-six and one-half gallons) of spirits: (a) Two and one-half liters of the 'standard denaturizer,' made of four parts of wood-alcohol, one part of pyridin (a nitrogenous base obtained by distilling bone-oil or coal-tar), with the addition to each liter of fifty grams of oil of lavender or rosemary; (b) one and one-fourth liters of the above 'standard' and two liters of benzol, with every one hundred liters of alcohol."

Hitherto the heavy tax, with the great cost of production, has prevented the use of grain alcohol for any other purpose than making intoxicating drinks and medicine. But by recently discovered processes it can be made very cheaply. "From a bushel of small potatoes more than a gallon can be distilled. With improved processes, it can be produced from potatoes, sugar-cane, or refuse beets at a cost of less than five pence a gallon. This is less than a quarter of the cost of wood-alcohol.

"The grain alcohol is almost a perfect fuel. It can be made as little dangerous as high-proof kerosene. It gives more heat than kerosene, without a disagreeable odor. All explosive types of engines can be adapted to use it to better advantage than gasoline. Its cost of production is less than the market price of gasoline, and it will furnish more power.

"The process of distilling is simple, and the apparatus is not expensive. Any farmer could buy a small plant and convert all his low-grade or spoiled grain, his small potatoes, and his refuse beets, and even his corn stalks, into alcohol at little expense. The use of power could be made universal by the common production of cheap alcohol and the use of alcohol engines."

There has recently been passed in the United

States a bill removing the tax on denatured grain alcohol used in the arts and industries. This measure will reduce the price of this substance from six shillings to about one shilling three pence a gallon. The freeing from excise of grain alcohol will be of great advantage to manufacturers. It is probable that it will be largely used as a substitute for gasoline and petroleum in motor-boats and automobiles. Speaking of the advantages to the arts, the *Springfield Republican* says:—

"Scores of manufacturing industries will be advantaged, and their products cheapened to the people. A desirable substitute for petroleum and gasoline as a source of heat, light, and power

Thanksgiving

SWELL the song, full and strong,
Over hearts afar!
Night is past, day at last
Fades the morning star.
Over all the valleys ring
Sweet thanksgiving to my King.

Full of cheer was the year,
Full of joyousness.
Blessings came, changes came,
But they came to bless:
Oft we do not understand,
Till we reach the better land.

Send the song, rich and strong,
To the farthest isles.
Let the sweet gift of love
Fill the world with smiles.
Thankful I should always be,
Jesus came to ransom me!

Swell the song, full and strong,
O'er the world afar:
Praise for life, praise for love,
Praise for what you are.
God is love, and he has given
Earth the sweetest wealth of heaven.

B. F. M. SOURS.

will be brought within reach. And a new market for injured grain and fruits will be provided for the farmers. It is a measure which promises to affect, profoundly and most advantageously, the whole industrial life of the country."—*The Australian Signs of the Times*.

Chats on Letter-Writing—No. 7

Good and bad taste is shown in letter-writing, as in other things. It is good taste, for instance, to use substantial, plain paper, free from all decoration and fanciful adornment. A neatly printed address or a monogram does not come under the heading of fanciful or useless decoration. There is often an attempt at the gaudy and obtrusive, which is not to be commended on any grounds.

The color of the paper may be dictated by the taste of the individual, but it may be suggested that anything very pronounced is better avoided. If one prefers a color, the choice should lean toward some light tint, such as pale blue or green, or indeed, any color that will not make

itself more noticeable than that which is written on the paper.

The ink is another important feature. One should never use a glaring colored ink, such as red. Occasionally purple is used, but general usage recommends adherence to black, so far as pen-written communications are concerned. In the case of those who use a typewriter, of course more latitude is allowable.

Both as regards paper and ink, we should aim at neatness and simplicity. The paper should be of the right size; that is, not large enough to be unwieldy, nor so small as to necessitate the use of several sheets for a letter of moderate length. There is no excuse nowadays for any one's using any but good and correct writing materials.

It is the poorest possible taste to write a letter in pencil, unless in case of emergency. It really shows a lack of consideration for the reader, as pencil writing is invariably much more difficult to read than ink writing. And it is scarcely excusable to use an indelible pencil, instead of a pen, for no matter what kind of pencil one uses, it is, after all, nothing but a makeshift, which one should avoid. Pencils are exceedingly useful, but they should not supplant the pen, in correspondence at any rate.

Many persons carelessly, and some purposely, omit the address at the head of a letter. This should invariably be given. In many instances this omission leads to loss, for money is often sent to business firms for goods, which, however, can not be mailed, because there is no means of knowing where to send them; neither can anything be done to ascertain the source of the letter.

Similarly, the date is often left out, or merely the day of the week is given. These details may appear to be of small moment, but experience has abundantly shown that they are of very real importance, and that it is a mistake not to give this information.

Courtesy in correspondence should never be forgotten. Whenever a favor is asked, necessitating a reply, an envelope, stamped and addressed, should always be enclosed. This is merely a gracious act, designed to save the recipient any unnecessary trouble or possible inconvenience.

Minor matters, such as the foregoing, are as essential to the satisfactory letter as are the more prominent items. HENRY W. ROSE.

Spain and the Bible

THE National Bible Society of Scotland made its way into Spain as far back as 1895. The story, as told by a secretary of the society, is a remarkable one: "While yet the Bible was confiscated at every frontier, Manuel Matamoros showed us how the book might be printed in Spain itself for the faithful souls, who, meeting in secret and under feigned names, were feeling their way toward the light. In a back room of a back street in the cathedral city of Malaga, on a rickety old hand-press, with scanty supply of type, a godly printer, with his own hands, and

such help as his wife and son could render, printed, at the cost of the society, three thousand large-type New Testaments, in the course of seventeen months' labor, during every hour of which he stood in danger of arrest and the galleys—a feat which will live in history with the achievements of those who counted not liberty or life dear to them for the sake of Christ and his gospel.”—*Selected.*

Some Queer Trees

AMONG the curiosities of tree life is the sofar, or whistling tree of Nubia. When the winds blow over this tree, it gives out flute-like sounds, playing strange, weird melodies to the wilderness for hours at a time. It is the spirits of the dead singing among the branches, the natives say, but the scientific white man says that the sounds are due to a myriad of small holes which an insect bores in the spines of the branches.

The weeping tree of the Canary Islands is another arboreal freak. This tree in the driest weather will rain down showers from its leaves, and the natives gather up the water from the pool formed at the foot of the trunk, and find it pure and fresh. The tree exudes the water from innumerable pores, situated at the base of the leaves.—*Selected.*

How to Read

It was a beautiful habit of a good man to “say grace” or to give thanks to God before reading a good book. What is material bread compared to the feast of reason and flow of soul of many blessed volumes accessible to us all to-day!

Let us make wise choice in our reading. Take strong, stirring, masterful books upon every subject. Consult book lovers and readers for advice. Discriminate between the best to get the very best.

Read with independent thinking. It may be well, as one advises, to read a book the first time and give yourself completely to it so as to receive the best it may furnish fully, and then read it again critically to separate all the chaff from it. But always read with your intellect erect in its own sublime responsibility. You have no right to permit any man to do your thinking. And no kings with autocratic powers can command our inner natures unless we basely surrender in lowest degradation.

Read rapidly. We may increase our speed remarkably without detracting from concentration of attention. Men learn to double and quadruple their reading ability, and what doubling of life this means! If you can learn to read three great books while another stumbles slowly through one, why not do it?

Read to use. The bookworm is a quaint curiosity, but the world is no better for his life. Scatter what you gather from books, and you multiply its value to your own soul. Indeed, it is doubtful whether a truth ever fully becomes our own until we have given it to others many times.—*Selected.*

Not “Obliged” to Abstain

THAT staunch old Scotchman, Dr. Arnot, gives a good illustration of the total-abstinence question. You will find the world full of people who will tell youth that they are not obliged to sign away their liberty in order to keep on the safe side; that they know when they have had enough; that there is no danger of their becoming drunkards, and the like. Dr. Arnot says: “True, you are not obliged, but here is a river we have to cross. It is broad and deep and rapid. Whoever falls into it is sure to be drowned. Here is a narrow foot-bridge, a single timber extending across. He who is lithe of limb and steady of

brain and nerve may step over it in safety. Yonder is a broad, strong bridge. Its foundations are solid rock, its passages are wide, its balustrade is high and firm. All may cross it in perfect safety,—the aged and feeble, the young and gay, the tottering wee ones. There is no danger there. Now, my friends, you say: ‘I am not obliged to go yonder. Let them go who can not walk this timber.’ True, true, you are not obliged; but as for us, we know that if we cross that timber, though we may go in safety, many others who will attempt to follow us will surely perish, and we feel better to go by the bridge.”
Mrs. Mary N. Sturgis.

The Shortest Railroad in the World

WHILE there are many short railroads in the world, it falls to Los Angeles, California, to make good the claim of having the line that extends over less ground—being barely a block long—and that carries more passengers daily than any other railroad in the world. This wonderful little road is situated at Third and Hill Streets, right in the heart of the business portion of the city, and is known as the “Angels’ Flight.” It is veritably a “flight,” for nothing less sure of foot than a mountain goat could climb where it does.

When, after years of experimenting, Col. J. W. Eddy, one of Los Angeles’ prominent and wealthy citizens, found a solution of the problem of how to overcome the mountainous stretch from Hill to Olive Streets, few of his townspeople took him seriously. Indeed, when Colonel Eddy put a force of men to work, the city engineer was just about to advertise for estimates on cutting down the hill. The estimates were tabled, however, pending the outcome of the “railroad in the air,” which was watched with wide-spread interest, while its inventor was the subject of much ridicule and many caricatures, his friends predicting a speedy parting between him and the money he had been years accumulating. Their fears have not been justified, for Colonel Eddy remarked casually to a friend a short time ago: “I am not worrying these days about making money; I must confess that it puzzles me a bit, though, to know how to spend what comes in.”

The rails of the incline are laid in two loops, one car starting down the hill when the other begins its upward journey. Each car runs on two cables, an active and an idle one, the latter being by way of safeguard in case of accident. Fortunately there has never been the slightest mishap on this the shortest, most unique, and most interesting little railroad in the world, and this is all the more remarkable as the Census Bureau at Washington, D. C., shows that last year the Angels’ Flight carried more passengers than any other railroad in America, and therefore more than any line in the world, the minimum being one thousand and the maximum four thousand per day. Two cars “Olivet” and “Sinai,” respectively, carry all passengers, but as travel increases with the mushroom-like growth of the flourishing southern California metropolis, Colonel Eddy is being put to his wits’ end to know how to meet it. It is his intention to put upper decks on the cars at once, and to increase the cables from ten to thirty horse-power. That will not long suffice, however, and he may be obliged to construct a parallel line, or to build on the opposite side of the street to that on which the line is now in operation. The road terminates in a pavilion with wide balconies, from which a superb view of the city may be had, and from which a steep flight of stairs leads to a tower, “Angels’ View,” where it is claimed the best camera obscura in the world is installed, and where excellent field glasses are provided to aid the vision in taking in the “Angels’ View” which is grand, overlooking, as it does, sea and mountains and near-lying city.

Through a tunnel under the hill the city’s heavy traffic finds its way, while the people adopt the pleasanter “flight” up over the mountain. The tunnel is dark, electric lights serving only to cast black shadows even at midday, damp, and filled with noisome smells, and the “Angels’ Flight” is the gainer thereby. Besides, one must walk through the tunnel, and no loyal Californian walks when it can possibly be avoided.—*Catherine Robertson Hamlin.*



THE world’s best swimmers are the Hawaiians.

The tomb of Mahomet is covered with jewels worth \$12,500,000.

An elephant can scent an enemy at a distance of one thousand yards.

A load of five thousand pounds can be carried with ease by an elephant.

In Iceland powdered codfish is sometimes used in place of flour to make bread.

The gloves worn by the pope are of the very finest wool, embroidered in pearls.

In summer weather the Eiffel Tower is eight inches longer than it is in winter.

The leaf of the begonia furnishes most of the patterns which adorn cashmere shawls.

It is stated that a locomotive engine going a mile a minute gives twenty puffs a second.

It is estimated that the wear and tear on American railroads pulverizes 427,000 tons of iron annually.

It is said that wolves slay about 800,000 domestic animals, valued at \$6,000,000, every year in the Russian empire.

Dogs are said to be quite susceptible to small-pox, and the owners of valuable canines often have them vaccinated.

In the capital of Honduras all the houses in the poorer quarter are made of mahogany, which costs less than pine there.

Russia has a larger proportion of blind people than any other European country, as two out of every thousand persons there are sightless.

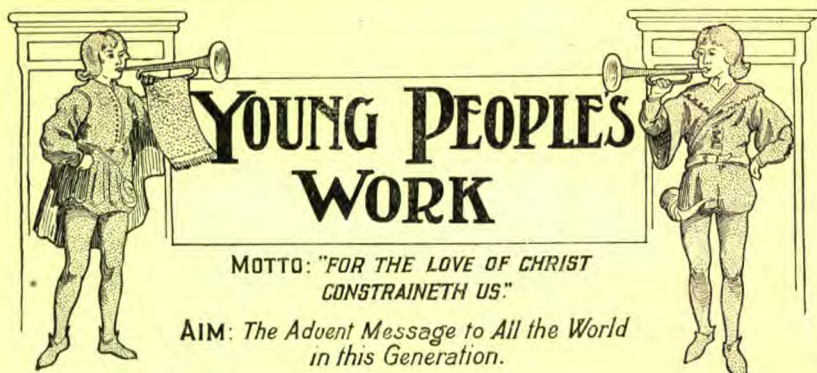
America ranks first in the paper-making industry, Germany second, and Great Britain third. The production in America is two or three times larger than that of Great Britain.

A petition seven miles in length and containing over 600,000 signatures is to be presented to the British Parliament next session, asking that a bill be passed prohibiting the vivisection of dogs.

There are no orphanages in Australia. Every child not supported by parents becomes a ward of the state, is placed in a private family and provided with board and clothes until the fourteenth birthday.

Celery is the cultivated variety of the English weed smallage. It was introduced into kitchen gardens in England about the time of the Reformation, by some Italians, who gave it the name “celeri.”

It is estimated by Darwin that there are one hundred thousand earthworms quietly at work for the advantage of the upper six feet of every acre of earth. They continually turn over the soil and drag down leaves and grass, and thus they loosen the soil and fertilize the ground, so that the necessary air can reach the roots that spread and grow.—*The Woman’s Magazine.*



Our Field — The World Spain

Program

OPENING EXERCISES: —

Song.

Scripture Reading: Texts on Work of Papacy.
Prayer.

LESSON STUDY: Spain.

General Description.

History.

Cities.

Spanish People.

Religion.

Our Work.

CLOSING EXERCISES.

General Description

To the Romans the peninsula consisting of Spain and Portugal was known as Hispania, but to the Greeks it was Iberia. A portion of the Iberian Peninsula about the mouth of the Guadalquivir River is thought to be the Tarshish of Scripture.

Spain is about twice the size of Great Britain, but lacks an area equal to Virginia and West Virginia of being as large as the State of Texas. Its population, however, is about five times that of the three States together.

"Spain once held vast colonial possessions, but these have gradually dwindled away until now her foreign territory is confined to a strip of land on the western coast of Africa, the Canary Islands, and some unimportant islands in the Pacific Ocean and elsewhere." Two of her possessions, Porto Rico and the Philippine Islands, recently came into the possession of the United States. She also lost Cuba at the same time.

Once Spain was the first of the European nations in civilization, and was one of the foremost commercial nations of the world; but for centuries she has been one of the least influential.

Through her aid to Columbus, she gave to the world America; but "the riches of the New World encouraged the natural indolence of the Spaniards, and caused them to neglect agriculture and the other industries of their own land for adventure with a chance for plunder; so when they lost their American possessions, which cut off a source of large revenue, the nation was greatly weakened." The lack of wise and efficient government has also been one chief cause of the deterioration of Spain.

Its present resources are agriculture, cattle raising, manufacturing of wines, raisins, canned fish, textiles, paper, and soap. Its mines are rich in copper, lead, iron, and quicksilver; but coal is not abundant. The forests of cork oak yield considerable returns, and tropical fruits are quite extensively grown.

Its History

Spain fell under the power of Rome during the reign of Augustus Caesar, and remained a Roman province for about four centuries. The Visigoths then gained possession, and held it until the Saracen, or Mohammedan, conquest in 711 A. D. Seven centuries of constant warfare, with three thousand battles, this is the startling epitome of Spanish history from the time Spain was conquered by the Mohammedans to the reign of Ferdinand and Isabella. At last, as a result of the long bloody strife between the conquered and

the conquerors, in 1492 Mohammedan rule in Spain ended by the conquest of Granada. The Moors were allowed to remain in the country, but under laws that made life very unpleasant for them. Philip III finished the work by expelling them all from Spain in the year 1609. By this unwise and un-

just act a million of the nation's best mechanics and farmers were driven from the country, and it never recovered from the loss of their labor.

Philip II, Spain's most ignoble monarch, ruined her by his long warfare against non-Catholics; an inhuman conflict that has placed on Spain a stain that can never be removed.

The defeat of the "Invincible Armada" in 1588 is only one small chapter in the history of events by which he reduced Spain from the leading country of Europe on his accession to the throne to a third- or fourth-rate power. For many generations after this, Spain had no history worth telling.

Its Cities

Madrid is the capital and largest city. It lies on a desolate table-land in the windy waste of New Castile. Mr. John Hay, in speaking of the inappropriateness of choosing Madrid for the capital, said: "Some cities have an attraction too powerful for the court to resist. There is no capital of England possible but London. Paris is the heart of France. Rome is the predestined capital of Italy. But there are other capitals where men have arranged things, and consequently bungled them. The great czar Peter slapped his imperial court down on the marshy shore of the Neva, where he could look westward into civilization. The greatness of Madrid was thrust upon it by Philip II. It seems hard to conceive how a king who had his choice of Lisbon, with its glorious harbor and unequaled communications; Seville, with its delicious climate and natural beauty; and Salamanca and Toledo, with their wealth of tradition, splendor of architecture, and renown of learning, should have chosen this barren mountain for his home, and the seat of his empire."

The people of Madrid are an easy-going people, and inveterate smokers. "A smoker of average industry will use a box a day. And this habit of smoking makes them the thirstiest people in the world;" so the water-carrier's monotonous call is heard throughout the city all day long.

Barcelona is the principal seaport and manufacturing city. Valencia and Malaga are among the leading commercial cities of Spain. Malaga is noted as a center of the fruit trade.

The Spanish People

As a nation the Spanish are brave and courteous and proud of their ancient glory. Many of the lower classes are poor and illiterate, but all are fond of gaiety and amusement. There is said to be no other people so frugal as the Spaniards, no other people who can make a little go so far. The Spanish people are affectionate, and the home sentiment is very strong among them.

"There is no other nation in Europe where so little bathing is done. The hatred of ablutions seems to have descended from those centuries of warfare with the Moors. The heathen washed themselves daily; therefore a Christian should not." Of late years this prejudice against bathing has given way somewhat.

At the very beginning of winter, the Spaniard gets out his capa, the national full round cloak, and never leaves it off until the hot spring days. He breathes no outdoor air all winter, except through his cloak. The women and girls, however, are not nearly so afraid of a tingling, bracing breeze as are the men.

"Tradition holds the Spanish intellect imprisoned as in a vice of iron; the whole life of the nation is fatally influenced by this blind reverence for things that have been."

Her Religion

For centuries Spain has been under the complete control of the Catholic Church. Everywhere are apparent the symbols and observances of the church. In an hour's walk in the streets of a Spanish city one may see a dozen ladies with a leather strap buckled about their waists, or with a knotted cord and tassels, all indicating religious vows or penances.

The Spanish girls are bright and intelligent, and if they were allowed an education, the power of the church would be broken much sooner. "Reverence for the church as distinguished from the fear of God, and reverence for the king as distinguished from respect for law, have been the ruling characteristics of the Spanish mind. Here everybody believed, and nobody inquired; there was no independent thought or discussion, no progress; hence the possibility of Spain's darkest crimes.

The Inquisition—that system of relentless persecution which numbered its victims by the millions—had its birth here, spreading thence over Italy, Portugal, France, and the Netherlands. Philip II, after only ten years of burnings and beheadings, boasted that not a heretic lived in his borders.

So completely had the Catholic Church taken possession of Spain, that in the year 1626 "there were nine thousand monasteries, besides nunneries. There were thirty-two hundred friars, or monks. In the diocese of Seville alone there were fourteen hundred chaplains. There was a panic in the land. Every one was rushing to get into holy orders. The church had all the bread. Men must be monks or starve. The country sank fast into famine and anarchy. In the stricken land nothing flourished but the rabble of monks and the royal authority."

In Spain's extremity, the Reformation knocked at her doors. Had she given a welcome to this broadening, enlightening influence, a speedy salvation would have been hers; but she tightly barred her doors, and shut herself up to papal darkness, and fearful results have followed.

Once more heaven is offering to her the light of truth. So paralyzed is she by her long subjection to Romish superstitions and heresies that she can scarcely reach out her hand to receive the proffered help; but now and then there is one who accepts and rejoices in the full and free salvation offered through Jesus Christ, as revealed in the last message of mercy to the world.

Our Work

Professor Wilkinson, in speaking of the opening of the work in Spain, says:—

Spain was first entered in the early spring of 1903, when a committee, composed of J. Vuilleumier, J. Roberts, and B. G. Wilkinson, was chosen to visit the land and secure information looking toward taking possession.

One year later, Brethren Frank and Walter Bond, who were in London as canvassers, and who had a working knowledge of the Spanish, were selected to go to Spain. They were immediately put in communication with a gentleman whose acquaintance we had made in Barcelona. They arrived in Barcelona in July, 1903, and two months later moved to Sabadell. Here a small school for the youth was opened. Meetings were held in the schoolhouse, the only possible place, as under the influence of the Roman Church the people refused to rent any available place for Protestant meetings. The result of their labors was that a number became interested in the truth, and three or four decided to obey. About this time Brother and Sister Robinson, who were laboring in Wales, and who also know the Spanish, were invited to come to help. A little later I was called to administer the rite of baptism to three of the converts. These firstfruits are precious in the eyes of the Great Shepherd of the sheep. May he guard them with his tender care, until they can behold a large company of redeemed

from this nation, and say, "Not man, but God, this work hath done."

We have now but one worker in this country, and there are but six Sabbath-keepers, with more than eighteen million groping in the darkness of Catholicism. Have we anything to do for Spain?

F. D. C.

Oregon Ingathering Service

ON Sabbath, October 20, the Salem church held its Ingathering Service. The church was well filled to listen to a program, which was presented largely by the children. The spread of the truth and support of our missions was the key-note of the service.

An interesting item was the history of the summer's work of the children. In the spring each child was given one cent to invest for missions. From twenty-five to thirty cents was the original capital. At the time of the Ingathering, though some had not yet brought in the proceeds of their investment, eight or nine dollars had been returned by the little folk. Aside from this, the value of the practical experience in missionary giving—the development of the missionary spirit among the little ones—can not be estimated in dollars and cents.

EDITH STARBUCK.

Report of Beacon Light Young People's Society, New York City

As we have read from week to week of the progress of other Societies, which are also trying to spread the third angel's message to the world in this generation, we esteem it a privilege to write and tell you of our work. Being in so large a city, we have more work than our numbers and finances will permit; but we find that there are many opportunities every day that seem small, but yet offer a way to help spread this message; such as handing tracts or papers to strangers, which may perhaps be the means of saving souls in the kingdom.

Although it is not a year since our Society was organized, we are beginning to lay definite

plans for missionary work. Before the New-year dawns upon us, we expect, with God's help, to have means raised for educating two native children in India. One member alone has given fifteen dollars toward this work. We know that each one will give as much as he can. We feel confident that the Lord will bless our Society if we are faithful in the work here, making the influence of our young people far reaching in this great city, so that a harvest of souls may be the result before the work shall close.

Mrs. F. T. GOODLIFFE, Leader.

Helpful Suggestions

As the winter months are coming on, some of our Societies may desire to organize more fully for active service. The following outline is in use in a very successful Society, and may be suggestive to others:—

1. PERSONAL WORK:—

- Study methods of personal work.
- Small bands to pray for certain ones.
- Visit families for religious conversation.
- Do all the personal work possible.

2. COTTAGE MEETINGS:—

- Look up places.
- Arrange for meetings.

3. LITERATURE:—

- Reading racks.
- Send papers to libraries.
- Place literature in hospitals and jails.
- Family Bible Teacher.
- Reading circle for the aged and crippled.

4. CORRESPONDENCE:—

- Send papers, and write letters.
- Write to isolated aged persons.
- Write to friends.
- Write to missionaries.
- Write to other Societies.

5. CHRISTIAN HELP WORK.

The one in charge of the work writes: "The young people have planned to take up these lines of work. All plans laid are substantial. The young people can be depended upon. We are taking up just what can be done, and all plans

are laid for permanent work. Each person has a definite line of work for which he is responsible."

L. FLORA PLUMMER.

Spanish Proverbs

"THE use of proverbs," said Mr. Hay, "is characteristic of an unlettered people. The common sense of the lower classes is condensed into these terse and convenient phrases, and they pass from hand to hand as the pence and farthings of conversation. They give a semblance of wit to the speech of the dull. Especially among a people who have no literature these traditional refrains are employed and valued." The following are some of the most pertinent every-day proverbs of the Spanish people:—

"The web will grow no wider when you have killed the spider."

"God helps the early riser."

"The wolf and the fox never come to hard knocks."

"He who goes to bed with dogs will get up with fleas."

"Let the giver be silent, and the taker speak."

"Do not squeeze the orange until the juice is bitter."

"He has spent everything to the wax in his ears."

"Bread is a cure for every grief."

"Stabs heal, but bad words never."

"A still baby gets no milk."

"A peach that is spotted will never be potted."

"Wed with a maid that all your life

You've known and have believed.

Who rides ten leagues to find a wife

Deceives or is deceived."

"If you take a cat to bed, do not complain of her claws."

"Every man in his own house, and God in everybody's."

"A long tongue weaves a short web."

"Vineyards and maidens are hard to guard."

"Pray! but swing your hammer."

"When we lie in wait for our neighbor, the devil lies in wait for us."

"God sends the cold according to our rags."

Summary of the Young People's Work for Quarter Ending June 30, 1906

Name of Conference	No. Societies	Members	Isolated members	Miss. letters written	Miss. letters rec'd	Missionary visits	Bible readings	Subscriptions taken	Papers sold	Papers given away	Books sold	Books loaned	Pages tracts sold	Pages tracts given away	Hours Christian help work	Persons fed Clothing given	Used in Home Missionary Work	Given to Mission Fields
Alberta	1	26	...	2	...	...	...	...	96	32	7	1	...	187	...	...	...	\$ 1.00
British Union Conf. ...	3	45	...	35	5	80	10	20	3380	101	57	10	...	33372	169	9	\$ 8.52	...
California	14	339	17	137	40	689	437	10	32364	3379	105	34	6478	17089	250	237	27.00	13.50
Central New England .	4	102	...	31	17	62	64	120	3217	3276	698	500	880	314	1012	26	16.00	3.25
Chesapeake	4	98	...	39	13	11	...	8	...	1431	...	...	...	1815	...	6	2.50	10.00
Colorado	21	436	6	58	47	148	11	33	558	1174	177	71	21	10063	57	17	6.04	29.51
Cumberland	3	70	10	66	16	500	92	6	2180	1712	120	6	450	1997	85	17	14.25	15.00
District of Columbia...	2	55	...	25	10	58	38	3	869	1649	4	5	38	170	40	18	7.32	...
East Michigan	7	134	...	8	4	222	112	3	338	1447	8	26	64	3180	48	7	2.26	4.12
Eastern Pennsylvania ..	2	25	...	23	2	151	60	24	334	28	62	1	152	14	2	...	2.00	6.48
Florida	3	30	...	134	67	68	25	6	50	348	12	2	...	5002	6	40	3.00	5.00
Georgia .....	...	...	5	63	1	104	12	5	107	17	12	...	...	8	3	4	.15	.10
Greater New York	3	45	...	19	5	154	22	13	80	651	14	10	180	12129	46	6	11.11	9.30
Indiana	11	152	4	1	4	55	...	...	386	411	2	3	...	6468	...	17	3.44	1.55
Iowa	10	126	19	87	45	109	73	9	295	988	3	8	563	41589	431	114	10.10	15.44
Louisiana	4	72	...	18	13	122	124	35	1097	494	40	10	...	2161	67	31	6.15	4.80
Maine	2	69	...	114	77	11024	12	60	4677	500	...	...	1171	2268	7	3	8.50	10.00
Maritime	2	44	...	6	...	12	...	1	476	739	7	14	560	6110	...	...	4.53	5.05
Minnesota	1	12	...	57	31	44	5	...	...	117	...	...	...	6900	12	6	...	...
Mississippi	6	57	5	24	27	33	48	...	380	268	...	3	48	352	20	...	.10	1.45
Newfoundland	1	25	...	3	3	5	...	...	70	50	...	...	...	...	...	2	.50	7.50
New York	7	59	14	68	10	48	20	57	2025	512	16	9	2	1630	187	41	7.75	3.10
North Carolina	3	55	1	2	2	13	15	...	71	490	236	8	...	315	...	150	1.50	4.39
North Michigan	15	173	11	59	42	169	131	7	504	510	415	26	3121	6747	209	...	6.15	8.45
Oklahoma	10	500	5	12	2	5	17	2	1900	294	48	12	1080	556	...	40	16.35	...
Ontario	2	27	...	7	...	14	21	2	230	201	52	9	550	2224	36	...	8.41	4.01
Quebec .....	...	...	4	8	...	...	...	...	8	160	...	3	338	...	...	...	...	...
Southern California ...	4	104	...	120	26	163	176	36	899	2813	5	48	...	6428	143	651	3.40	60.25
Southern Illinois	4	30	1	...	...	2	6	...	436	...	5	1	...	...	...	12	.87	...
Texas	3	112	...	33	18	288	33	22	924	650	68	11	94	114	30	19	11.03	.75
Upper Columbia	5	147	38	33	6	17	22	5	166	431	35	21	...	197	40	15	.40	1.00
Utah	2	29	3	11	10	20	...	8	495	569	2	3	72	1400	67	10	6.00	1.90
Vermont	2	30	5	3	2	...	...	...	...	...	10	1	...	158	...	...	...	...
Western Oregon	5	120	...	19	6	503	33	4	746	818	242	4	...	6510	52	1	1.15	3.48
Western Pennsylvania ..	7	116	10	10	4	39	9	16	300	72	8	2	...	330	2	2	8.00	...
Western Washington ..	4	98	...	2	...	1	...	...	447	112	...	1	...	75	...	...	...	...
Totals	177	3562	158	1337	555	14933	1629	515	60105	26454	2460	863	15862	177872	3021	1501	\$204.48	\$230.38

L. FLORA PLUMMER.



Early and Late

Go to bed early—wake up with joy;
Go to bed late—cross girl or boy.

Go to bed early—ready for play;
Go to bed late—moping all day.

Go to bed early—no pains or ills;
Go to bed late—doctors and pills.

Go to bed early—grow very tall;
Go to bed late—stay very small.

—W. S. Reed, in *St. Nicholas*.

God's Little Errand Girl

HESTER loved to do errands for her mother, and have her call her a faithful servant when she did them well. One day she had been talking with her mother about God, when she quickly raised her head, with a bright look in her eyes, and said: "Why, mother, then God is sending us on errands all the time. I am his little errand girl, too."

"Yes, dear; he has given us errands to do, and plenty of time to do them, and a book written full to show us how. Every day we can tell him how we try to do them, and ask him to help us; so when he calls us, we will run to meet him and give him our account."

"I like that," the child said, nestling back in her comfortable seat; "I like to be God's little errand girl."

"One of my errands is to take care of you," said her mother.

"And one of mine is to honor and obey you," said Hester, quickly.—*Selected*.

The Brown Towel

"ONE who has nothing can give nothing," said Mrs. Sayers, the sexton's wife, as the ladies of the sewing society were busily engaged in packing the contents of a large box, destined for a Western missionary.

"A person who has nothing to give must be poor, indeed," said Mrs. —, as she deposited a pair of warm blankets in the already well-filled box.

Mrs. Sayers looked at the last-named speaker with a glance which seemed to say, "You who never have known self-denial, can not feel for me," and remarked, "You surely think one can be too poor to give?"

"I once thought so, but have learned from experience that no better investment can be made, even from the depths of poverty, than lending to the Lord."

Seeing the ladies listening attentively to the conversation, Mrs. — continued: "Perhaps, as our work is finished, I can do no better than to give you my experience on the subject. It may be the means of showing you that God will reward the cheerful giver."

"During the first twenty-eight years of my life, I was surrounded with wealth; and not until I had been married for nine years did I know a want which money could satisfy, or feel the necessity of exertion. Reverses came with fearful suddenness, and before I had recovered from the

blow, I found myself the wife of a poor man, with five little children dependent upon our exertions.

"From that hour I lost all thought of anything but the care of my family. Late hours and hard work were my portion, and to my unskilled hands it seemed at first a bitter lot. My husband strove anxiously to gain a subsistence, and barely succeeded. We changed our place of residence several times, hoping to do better, but without improvement.

"Everything seemed against us. Our well-stocked wardrobe had become so exhausted that I felt justified in absenting myself from the house of God with my children for want of suitable apparel. While in this low condition, I went to

missive to my lot, with a prayer in my heart that those whose consciences had been addressed might respond. I tried in vain to sleep that night. The words of the text, 'Give, and it shall be given unto you; good measure, pressed down, and shaken together, and running over, shall men give into your bosom,' seemed continually sounding in my ears. The eloquent entreaty of the speaker to all, however poor, to give a mite to the Lord, and receive the promised blessing, seemed addressed to me. I rose early the next morning, and looked over all my worldly goods in search of something worth bestowing, but in vain; the promised blessing seemed beyond my reach.

"Hearing that the ladies of the church had filled a box for the missionary's family, I made one more effort to spare something. All was poor and threadbare. What should I do? At last I thought of my towels. I had six, of coarse brown linen, but little worn. They seemed a scanty supply for a family of seven; and yet I took one from the number, and putting it into my pocket, hastened to the house where the box was kept, and quietly slipped it in.

"I returned home with a light heart, feeling that my Saviour's eye had seen my sacrifice, and would bless my effort to do right.

"From that day success attended all my husband's efforts in business. In a few months our means increased so that we were able to attend church and send our children to Sunday-school, and before ten years had passed, our former prosperity had returned fourfold. 'Good measure, pressed down, and shaken together, and running over,' had been given us.

"It may seem superstitious to you, my dear friends, but we date all our success in life to God's blessing, following that humble gift out of deep poverty. He may not always think best to reward so signally those who give to him, but he is never unmindful of the humblest gift or giver.

"Wonder not that from that day I deem few too poor to give, and that I am a firm believer in God's promise that he will repay with interest, even in this life, all we lend to him."

Glances of deep interest, unmixed with envy, were cast from the windows at Mrs. —, as, after bidding the ladies adieu, she stepped into her carriage.

Her consistent benevolence had proved to all that in her prosperity she retained the same Christian spirit which, in her days of poverty, had led to the bestowal of the brown towel.

"Well," exclaimed Mrs. Sayers, "if we all had such a self-denying spirit, we might fill another box at once. I'll never again think that I am too poor to give."—*Our Young Folks*.

"A SONG, a song!" cries the eager world
When young life is at its best;
But the world-worn heart begs for a hymn,
Just before it goes to rest.
Sing, you who may, for the world to hear,
Its ballads I do not know;
I'll croon a hymn to the tired and old,
When the lights are burning low.

—Anna J. Granniss.



CLIMB, THOUGH THE WAY BE
RUGGED

church one evening, when my poverty-stricken appearance would escape notice, and took my seat near the door. An agent from the West preached, and begged contributions to the Home Missionary cause. His appeal brought tears to my eyes, and painfully reminded me of my past days of prosperity, when I could give of my abundance to all who called upon me. It never entered my mind that the appeal for assistance in any way concerned me, with my poor children banished from the house of God by poverty, while I could only venture out under the friendly protection of darkness. I left the church more sub-



Something About Photography — No. 5. Copying with a Common Camera

THE instruction books tell us that we can not use the common short-focus camera for making pictures of objects closer than, say, six or eight feet. If we do, we are "sure to make a badly blurred picture that will be quite worthless." How to overcome this difficulty is a real puzzle to many a photographer who wishes to do just this class of work.

There is a way to do it with the short-focus camera. We all know that the smaller the stop before the lens, the sharper the resulting picture will be. Objects that are quite out of focus and blurry with the full open lens are sharp and clear when a small stop is before the lens.

Now most cameras have small stops as well as large ones, but none are small enough for this class of work to which we refer. To get one we must make it. A piece of thin black paper is taken, and a pin or needle hole pricked through it. (If the hole is burned through with a very hot needle, it will be better, for then there will be no burr left.) This piece of black paper is now pasted just before the lens like a regular



stop, and the picture of any close object may be taken with your short-focus camera. See Fig. 1. The exposure will be perhaps a hundred or more times as long as with the usual stop, but the picture will come out as sharp and clear as one can wish for. In this way pictures of fruit, flowers, and other objects can be made that would be wholly impossible with the open lens.

A Good Fixing Bath Is Made as Follows

Sulphuric acid 1 dram, hypo soda 16 ounces, Sulphite soda 2 ounces, chrome alum 1 ounce (in cold weather $\frac{1}{2}$ ounce), warm water 64 ounces.

Dissolve the hypo in 48 ounces of the water, the sulphite soda in 6 ounces of water, mix the sulphuric acid with 2 ounces of water, and pour slowly into the sulphite soda solution, and add to the hyposulphite, then dissolve the chrome alum in 8 ounces of water and add to the bulk of solution, and the bath is ready. Unlike plain hypo, this bath will not discolor till after long usage, and is also a hardener of the film and a preventive against staining.

An Overexposed Plate and How to Develop It

Just what is an overexposed plate? — It is one that has been exposed too long a time to light in the camera. It develops evenly, very fast, and the shadows blacken almost as fast as the high-lights. The finished negative is wanting in contrast, full of detail, but lacking sufficient intensity in the high-lights. It is what photographers call "flat." Of course such a negative will make but a flat and poor print.

There are several ways of making a good negative, or at least a fair one, from an overexposed plate or film. As a general thing these ways and methods will work, but they are uncertain. One plan only is adapted to the every-day beginner in photography, and is capable of yielding good average results. Let us proceed to develop an overexposed plate by it.

Presently, on pouring the developer over the plate, we notice that it begins to blacken very quickly; and all parts of it blacken almost at once. No part of it remains clear and white for a considerable time after the rest has blackened. This is an infallible sign of overexposure. The question now is, What shall we do with the overexposed plate? "Add a few drops of potassium bromide to the developer," says one. Very well, you may do this, but you will thereby spoil your developer for any other properly exposed plates you may wish afterward to develop in it. Another photographer will say, "Remove the plate at once to another tray, containing a developer strong in pyro and bromide of potassium." This also is good, and will work well, but either process is more or less troublesome, and there is an easier way.

Now the longer a plate remains in the developer, the more contrast it gains; that is to say, the blacker parts of the plate will get blacker and blacker, but the lighter and whiter parts will not darken as fast proportionately; and thus great contrast is possible by long development. It does not matter whether the plate is underexposed, correctly exposed, or overexposed, the longer it remains in the developer, the more contrast it will gain. Now, the common trouble with an overexposed negative being lack of contrast, we can go back and finish developing the one we just left.

The whole image has flashed up suddenly, and is rapidly growing blacker and blacker, but we neither add bromide, use strong developer, nor fix it before "it gets too black." Remembering what we have learned about contrast, we simply leave the plate in the developer till it acquires the contrast we wish it to have, and if it has not been greatly overexposed, it will come out all right.

However, do not expect an overexposed negative developed in this way to look like a commonly exposed and developed one. No, indeed! for it will really be very, very dense. It will require a long time to print, but the chances are, it will print well. If one is impatient and really "must" make a quick-printing negative out of it, he will be able to reduce its density any desired amount in the following manner: —

Reducing Negatives

If, for any reason, a negative has been made too dense and strong, so that it requires a very long time to print, it can be made less strong and dense. The remedy is to reduce it by the following method: —

First soak the negative ten minutes in water, so as to thoroughly soften the film, then immerse in the following solution: —

Water 5 ounces
Hypo-sulphite Soda $\frac{1}{2}$ ounce
Red Prussiate Potash (saturated sol.) 20 drops

Rock the tray as when developing, until negative has been reduced to the desired density, then wash ten minutes in several changes of water. A properly developed overexposed negative, is nearly always too dense, and may have its printing qualities much improved by this method.

Two Kinds of Developing Paper

The two pictures shown here were printed

from the same negative. One is printed on what is known as "carbon," or "contrast," developing paper, and the other is on "special portrait," or "detail," developing paper. The contrast paper yields a contrasty print, while the detail paper makes a much less contrasty one. These two papers are intended to be used with the two great



classes of negatives — the contrast paper with negatives that are flat and lack contrast, and the detail paper with negatives that already have too much contrast. It is well to have a package of each on hand, and good prints can be made from almost any negative. These papers are for sale by all the dealers.

Don't Hurry Too Much

Nearly every one appreciates beauty. If I place two pictures before you, — both good photographs, both of the same subject, but one taken from the true artist's standpoint, and the other from the careless snap-shooter's, — I know that you will recognize in an instant the better, more beautiful picture. And if you can do it in pictures, you can also do it in nature when you are taking pictures, if you will. That is just where the artist-photographer differs from the mere camera user: he looks at the scene and studies it till he has found the place from which it looks the best. It takes time and patience to do that way, but it pays him, and it will be profitable to you; for we who follow photography or art in a small way can not do better than use the successful methods of men whose lives are given to practical work of the same kind.

EDISON DRIVER.

1714 K St., Fresno, California.

Don't Give up the Fight

LET not your heart be worried,
And do not be afraid;
Your doubts should all be hurried
Away from you, and laid
So deep that they will never
Again cause you to grieve;
For wrong will go forever
When God once makes it leave.

"Let not your heart be troubled,"
For there is peace ahead;
And care is always doubled
When you declare hope dead.
Don't let the weight of sorrow
O'erwhelm you with its might;
'Twill all come right to-morrow,
So don't give up the fight.

Let not your heart be saddened,
For present woes will flee;
And, on the morrow, gladdened
By coming joys you'll be.
Confess your faults, dear sinner;
Forsake them, every one;
If you would be a winner,
Keep fighting till you've won.

Let not your heart be hardened
When things go wrong with you;
And, if you'd still be pardoned,
Keep living right and true.
With hate and gloom forsaken,
The future ways look bright;
Then, God's sweet pity waken,
And don't give up the fight.

BENJAMIN KEECH.

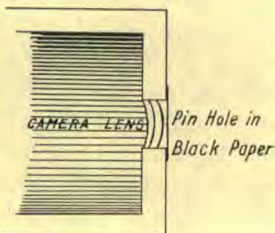


Fig. 1.

BIBLE READERS COURSE

Scripture Enigma

1. SWEET home! from whence the feet of Jesus sped,
With tender sympathy to raise the dead.
2. 'Twas Rezin's mighty king this city chose,
To give Syria, driving thence her foes.
3. From out these vineyards came a lion wild,
In angry rage, 'gainst Manoa's favored child.
4. Within this city's walls they mourned for shame,
When evil tidings of Damascus came.
5. An aged patriarch, ere he closed his life,
Bade his loved son go seek from thence a wife.
6. Oh! woe was thine, for those who dwelt in thee
Through Israel's sword, entered captivity.
7. This city of the Jews, in peace he trod,
Waiting in faith the kingdom of his God.
8. There the disciples saw their risen Lord,
And worshiped him, though not with one accord.
9. "Go to this land," he said, "there corn to buy;
Hasten, my sons, or we shall surely die."

Nearing Jerusalem, to this place they came
(My nine initial letters tell its name)
Where Jesus bade his two disciples speed,
To loose a colt, and say, "The Lord hath need;"
Thine, mighty God, is all on land and sea;
Yet wondrous love! the Lord has need of thee.

—Selected.



INTERMEDIATE LESSON

X—Signs of His Coming

(December 8)

MEMORY VERSE: "And there shall be signs in the sun, and in the moon, and in the stars." Luke 21:25.

REVIEW.—Jesus said he was going away to —. He promised to —. When he was taken up, a — received —. As the — were gazing into — two — stood by them, and said —. They said that as — was taken — he would —. Jesus will appear to those who —. He will come with —, and every — shall see —. All kindreds of earth shall —. Some will say in that day —. The coming of Jesus can be seen like —. He will send —, and they shall gather —. He will have — with him, and will give —.

Questions

1. What question did the disciples ask Jesus as he sat on the Mount of Olives? Matt. 24:3.
2. Of what did he tell them to take heed? Verse 4.
3. How did he say they might know when his coming was near? Luke 21:25.
4. Where did he say these signs should be seen? Matt. 24:29.
5. What was the sign to be seen in the sun? How would the moon appear?
6. Give the date when these signs were fulfilled. Answer.—May 19, 1780. What does Webster's dictionary say of this dark day? Give other testimony concerning it. How did the

people who saw this darkness feel concerning it?

7. How did the moon appear on the night following the dark day?

8. What other sign was to be seen in the sky? Mark 13:25.

9. To what were the falling stars compared? Rev. 6:13.

10. When was this sign fulfilled? Ans.—Nov. 13, 1833.

11. In what part of the earth did the stars fall? To what was their first appearance compared? How thickly did they fall? How did the whole heavens appear? Give the experience of one boy who saw the stars fall.

12. How long a time has passed since the stars fell?

13. What takes place after all these signs are fulfilled? Mark 13:26.

14. Though the Saviour does not come as soon as we might expect, what should his people do? Hab. 2:3; Heb. 10:36, 37.

Lesson Story

A short time before Jesus died, as he sat upon the mount of Olives, the disciples came to him privately, saying, "Tell us, when shall these things be? and what shall be the sign of thy coming, and of the end of the world? And Jesus answered and said unto them, Take heed that no man deceive you."

Then he answered their question by saying, "There shall be signs in the sun, and in the moon, and in the stars." "The sun shall be darkened, and the moon shall not give her light, and the stars shall fall from heaven." Speaking of the same signs, the prophet Joel says, "The sun shall be turned into darkness, and the moon into blood, before the great and the terrible day of the Lord come." Isaiah wrote, "The sun shall be darkened in his going forth, and the moon shall not cause her light to shine."

The sun was darkened May 19, 1780. In his Dictionary, Noah Webster said:—

The dark day, May 19, 1780, so called on account of a remarkable darkness on that day, extending over all New England. In some places, persons could not see to read common print in the open air for several hours together. . . . The true cause of this remarkable phenomenon is not known.

Elam Potter, M. A., says:—

People left their work in the house and in the field. Travelers stopped; schools broke up at eleven o'clock; people lit candles at noonday, and the fire shone as at night. . . . A great part of the following night was singularly dark. The moon, though in the full, gave no light.

Milo Bostwick wrote:—

The nineteenth of May, in the year 1780, I well remember. The morning was clear and pleasant, but somewhere about eight o'clock my father came into the house and said there was an *uncommon appearance* in the sun. There were not any clouds, but the air was thick, having a smoky appearance, and the sun shone with a pale, yellowish hue, but kept growing darker and darker, until it was hid from sight. . . . My father and mother thought the day of judgment was near. They sat up that night, during the latter part of which they said the darkness disappeared, and then the sky seemed as usual, but the moon, which was at its full, *had the appearance of blood*.

"And the stars of heaven fell unto the earth even as a fig-tree casteth her untimely figs, when she is shaken of a mighty wind." The stars fell the night of Nov. 13, 1833. In "Burritt's Geography of the Heavens," is found this description of the falling stars:—

But the most sublime phenomenon of shooting stars, of which the world has furnished any record, was witnessed throughout the United States on the morning of the thirteenth of November, 1833. The entire extent of this astonishing exhibition has not been precisely ascertained; but it covered no inconsiderable part of the earth's surface. The first appearance was that of fire-works of the most imposing grandeur, covering the entire vault of heaven with myriads of fire-balls resembling sky-rockets.

Horace Greeley said:—

While a mere lad, I was waked in the night to see a pale, frightened face bending over me, and to hear, "Get up! get up! the day of judgment has come, I believe, for the stars are falling."

"And then shall they see the Son of man coming in the clouds of heaven with power and great glory." The signs Jesus gave to show when his coming is near are all past. If he tarries, we are to wait for him; "for yet a *little while*, and he that shall come will come, and will not tarry."

THE YOUTH'S LESSON

X—Testimony of the Ages

(December 8)

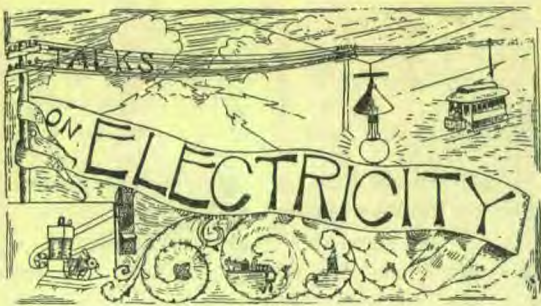
MEMORY VERSE: "We have also a more sure word of prophecy; whereunto ye do well that ye take heed, as unto a light that shineth in a dark place, until the day dawn, and the day star arise in your hearts." 2 Peter 1:19.

Questions

1. From the very beginning, what has God done? Isa. 46:9, 10.
2. When we see these things being fulfilled, what may we know? John 13:19.
3. What was one of the first prophecies given to men? Gen. 3:15.
4. To what extent has this prophecy been fulfilled? Gal. 4:4.
5. When will it be entirely fulfilled? Heb. 2:14; Rev. 20:10.
6. With what promise was this prophecy repeated more in detail in Isaiah's day? Isa. 7:14.
7. What can you tell about its fulfilment? Matt. 1:18, 22, 23.
8. In what city did the prophet say Jesus would be born? Micah 5:2.
9. Did the Jews expect this prophecy to be fulfilled? Matt. 2:3-5.
10. How literally was it fulfilled, and by what means? Luke 2:1-6.
11. How definitely was the time of Christ's anointing and crucifixion foretold? Dan. 9:24-27; note.
12. What prophecy was fulfilled in Jesus' triumphal entry into Jerusalem? Zech. 9:9. See Matt. 21:1-11.
13. What did the prophet foretell concerning the death and burial of Jesus? Isa. 53:8, 9.
14. Trace the fulfilment of these words. Matt. 26:57; 27:2, 57-60.
15. How were the prophecies given? 2 Peter 1:21.
16. Seeing the prophetic word concerning Christ was fulfilled, what may we know of the prophecies found in God's Word?
17. In view of this, what are we exhorted to do? 2 Peter 1:19.

Note

In the prophecy of the 2300 days of Dan. 8:14, the exact date of the crucifixion of our Lord was foretold. This period began with the "going forth of the commandment to restore and to build Jerusalem." This decree went forth 457 B. C. See Ezra 7. At the end of sixty-nine weeks, or 483 years, the "anointed One, the Prince," was to appear. Christ was anointed at his baptism with the Holy Spirit, A. D. 27, and began his work as the Messiah. After his baptism he came into Galilee, "preaching the gospel of God, and saying, *The time is fulfilled.*" No doubt he referred to prophetic time. In the midst, or middle, of the week, or three and one-half years later—A. D. 31—he was to be cut off, or be crucified, thus causing the "sacrifice and the oblation to cease." It would be well in this connection to make a careful study of the 2300 days. See "Thoughts on Daniel and the Revelation," or "The Sanctuary and Its Cleansing."



Wireless Telegraphy—No. 3 Secrecy of Messages

WITHOUT secrecy no system of wireless telegraphy can ever become a commercial success, or compete with the present telegraph or cable systems. For this reason it is necessary to employ a system of tuning, or syntonizing, so that only the receiver in tune with the transmitter sending the message can take up the message. Were it not possible to do this, every receiver could read any message that came its way. Mr. Marconi has given much attention to this phase of the work, and has succeeded in constructing a receiver which responds only to a certain transmitter. If the transmitter sends out waves which vibrate at the rate of two hundred million times a second, the corresponding receiver is syntonized to receive waves of that vibration alone.

An illustration or two will show the success of Mr. Marconi's efforts better, perhaps, than anything else could do. He has two stations thirty miles apart, one near Poole, and the other near St. Catherine's on the Isle of Wight. Mr. Marconi's latest appliances are installed at these places. They are so adjusted that each receiver at one station responds only to its corresponding transmitter at the other. Two operators at St. Catherine's sent at the same time two different wireless messages to Poole, and without delay or mistake the two were correctly recorded at the same time on the tapes of the two corresponding receivers at Poole. In this case each receiver was connected to its own independent aerial wire hung from the same mast. Mr. Marconi then had the receivers at Poole placed one on top of the other, and connected them both to the same wire, about forty feet in length, attached to a mast. Two messages were then sent at the same time, one in English and one in French, by the operators at St. Catherine's. Again each receiver at Poole rolled out its paper tape, the message in English on one and that in French on the other. It is a wonderful phenomenon, for those dots and dashes recorded by the receivers were "the result of trains of intermingled electric waves rushing with the speed of light across the intervening thirty miles,

caught on one and the same short wire, and disentangled and sorted out automatically by the two machines into intelligible messages in different languages."

Station Wires

One of the important features of the wireless apparatus is the employment of an elevated conductor, which



WIRELESS TOWERS

generally takes the form of a wire suspended from a mast. The tops of the long poles used at the Cape Cod station are about three hundred and sixty-five feet above the level of the sea, and are placed in a circle, as the illustration shows. For extreme distances, like that between the American and British coasts, there is used a large connection of wires hung from immense towers. Those of the new station on Mount Tamalpais, California, are gigantic. The bases of the towers are twenty-six hundred feet above sea-level, and the apexes twenty-nine hundred feet. They can be seen for

a radius of fifteen miles in clear weather. The hoisting of these immense towers weighing sixty tons each was a most difficult and daring feat, for each was hoisted intact—all complete. From these towers an electric current will flash signals which may be heard not only in Hawaii and far-off Samoa, but even on the eastern shores of Japan and the Philippines.

Uses of Wireless Telegraphy

It is of special value for military and naval purposes. All the navies of the world have adopted it. Communication by two bodies of troops within several days' marching distance of each other is possible, portable stations being used. Each station comprises three two-wheel carts,—the power cart, the apparatus cart, and the tool cart. A very light portable wireless outfit to be used by the German army in Africa has been devised. It is a bicycle fitted up with a dynamo, and all the other necessary appliances. During the late Russo-Japanese war a very considerable use was made of wireless telegraphy by both combatants, and it was also used most successfully by the London *Times*, whose special correspondent on board a small steamer equipped with a De Forest apparatus was able to send dispatches from the scene of action around Port Arthur direct to the Chinese coast. This work was, however, stopped summarily by the Russian military authorities.

A Boston inventor has devised a means whereby vessels can under all conditions of weather determine their bearings. Being provided with charts that give the location of all lighthouses and prominent landmarks, the navigator receiving a message from a lighthouse which is invisible from fog or distance can easily determine his exact location, as each lighthouse has a distinctive name or number, and is provided with a transmitting instrument adapted to continually repeat its name or number. The vessel's receiving instrument takes up the Hertzian waves from two or more of these, and thus gives to the captain the ship's exact location.

Vessels can communicate with one another, and with the mainland, if they carry wireless outfits. Ships one thousand miles or more apart in mid-ocean have kept in communication by wireless telegraphy. The Cape Cod station has made it possible for travelers crossing the ocean to be constantly informed of the news of the world. Daily papers are now printed on board vessels.

Ship owners find it a great convenience. A captain bringing his ship home five years ago could not possibly ascertain what docking arrangements had been made for him in New York by the owners until he met the pilot-boat. To-day by means of wireless telegraphy a vessel far out on the Atlantic can be informed of all detailed arrangements, so that baggage and cargo can be gotten ready for immediate landing on the arrival of the vessel in port.

The application of wireless telegraphy to burglar alarms for safes has been carried out successfully by a well-known firm of British safe builders. There are no wires for the burglar to cut before tampering with the safe, so it is more dependable than other forms of electric alarms.

Official reports from some of the stations show that wireless telegraphy has already been the

means of lessening and averting many disasters on the sea. The naval torpedo station at Newport, Rhode Island, reported eleven messages received during the year 1905 from disabled vessels. One vessel was jammed in the ice, another had run down a schooner, one had her low-pressure piston broken, another had a collision with a steamer in a fog, and all were in a serious condition. Help was immediately dispatched to these vessels, and though in some instances the ships finally sank, all lives were saved.

Wireless telegraphy is still in its infancy, yet it has accomplished wonderful things, and is destined when perfected to be one of the world's best servants.

Trouble with Japan

THE San Francisco Board of Education a few weeks ago adopted a resolution providing that all children of Oriental parentage should be excluded from the public schools, and required to attend schools set apart for them. This was enforced on the fifteenth of October. The Chinese and Koreans acted upon the decision of the board, but the Japanese kept their children at home, and sent in a protest to the school board.

Before the fire the Chinese and Koreans were restricted to their own school, but the Japanese were admitted to any of the public schools of the city. The labor unions and the Japanese and

Chinese Exclusive League are held responsible for this unwise discrimination.

Japan resented this action on the part of the San Francisco authorities, and Ambassador White sent a report to Washington. In reply to this, Secretary Root said:—

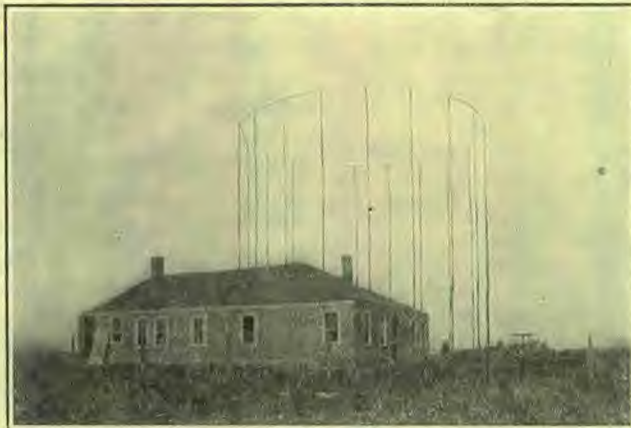
The purely local and occasional nature of the San Francisco school question should be appreciated when the Japanese remember that Japanese students are welcomed at hundreds of schools and colleges all over the country. You may assure the government of Japan in most positive terms that the government of the United States will not for a moment entertain the idea of any treatment toward the Japanese people other than that accorded to the people of the most friendly European nation, and that there is no reason to suppose that the people of the United States desire our government to take any different course. The President has directed the Department of Justice to make immediate and full investigation.

The Japanese ambassador at Washington called upon the Secretary and asked in behalf of his government that the Japanese in California be accorded their full right under the treaty of 1894.

The President has been quite concerned over the situation. According to the Constitution the central government has no authority over the schools of San Francisco. They are managed by the State. The President has, however, asked Mr. Metcalf, a member of the cabinet, to visit the local authorities to see if an immediate revision can not be secured.

These two nations have long been on too friendly terms to allow so useless and unwise a measure to estrange them, and possibly result in war.

TO-DAY, November 13, 1906, marks the seventy-third anniversary of the falling of the stars foretold by the Word of God as one of the signs of the coming of the Saviour. Behold, our redemption draweth nigh.



STATION AT CAPE COD