

The YOUTH'S INSTRUCTOR

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No. 1



Courtesy of the Woman's Home Companion



"IN France some one has invented a machine that absorbs the dust from school-books and passes them through a bath of disinfectant. They are then placed in a hot-air cabinet, and thoroughly dried. After this process, they are ready to be used by the next class."

THE *Washington Times* says that there is no more sure cure for an attack of faintness than a hearty sneeze; it immediately stimulates the blood-vessels of the brain. A grain or two of pepper, snuff, or tobacco, introduced into the nose, or tickling its interior lightly, will usually insure a sneeze. These simple procedures, or others similar in character, may prove invaluable when smelling-salts and other elegant aids are absent.

A NEW scaffold for use in the erecting of high buildings was introduced and exhibited in November at the Exposition of Safety at the museum in the Engineering Societies' Building, New York City. The erection of the modern sky-scrappers has taken its toll in human lives. In five years in New York alone there were 660 deaths caused by falls from new buildings, while 177 deaths were caused by falls from scaffolds alone. Since the introduction of the new form of scaffold, there have been no fatal accidents where it is in use.

The Musician's Method

WHEN Richard of England, on his way back from the Crusades, was waylaid by his enemies, and imprisoned in a remote castle in Austria, his bereaved subjects had no clue to his whereabouts. But in his household there was a French musician, Blondin, who resolved to discover his master. If he had used the methods which the statesmen of the realm were employing, he would have stood at a great disadvantage, because they were adepts in their business; but there was one art in which he stood alone.

The king and he had spent long hours together, as true troubadours, inventing lays and sonnets, with which they two were alone acquainted. This was his perquisite, his talisman, his clue; and, singing these lays through Europe beneath the windows of each frowning fortress, he finally heard them repeated by a manly voice which he knew and loved, and in that repetition was assured that he had discovered the prison of his captured lord. This led to Richard's emancipation, by the payment of a heavy fine.

So the minister of the gospel, like another troubadour, has to go through the world with one instrument in his hand, the Bible, the strains of which he must elicit with no uncertain touch, confident that they will secure a deep response from the heart of man. From each man's conscience in God's sight the answer comes back to the Word of the Eternal, which proves that the Creator of the one was the Author of the other.

No one can vie with the minister in this special office, which has been entrusted to him by Christ, when he said through the apostle to all his *Timothies*, "I charge thee therefore before God: . . . Preach the Word; be instant in season, out of season; reprove, rebuke, exhort with all long-suffering and doctrine. For the time will come when they will not endure sound [i. e., healthful] doctrine; but after their own lusts shall they heap to themselves teachers, having itching ears."—*F. B. Meyer*.

What Books Seem to Say

PLEASE don't handle me with dirty hands. I should feel ashamed to be seen when the next boy borrows me.
 Don't leave me out in the rain. Books catch cold as well as children.
 Don't make marks on me with your pen or pencil. It will spoil my looks.
 Don't lean on me with your elbows when you are reading me. It hurts.
 Don't crack my back-bone. My back-bone is the only thing that keeps me together.—*Selected*.

"Our Little Friend"

ARE you acquainted with "Our Little Friend"? This favorite of children wishes to extend its acquaintance and usefulness, and is therefore willing to make a special visit to the home of any child or its parents who would appreciate an interview with a "friend" of such good character. Simply make the request, and we will send the special double holiday number with beautiful colored covers.

OUR LITTLE FRIEND, *Mountain View, California*.

"I'll Stand the Pain"

EVERY one remembers the awful Park Avenue collision in New York City. One of the sufferers was a young man named Peter Murphy. His feet and legs were caught beneath the engine that had telescoped the car. He had worked one leg free and was about to pull the other loose when the roof of the car fell on both legs.

While he hung there in agony, Battalion Chief Farrel, of the Fire Department, came along, and Murphy begged him to lift the timbers off his legs.

"If I do that," said Farrel, "the roof will fall on the others inside. There are women there."

"I didn't think of that," said Murphy. "Let it stay. I'll stand the pain."

Heard you ever anything more praiseworthy? So he waited, a long, terrible half-hour, till his fellow sufferers were dragged from under the ruins. Himself he could not save. No wonder that on the ninth of March following (this was in January) two thousand people escorted the crippled hero from Bellevue Hospital to his home in New Rochelle. It was a tribute to something far finer than to the man of courage who only fights.—*Pilgrim Teacher*.

A New-Year's Hint

"WHAT are you going to be next year?
 Better, or worse, or the same, my dear?
 If you're not better, you'll surely be worse:
 Nothing stands still in the universe."

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The Youth's Instructor

VOL. LIX

TAKOMA PARK STATION, WASHINGTON, D. C., JANUARY 3, 1911

No. 1

What Business Men Have to Say of Boys

A RECENT number of *Good Housekeeping* devoted considerable space to a symposium on the boy problem. Leading business men and noted educators talked plainly and wisely of the faults of the average present-day boy, and pointed out some of the things that prevent the boy from measuring up to the business man's standard for him as a factor in the business world.

The following paragraphs, taken from this symposium, will be of interest to all sensible, ambitious boys, as well as to those who have the responsibility of helping to prepare the boy for his place in the work of the world.

Need of Home Duties

Mr. William Orr, deputy commissioner of education, State of Massachusetts, says:—

From my observation there is serious danger because, through the increase of wealth and the artificial conditions of city life, many boys are not given the every-day tasks in connection with the home that develop a right sense of responsibility. The duties set for boys of an earlier generation had an educative value in putting a youth upon his own resources to accomplish results with the tools and means at his command. Out of such experience came initiative,—ability to meet new situations,—and a determination to accomplish one's purpose. The virtue of thrift was inculcated, because the boy came to understand what it meant in the shape of time and labor to gain money.

The schools are, through various activities, undertaking to make up in some measure for the loss of such training and discipline; but at the best, the schools can do but little to take the place of the home and of parental oversight and authority.

It is highly important if boys are to grow into men, vigorous in body and resourceful in mind, that this home training should once more find a place in the education of our youth.

Hard Knocks Are Salutory

Mr. Herbert Myrick, president of *Good Housekeeping*, says:—

Necessity is the mother of effort. Experience is the great teacher. The poor boy or girl who is forced to struggle—not too hard, however—has a certain advantage over the children of well-to-do parents. Emerson uttered a great truth when he wrote, "Cast the bantling on the rocks." The youth so reared as not to be obliged to work finds it difficult to get work if he really desires it. He goes to school and college until he is twenty or twenty-four, only to find that he has then to learn how to work. Under such conditions, this is not so easy as it would have been four or six years earlier. Such boys should have at least one year of hard work and varied effort between high school and college. The job, preferably, should be one that will put them up against all sorts of people. Except in a few sensory pursuits, a boy or a man must know human nature and how to handle it, if he is to "get along."

A fond father brought his son of eighteen to consult with me about the boy's preparation for the ministry. The father did all the talking until I asked him to keep still, and let the boy speak for himself. He was a guileless lad, had always been at school, had failed to get any experience to reveal his bent, and his only predilection for the sacred profession was that "pa wants me to be a preacher."

"Young man," I said, "go peddle papers in the slums and in the back country districts. Learn how people live, love, hate, hope, trust, and distrust, their joys and sorrows, ups and downs—how to get next; how to earn their confidence. If you learn how to sell a good periodical, you will find this knowledge of practical value when you undertake to sell them religion, law, or medicine, or bricks, beads, or brocades. Go direct from school to college and theological seminary, and seven years hence you will issue forth long on theology but short on common sense. Get some 'ginger' and 'horse sense' in your make-up now, by hard knocks among all sorts

of people. This experience will be the 'liberal education' you need to supplement your book studies. It will so broaden your mind, expand your comprehension, quicken your sympathies, enlighten your soul, as to almost double the value of any college course that follows, and this whether you come out a preacher, farmer, or mechanic."

Each boy is different, but all should get a variety of experiences sufficient to develop their natural bent, then train along the line of special capacity. How frequent the awful tragedy—the man who barely exists in some vocation only to find, when too late in life to change, that nature endowed him with talents that would have won recognition in another field! I do not refer to mere money-getting, which, while important to a degree, is by no means the measure of true success.

Youth deprived of the chance to overcome obstacles, who do not have to struggle, must be exceptional beings to make up in other ways for this lack in their evolution. The boy who earns his automobile, or builds it himself, is more likely to be a credit to himself, an honor to his parents, and an asset to the state, than the lad whose doting parents give him a gilded machine, with perhaps a too-much gilded chauffeur to go with it. Sugar-teats make babies, not men. The infant suckled by a virile mother, whose childhood is guided by a wise father, who learns to do by doing as well as by studying books, who gets some knocks from nature at eight to sixteen,—such a youth, boy or girl, has a tremendous advantage over the merely pampered.

No Sense of Obligation

The pointed words which follow are from the treasurer of a great manufacturing concern known to every reader:—

We have had hundreds of boys in our office, and have kept in close touch with them and their development; as a result, we have a pretty well-settled conviction that the average boy is not looking for an opportunity to succeed. He is looking for the largest immediate money return, rather than for an opportunity to get a training that will increase his earning power for the future. Unfortunately, he frequently assumes that attitude under parental guidance.

We have also noticed that the average boy has no sense of his obligation to his employer. It seems that only one out of every hundred has had any instructions or training at home as to what is due his employer when he enters a business office. He is lacking in application, in concentration, is jealous of his hours of work, and resents any necessity of remaining after hours as an encroachment upon his vested rights, so to speak. He seems to be controlled by one principle,—to give the least he can, and get the most.

We are sure there is room for improvement in many of the boys to-day who have recently entered business offices; and if they could be taught in their early years, while they are receiving their training, that there is a truer measure of success than the money compensation, we are sure their ultimate success would be greater, and their lives made richer and happier.

Of course there are exceptions. We do not wish to create the impression that all the boys fall short. We have had some very excellent ones who have measured up to their own opportunities and to our expectations in a most satisfactory way; but we regret to be compelled to state that our experience has not developed a very high regard for the great majority of boys who are found in business offices to-day.

Indolent, Insolent Town Boys

The following words from the treasurer of the Baird-North Company, of Providence, Rhode Island, are well worth considering by the boy who has a desire to make a real success of life:—

"What sort of boys do we like in our employ?" We like solid boys—boys who have at least a faint idea of what they are living for; boys who are frank and honest; boys who are not afraid of work; boys of high ideals, who are as anxious for promotion as we are anxious to see them succeed; boys who will accept responsibility; who can and will "deliver the goods."

(Concluded on page nine)

GOOD MANNERS

Suggestions of Worth

SLIGHT inaccuracies in statements should not be corrected in the presence of others.

Men having occasion to pass before women seated in lecture- and concert-rooms, and all other places, should "beg pardon," and pass with their faces, not their backs, toward them.

To whisper and laugh during any public entertainment proclaims one's ill-breeding, and invades the rights of others.

When a woman is visiting, any acquaintance who should call upon her should also ask for her hostess, and if she is absent, leave a card for her.

It is considered very bad taste for a young girl to address by his Christian name a man with whom her acquaintance is but slight.

When a young man is paying a visit, and the older members of the family are in the room, he should, in leaving, bid them good-night first, and afterward say his farewell to the young girl on whom he has called. It is in bad taste for her to go any farther than the parlor door with him.

There is very great harm in young girls meeting young men in secret; the men will have no respect for the girls, and nothing but mortification for the girls will be the result.

It is not good taste for different members of a party to go off in pairs, and spend the evening alone on the seashore.

A woman is not supposed to recognize a man who is one of a group standing in a public place, since a modest girl will not look close enough at a group of men to recognize an acquaintance.

An unmarried woman writing her name in a hotel register should prefix it with "Miss" in parentheses.

When a man who is to escort a girl to an entertainment calls for her at her own home, it is proper for her to appear with her wraps on, and be ready to start at once.

If a girl of sixteen goes to an evening affair, her mother should arrange to have either a servant or a member of the family go after her to bring her home.

If one, on meeting another, fails to recall the name, he should frankly say so.

One ought never to leave the house after the evenings entertainment without bidding the hostess good night, and acknowledging the pleasure the evening has afforded him.

It is very unbecoming to exhibit petulance or angry feeling, though it is indulged in largely in almost every circle. The true gentleman does not suffer his countenance to be easily ruffled.

One is judged, to a great extent, by the character of his associates.

A man should show as much courtesy to a woman in his employ as he does to the women he meets in social life.

It is always proper and courteous for a person in church to share either prayer-book or hymnal with any one who may be without either.

If a stranger takes occasion to be polite to one during a street-car accident, all that is necessary is a polite "Thank you."

If a man is courteous enough to open the door of a store or any public building for a woman, she should thank him.

After having taken a meal or having received any other kind of entertainment at a private house, before leaving, a guest should express his thanks, or, rather, his enjoyment of the same, to the hostess. This courtesy from a young man or girl is very acceptable to elderly ladies.

To indulge in ridicule of another, whether the subject be present or absent, is to descend below the level of gentlemanly propriety.

A Resolute Hand

THE head of a large school for young women desired a stenographer. She inquired for one at a place where many young business women of the city found a temporary home while seeking employment, and was told that several of them "would be in to dinner," and she could interview them personally. She chose to "interview" them to some extent without their knowledge, asking to be seated for the meal at the same table with them. This was easily accomplished, according to her whim.

After dinner she went to the "matron" of the boarding-house and asked her the name of one who had interested her. A few minutes' conversation ended in a handsome engagement for the girl who had been fortunate enough to please her.

"Why did you choose her?" she was asked curiously. "And what was it interested you in the first place?"

"She had a resolute hand," came the answer. "I noticed at table how she held her knife and fork, the way she unfolded her napkin"—

"They are all girls of good breeding," murmured the matron.

"A sort of gentle decision in every movement. It decided *me*. That is what I want in a helper—the sense of finality in doing things. The resolute hand is the tool and exponent of the single-minded will that goes simply and earnestly at one thing, finishes it cleanly and thoroughly, then on to the next. All the interview I needed with her after watching her was to make terms and agree on hours of working."—*Selected*.

Are You in the Line of Advance?

Young People's Work in Other Churches

MATILDA ERICKSON

WHILE looking back over the work among our own young people, it seems wholly fitting that we cast our eyes for a moment across denominational borders and get a glimpse of the work for the youth in other churches. Long years of experience have taught other churches the importance of mustering their young people for Christian service. During the last four decades organizations have been effected in the evangelical churches which now touch the lives of millions of young people all over the world.

The first movement to provide a uniform young people's organization in the Methodist Episcopal Church dates back to 1872. Seventeen years later the Epworth League was formed. That movement has grown into a world-wide power for saving and training young people. Dan B. Brummitt in reviewing the work of the organization says: "In brief, every activity of the church, every outgoing of Christly service, every element in the upbuilding of strong and symmetrical Christian character, every interest of the kingdom of God, has been blessed and profited through the providential use and spread of the Epworth League throughout the Methodist world."

It was during a series of special meetings in January, 1881, that another organization was born. Thirty or forty young people had been converted. The pastor felt anxious for their future. Past experience had taught him that young converts entered upon a very critical period of their Christian experience. Unless they were set to work for the Master at once, their whole lives would suffer loss. Within a month a young people's society for Christian work was formed. This was the cradle of the grand Christian Endeavor organization that to-day belts the globe. Francis E. Clark, speaking of the results of the movement, says that during fifteen years after its organization twice as many young people were added to the evangelical churches as during the previous fifteen years.

In 1891 the Baptist Young People's Union was formally organized. Some local efforts preceded the general organization. This union has become a strong factor in the Baptist Church. C. E. Conley says of the organization, "It is aiding in restoring the church to its normal place in Christian work, and is making intelligent Baptists." Thus an army of youth in other Protestant churches is being trained in missionary tactics and led forth in Christian service.

Missionary Volunteer Work Abroad

As we look at our denomination, we are gratified to see there a line of strong young men and women advancing in missionary activity. Not only are our youth in the home land enlisting in the army of Prince Immanuel, but in other lands, young men and women have heard the call to service and are pressing into the ranks. Thus in the regions beyond, God is raising up recruits to help force the battle to the gates.

For several years the Australasian Union Conference has been giving special attention to her young people; and to-day that union has an army of youth who are doing much missionary work at home, and are rendering considerable help in supporting missionaries in foreign fields. Africa is stepping into line; the work has been organized in two of her conferences.

Great Britain, where the work began in 1905, sends us good news. "Our youth," writes the Missionary Volunteer secretary of that union conference, "are pressing into the regions beyond." Our young people in the Neglected Continent are shoulder to shoulder with us. A union conference secretary has been appointed; a young people's paper is being published, and some tracts and other necessary supplies have been prepared. The work has been started in the German and in the Scandinavian union conferences. In Japan it has gained a foothold. Two societies have been organized (one has thirty members), and the Morning Watch Calendar has been translated into Japanese. Some time ago one of the workers in India wrote, "During the past season we have had a very interesting young people's society here in Mussoorie."

"They are coming, hear their message,
As its echoes onward roll,—
We will help proclaim His story,
Till it spreads from pole to pole."

Summary of Work

The summary below represents the work reported by our Missionary Volunteer societies for the three years ending Sept. 30, 1910. The highest enrolment during this time shows 439 societies, with a membership of 8,319, and 589 isolated youth recorded as members of the conference societies.

Letters written	51,120
Letters received	20,570
Missionary visits	130,977
Bible readings or cottage meetings	37,842
Subscriptions taken for periodicals	12,819
Papers sold	552,542
Papers mailed, lent, or given away	1,005,253
Books sold	41,781
Books lent or given away	33,761
Pages of tracts sold	472,840
Pages of tracts lent or given away	5,264,358
Hours of Christian Help work ...	111,056
Persons fed and clothed	29,668

The figures in this summary are not dry statistics. They are like music upon our ears; for they are filled with the sweet story of personal effort for the salvation of others.

Gifts to Missions

During the three years ending Sept. 30, 1910, our Missionary Volunteers gave \$18,325.90 to home missions and \$26,466.53 to foreign missions. To tell just how this money has been used would fill a volume. Some has gone across the waters to pay laborers; to provide workers with typewriters, organs, sanitarium supplies, etc.; to support native youth in Christian schools. Some has found its way into the Southern field; and some has been given to our Foreign Mission Seminary, that young men and women may be more quickly prepared to press into the lands that are waiting in darkness.

Educational Features

The Missionary Volunteer work is a training-school for young people. Besides the practical missionary work of the society, opportunities for mental development are offered in both the Reading Course and Standard of Attainment plan.

The Reading Course is a marked success, and is doubtless destined to become a great power for good.

One young woman writes that one of the courses established her in the truth. A certain young man found it a help in his canvassing work. It is a friend of all, but it makes a specialty of seeking the young people who are deprived of school privileges. Last year the United States and Canada enrolled about twelve hundred young people. Others whose names were not recorded doubtless read the books with us. Australia also uses the Reading Course. It became very apparent two years ago that we needed a course for our boys and girls. This was planned; and our Juniors seem to be enjoying it.

The Standard of Attainment plan has received quite an impetus from the fact that our society lessons have been on Bible doctrine, and that one of the books in the Reading Course last year was our denominational history. All young people are urged to become members of attainment. There are about one hundred fifty members now, and many are striving to reach the standard.

The Morning Watch

Some one has said that we must plan for a bit of quiet time alone with Jesus daily, preferably in the morning. It must be resolutely planned for, or it will surely slip out, and we will as surely slip down. It is to create and foster this habit of regular, personal prayer and Bible study that the Morning Watch Calendar has been published. This little daily reminder has received a warm welcome. The first year it was published six thousand copies were circulated. In 1910 more than seventeen thousand were published. The use of the calendar is its best recommendation. Many testify that it is really helping them to form the habit of personal devotion.

God has marvelously blessed the Missionary Volunteer work in the past, and we can not doubt its future success. There are tokens of increased prosperity. They bring to us a call to greater earnestness. We must not slacken our pace. Our salvation, dear young people, will depend largely upon our efforts to save others. There are young men and women here and there who are not in this line of advance in Christian service. Will not such come and join us? It is organized consecration that accomplishes most. Then let us move forward unitedly, that we may present to the enemy a solid front of soldiers thoroughly grounded in the truth and well versed in missionary tactics.

Methods of Study — No. 3

UNLESS we have some method of correlating our thoughts, our efforts in searching for them will be like gathering fruit in a bottomless basket.

The reverse side of Bible maps, if judiciously used, can be made to contain many helpful notes. Time is well spent in carefully arranging a reading, and printing it neatly on the back of these maps. The following is a specimen of the manner suggested:—

Second Coming of Christ

PROMISE

John 14:3: If I Go, I Will Come Again.
1 Thess. 4:16: The Lord Himself Shall.
Acts 1:9-11: This Same Jesus Shall.

MANNER

1 Thess. 4:16: Shout, Voice, Trump.
Acts 1:9-11: Like Manner As Ye Have.
Rev. 1:7: Every Eye Shall See Him.
Rev. 14:14: White Cloud, Son of Man.

Luke 9:26: Own Glory, His Father's.
Matt. 25:31: With All the Holy Angels.

WHEN

Matt. 24:34, 44: Generation Day, Think Not.
Luke 17:26, 27: As It Was in Days of Noah.
2 Peter 3:3, 4: Where Is Promise of Coming.
2 Tim. 3:1-5: Perilous Times Shall Come.

PURPOSE

Heb. 9:28: Bring Salvation.
2 Tim. 4:8: To Bring Crown.
Isa. 25:9: Waited, He Will Save.

By this method it is possible for one on very short notice to refer to the thought desired. It is not desirable to copy such scriptures bodily from some textbook. A better plan is, for instance, if you wish a reading on the Second Coming of Christ, to copy from such helps as are at your command all of the texts you can find having a direct bearing on the subject. Place the citation on your note-paper, as shown in the reading given in a former article. After this has been accomplished, and it will be no small task, copy them all off, classifying them as you do so under such subdivisions as "Promise of Coming," "When Coming," "How Coming," and "Purpose of Coming." Now carefully go over the scriptures, crossing off all but those three or four that seem to be the most pointed and most directly applicable to the subhead. In the last suggestion is a means of three or four young persons spending pleasantly and profitably together a portion of a Sabbath afternoon. When you have made these selections, you have a Bible reading all your own, and are ready to copy it on the reverse side of one of the Bible maps.

There are more helps at hand than would at first be realized. I will give a list of these: "Bible Readings," "Johnson's Helps to Bible Study," "Family Bible Teacher," "Signs of the Times Leaflets," "Bible Footlights," "Helps to Bible Study," "Topical Bible Study," "Scriptural Evidences," "Our Banquet," and "Synopsis to Present Truth."

In many Bibles there are fifteen maps and an extra fly-leaf. This gives an abundance of room for copying the Bible readings, as by careful work and making two columns, one can get from four to six readings on a page. I have an ordinary sized Bible, but have as many as sixty-five lines in one column.

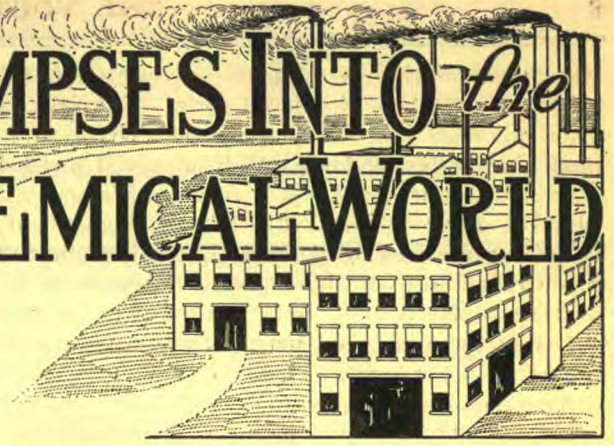
Such outlines as the foregoing are very helpful. This method of preserving notes develops in one an eager desire to watch for new points. One who studies thus is sure to be on the frontier of missionary work; for, having the armor on, one is anxious to use it. The lack of study and a knowledge of God's Word is one of the principal reasons why more missionary work is not done. We know we lack the knowledge of the whereabouts of our authority; so, for fear we will be worsted, we shrink from engaging others in conversation on these points, as we are told to, when we are walking, working, or in other ways associating with others.

D. D. FITCH.

MRS. RUSSELL SAGE, of New York, has purchased Forest Hills Garden, a tract of one hundred forty acres on Long Island, and dedicated it to the building of a clean model town, "where homes of economy, beauty, and comfort can be bought by worthy families on easy monthly payments, and where proved character must be the 'open sesame' to accepted citizenship." The plan is thus to relieve congested centers.



GLIMPSES INTO *the* CHEMICAL WORLD



The Earth's Atmosphere—No. 8

Weight, or Pressure, of the Air Illustrated

(Concluded)

THE pressure of the air is the active principle in barometers. Otto Guericke (ga-rick-eh), of Magdeburg, Germany, a philosopher wiser than his generation, made the first barometer, not taking into consideration Torricelli's and Pascal's experiments. Guericke constructed in his own home a cistern which opened on the roof of his house. He floated on the water a wooden figure of a man. As the atmosphere decreased in pressure on the top of the water in the cistern, the old wooden fellow, which usually overlooked the roofs of the buildings, would go out of sight; and as the atmospheric pressure increased, the old man would be lifted up higher, so he could be seen from the street. Usually before a storm there is a decrease of pressure, so the old fellow would draw his head out of sight before a shower; but on pleasant days he would be quite sure to be out looking about. The people, being superstitious and ignorant, thought the owner of the curious figure was in league with the devil, so threatened his life. The philosopher, rather than further risk his safety, removed the old barometric gentleman to less conspicuous quarters.

Our present-day barometers are based upon the same principle as Guericke's; but mercury is substituted for water. Since it is more than thirteen times as heavy as water, a tube only one thirteenth as high is required. While the air at ordinary pressure will sustain a column of water about thirty-four feet high, it will sustain a column of mercury only thirty inches, as Torricelli showed.

Otto Guericke made another interesting piece of apparatus that illustrated admirably the pressure of the air. This consisted of two large metal hemispheres that could be fitted tightly together. After putting them together and exhausting the air from them by means of the air-pump which he himself invented, eight strong horses, four at each end, were unable to pull them apart.

The air-brake used on trolley and steam cars is a very important invention, and depends upon compressed air for its utility. A powerful condenser worked by steam is attached to a locomotive. It is connected by pipes with a reservoir under each car, and fills these reservoirs with highly compressed air. When the engineer wishes to stop the train, he moves a lever, which allows the compressed air to rush into a cylinder, also under the car, and, by driving a piston

along this cylinder, it presses the brake strongly against the wheels.

Winds are due to differences in the atmospheric pressure. Warm air is lighter than cold air; so wherever the earth for any cause becomes especially heated, the air over that place is thinner and lighter, so the cold air rushes in and lifts the warm air up and out. If the air everywhere was of equal temperature, there would be no winds. Cyclones are accompanied by a whirling, or rotation, of the wind around a heated area, or an area of low barometer, together with an onward movement of the storm over the country. The great weight, or pressure, of the air at such times

is very apparent from the immense damage and curious freaks wrought by the cyclone.

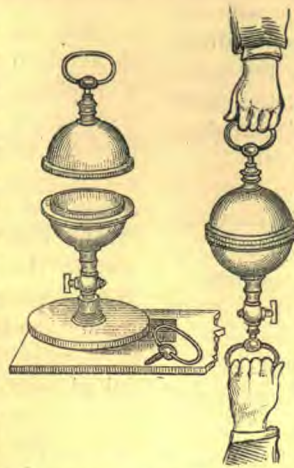
One storm that "started from the Barbados sunk an English fleet that anchored at St. Lucia, and then ravaged the entire island, blowing down houses and burying over six thousand persons in the ruins. Then, moving on to Martinique, it overtook a French transport fleet, sinking forty ships, with four hundred people, all of whom perished. Farther on to the north, the islands of San Domingo, St. Vincent, and St. Eustatius were devastated, and nearly all the vessels in the track of the cyclone were lost, with all on board."

While winds at times prove very destructive to life and property, their work is usually of a beneficent character, purifying the air, equalizing temperatures, so modifying climate and distributing moisture.

To the air in its quiescent state we also owe much. It diffuses light, so that we can see all about us in the daytime. Were it not for the particles of the air reflecting and re-reflecting the light, we should need a lantern at noon even to find anything on the side of the house opposite the sun. The beautiful sunset colors are made possible by the air and the vapor it holds. So the northern lights, among the most impressive of atmospheric phenomena, are caused by discharges of electricity through the rarified air of the upper regions. Beauty and utility are wonderfully combined in the services our atmosphere renders us. Let us not forget that our Father's thought toward us when he said, "Let there be a firmament in the midst of the waters," was a very generous one.

Liquid Air

It may be interesting, before leaving the study of the air in its natural or gaseous form, to study it in its liquid form, so novel are its properties in the liquid



MAGDEBURG HEMISPHERES

state. Liquid air, according to one writer, is air so cold that it assumes the liquid form. The first ounce ever produced cost three thousand dollars, and the next pint, eighty dollars. With improved methods it may now be prepared for a few cents a gallon. A Mr. Trippler, of New York, has a private plant for liquefying air, and so economical are his methods that his prodigal use of the liquid is astonishing to all observers. He pours it out upon the floor by gallons, that visitors to his plant may see how rapidly it evaporates.

Mr. Trippler makes use of both pressure and cold in his plant. He subjects the air to a pressure of two thousand or two thousand five hundred pounds per square inch. The liquefied air occupies only about one eight hundredth of its former volume. It evaporates readily, drawing heat from whatever is in contact with it. Rubber, beefsteak, and eggs are made brittle like glass by being immersed in it, and will give forth a musical tone when struck. This is due to the intense cold, and not to any chemical action. Lead is made elastic, and mercury, the quicksilver of our thermometers, is frozen to a solid by it. Nails may be driven into wood by mercury hammers thus formed. If liquid air is poured into a glass of alcohol, the alcohol will quickly freeze solid. If a tin cup is immersed in liquid air, it becomes so brittle that when struck it breaks as does glass.

Owing to the rapid evaporation of liquid air, it will, in a few seconds, if confined in a tube closed with a wooden plug, drive out the plug with an explosive force and a loud report. Paper, or even the asbestos felt used in wrapping pipes, will, if saturated with it, burn brilliantly. The older the liquid air, the more brilliant the burning, since the nitrogen escapes more readily than does the oxygen, and leaves the residue richer in oxygen than the newly formed liquid.

Because of the concentrated oxygen in the liquefied air, steel pens, watch-springs, electric-light carbons, if heated to a red heat, burn rapidly when plunged beneath the liquid. The carbon dioxide gas formed by the combustion freezes at once, and drops to the bottom of the vessel as a white solid.

If a kettle of liquid air is placed on a cake of ice, the air boils vigorously, since the ice is very hot compared with the liquid air.

The suggested uses of liquefied air exceed its practical uses. While liquid air may have to wait long, as did electricity before coming fully into its own, it has already rendered service in purifying liquids by freezing them. For instance, as chloroform crystallizes, by subjection to great cold, into solid crystals, these can be removed and melted, and a pure product obtained. The cold of liquefied air in some instances may be used to produce chemical reactions, the same as heat. It has also served as an explosive in blasting, thirty tons of coal being loosened at times by one shot. It is also used as an energy producer, a refrigerant, a cauterizer in surgery, a smoke consumer, and for burning garbage in cities.

F. D. C.

A RETENTIVE memory may be a good thing, but the ability to forget is the true token of greatness.—*The Philistine*.

"FAITHFULNESS and loyalty to the duties of every day is the best preparation for the faithfulness and loyalty required of the soldier."



X-Ray Apparatus for Dentists

WHEN making a diagnosis, dentists heretofore have depended only upon inspection and palpation, and the description furnished by the patient, which in many cases is grossly exaggerated. About the spread and nature of the ailment, the dentist could draw conclusions only from the symptoms, and to find out the real condition of the teeth and the jawbone was often exceedingly difficult and sometimes impossible.

A Berlin electric company has now placed on the market an X-ray apparatus especially constructed for dentists, with which the old difficulties are overcome, as it allows a most exacting diagnosis to be made. The apparatus is very simple, and can be handled by the dentist without any assistance. It is on wheels, so that it can be pulled to the operating chair, and the X-ray tube is attached to a long metal frame in such a manner that it will stay in any desired position. The apparatus is set in operation by pressing a foot lever, which allows the dentist to have both hands free properly to adjust the film.—*Technical World Magazine*.

Watch Screws and Jewels

PROBABLY the smallest screws are those turned out in a watch factory. They are cut from steel wire by a machine, but, as the chips fall from the knife, one is tempted to observe that the operator is amusing himself, inasmuch as no screws can be seen. Yet, at every third operation of the machine, a screw is duly completed.

The fourth jewel-wheel screw is next to invisible, and to the naked eye it resembles a speck of dust. With a glass, it may be seen to be a small screw, and some calculation reveals the fact that it has two hundred sixty threads to the inch. It takes a very powerful glass to observe these threads.

These screws are said to be but four thousandths of an inch in diameter, and the heads are double in size. It has been estimated that an ordinary thimble could contain one hundred thousand of them.

Quite a number of new jewel settings have been added to the movements of first-class watches during the last ten years. These new jewels have created an added demand for expert jewel setters.

The term jewel in a watch movement is to be taken literally. The small precious stones are drilled to receive the pinions or axles of the wheels, the object being to provide a bearing that will not corrode and will not wear away easily.

The garnet is the least valuable of these jewel settings, but some of the minute sapphires and rubies employed in the bearings of a watch are quite good enough for the setting of a ring.

For the most part, however, these fragments of precious stones are off color, the sapphire especially pale to insignificance, but at the same time harder and better for watch jewels because of this light color. Occasionally a ruby jewel burns red in one of the neat little envelopes in which they come from Switzerland, five hundred or one thousand in a lot.

Each stone is shaped to a circle and bored through

the center, each boring being just a little less than the diameter of the pinion used in the factory where it is finally to be placed in the upper or the lower plate of a watch.

The immediate setting for the watch jewel is a minute cylinder, brassy in appearance, but really of soft gold composition. Before the jewel gets to the setter, it has been put into a lathe, and by means of a minute steel point covered with diamond-dust and oil, the center has been enlarged to fit the steel pinion which shall be housed in it. In the hands of the setter the cylinder is put into a lathe. With a moistened finger the jewel is picked up and placed inside the cylinder as it rests on the tip of the revolving lathe shaft. With a pointed tool the setter presses against the revolving cylinder edge, forcing the soft metal to overlap and close upon the sapphire or ruby till it is embedded firmly in the metal cushion; then a pressure upon a follower at the other end of the lathe brings a cutter to bear upon the metal circumference, turning it to the exact size of the jewel hole in the plate of the watch, with the hole in the center of the jewel exactly in the center of the metal setting.—*Harper's Weekly*.

The Strength of Insects

ANTS will carry loads forty or fifty times as heavy as themselves. The beetle can move a weight one hundred twelve times his own weight. The house-fly gives six hundred strokes of its wings in one second, and this enables it to go a distance of thirty-five feet. The dragon-fly can speed through the air at the rate of sixty miles an hour, and, more wonderful still, can stop instantaneously in its flight, or move backward, or sidewise, without changing the position of its body.

Hundreds of bees can hang one to another without tearing away the feet of the upper one.

It has been estimated that if an elephant were as strong in proportion to its weight as a male beetle, it would be able to overturn a "sky-scraper."

In leaping great distances, this strength is shown in another phase. If a horse could jump as far in proportion to its weight as a flea can to his, the horse would jump about two thousand miles.—*Harper's Weekly*.

Volunteers to the Front

VOLUNTEERS are wanted! hear the stirring call.
O, be swift to answer, comrades, one and all;
Girding on your armor, haste to march away;
For the Lord is calling, "To the front to-day!"

Volunteers are wanted! valiant men and true.
In the ranks, my brother, there is room for you.
Christ is the Commander; let us all obey,
When he gives the order, "To the front to-day!"

Volunteers are wanted! for on land and sea
Satan's starving bondmen clamor to be free;
Hasten to their rescue; if you still delay,
Blood-bought souls must perish. "To the front to-day!"

Volunteers are wanted! on the battle plain
Soldiers brave are falling, ne'er to fight again;
Who will take their places in the deadly fray?
Who will march with Jesus "to the front to-day"?

Volunteers are wanted! let the ranks be filled;
Soon the din of battle will in peace be stilled.
See! the clouds are lifting, soon they'll clear away;
Glory gilds the heights along the front to-day.

CHORUS:

Away to the battle-field, away, away!
The King calls for soldiers in his ranks to-day;
Hear the bugle calling, into line be falling,
Forth to the battle-field, away, away!

—*Pentecostal Hymn-book*.

Devotion to the Bible

MATTHEW HALE SMITH, in his book "Marvels of Prayer," tells of a shipwreck, and of the rescue by Captain Judkins and the crew of the "Scotia." Among the rescued was a lad, about twelve years old, who had lost everything.

"Who are you, my boy?" said Captain Judkins.

"I am a Scotch boy; my father and mother are dead, and I am going to America to find my uncle, who lives in Illinois."

"What is this?" said the captain, as he took hold of a rope that was tied around the boy's breast.

"It is a piece of cord, sir."

"What is that tied under your arm?"

"My mother's Bible; she told me never to lose it."

"Is that all you saved?"

"Yes, sir."

"Couldn't you have saved something else?"

"Not and save that."

"Didn't you expect to be lost?"

"I meant, if I went down, to take my mother's Bible down with me."

"All right," said the captain, "I'll take care of you."

Having reached the port of New York, Captain Judkins took the boy to a Christian merchant, to whom he told this story. "I'll take the lad," said the merchant. "I want no other recommendation; the boy that holds on to his mother's Bible in such perils will give a good account of himself."—*Selected*.

What Business Men Have to Say of Boys

(Concluded from page three)

We certainly find in boys a lack of responsibility, a lack of reliability, a lack of stamina, a lack of any sense whatever of the rights of others. In short, the average town boy to-day is a mighty poor proposition. He is indolent, insolent, and hopelessly care free. He will not accept responsibility, and will not work unless he is strenuously supervised.

The reason is traceable, I believe, to the home. The town boy has nothing to do, and busies himself about it always. About all he accomplishes is to develop sharp practises and a disposition to avoid anything that resembles work or responsibility. He becomes an artist in the fineness of deceptive practises.

When we have work for boys, we hire men to do it, because it is cheaper and more satisfactory.

The only boy that we can employ with any satisfaction is the country-bred boy,—the boy who has had his chores to do, his responsibilities to carry from day to day. The country boy has health, strength, and courage. He has more manhood to the square inch than the city-bred boy has to the square acre. The very nature of his surroundings places upon him responsibilities. He must face situations and pass judgment upon propositions, and the responsibility, I believe, lies with the parents.

As a last word, take that from Mr. W. L. Park, vice-president of the Illinois Central Railroad, who says:—

The essentials to success necessary to inculcate in a boy by parents and teachers are not numerous or difficult,—honesty, neatness, punctuality, and reliability, with a training otherwise which impels involuntary submission to discipline. This, with a general ambition to succeed, is sufficient to carry a boy as high as his mental capacity and physical capabilities will permit.

He must make subservient to his own personal comfort the needs of the service he enters, go when and where he is sent, always cheerfully.

He will probably need to attract attention if he rises high, by a superabundance of loyalty and fidelity; a willingness to render more service than paid for; to do better work than others, and more of it. To bring himself to do that which is generally considered obnoxious by his fellow employees requires independence of character and self-denial.

Parents can well keep these things in mind in training their boys, as the difficulties they will encounter in this respect are becoming greater as our social conditions change.

CHILDREN'S PAGE

The Salvation of Rover

MA said we had too many dogs—we never had but four, And Tommy Brink let us have his, which only made one more.

We just had Rover, Spot and Tige and Fido of our own, But Tommy Brink had gone away and left his dog alone, Which almost broke its heart, and so we let it come and play With all our dogs till after while it seemed to want to stay; But ma said three dogs were enough for three small boys, and so

We'd have to pick out three to keep and let the other go.

We thought it over quite a while, and looked at them to find Which one to give away, and couldn't quite make up our mind.

You see, they were such splendid dogs, and we all nearly cried

When we looked at them in the yard, while trying to decide. Nobody knows how hard it was; they were such friends, you know,

And each one liked us so we couldn't bear to let him go. But, after talking all forenoon, John told us, me and Jim, To lead up Rover to the house—we'd have to part with him.

My, he was such a handsome dog, and had such big brown eyes,

That looked at us so friendly like, and O, so smart and wise! But we all led him to the porch, and John called ma to come, And tried to tell her how it was; but he was choked and dumb.

So then I told her Rover was the dog that jumped for Jim One day when he fell in the creek, and was too small to swim, And Rover pulled him to the bank; but he is old, and so We told our mother he's the one we guessed we would let go.

And Rover wagged his tail at her, and barked as if to say He'd just as soon jump in the creek for us most any day. And we all waited, hoping she would change her mind; and then

She shook her finger right at me, and then said, "O you Ben! You picked him out on purpose, sir!" And she pulled Rover's ears,

And petted him; and John he smiled; and we all gave three cheers,

Till mama said she guessed, perhaps, she really didn't know As much about a dog as boys, and not to let him go.

—J. W. Foley, in *Youth's Companion*.

Some Customs of India

I ARRIVED in India in November, and the evenings were then beginning to be chilly. The first thing which amused me very much was to see the men looking around and picking up bits of stick and straw, and making a tiny fire, then sitting with their back to it. So long as their backs were warm, they seemed to be perfectly happy, no matter whether their feet were cold or not.

The men do not take off their hats or turbans in the houses, but take off their shoes and leave them outside as they go into the houses.

They all wear sandals, and they slip into them and out of them and walk on and leave them just when they wish. The little Brahman girl's dress has a frill to the skirt, but it is always around the waist, and never at the bottom of the skirt.

The day I arrived was the day for marrying the plum and the sugar-cane. They have a ceremony for this, and after that ceremony the wedding season commences. In our part of India some of the low-caste widows marry, then they have music for three years; but if it is a little girl who has never been married before, they have what they call music for seven years,—and, O, don't we know it! Usually the music begins about eleven o'clock at night and goes on until about three o'clock in the morning, and the most we can hear are the drums and the tom-tom, tom-tom. They have something that looks a little like a bagpipe, only it is much worse. Then they have little stringed instruments that they play at the same time. It seems

as if the more noise they can make, the more music they think they have.

Their manner of treating those who are ill is strange and cruel. In one place, the medicine used for a burn is a mixture of coal dust and goat manure, which is spread thickly over the burn.

I was passing through a village one day, and a baby was crying; it had pain, and the mother had no soothing sirups, or anything like that, or fomentations. I stopped to see what was being done.

The mother had

this little naked baby on her knee, and was holding its hands and feet. Every house has a little scythe which the cook holds between her feet and slices the vegetables over the blade. A neighbor woman got the scythe, put it into the fire, and made it red-hot; and then to get rid of the pain, this red-hot scythe was applied all the way around the child's abdomen so as to irritate the outside, I suppose, and draw away the irritation from the inside. I had often seen little fellows running around with many little scars around the abdomen, but I did not know what caused them.

I was standing on a platform before getting into the train, when I saw a big umbrella, made of striped material, with a curtain all around, right down to the ground, coming to the train. At the back was a man walking, I suppose it was the husband, and his hand was passed through the curtain, holding the stick of the umbrella. In front was another man walking, holding the two curtains together. There was a woman



Youth's Companion

"THE SALVATION OF ROVER"

on either side. They went up to the carriage, and the two low-caste women darted forward, pulled the curtain aside and close up to the side of the train, so no one could see who was getting out, and the woman inside walked into the carriage, the door was shut, and they carried the umbrella away. I was standing quite close to her, but I could not see her because this man was very careful not to let her be seen. And the carriage window was shut so that the woman inside could not see out, and no one could see in.

Not very long ago a purdah woman whom a Bible woman had gone to see, became very much interested, and asked to be taught because she so much wanted to know about Jesus. The teachers went; but one day she said: "You must not come here any more. I can not go on reading and hearing about Christ and not become a Christian. If I become a Christian, I can not possibly live here." She was the fourth and a favorite wife of a Mohammedan. Later one went again, and she said, "I can not live here; I am a Christian; I do love Jesus for all he has done for me, and I must get away somehow." We could not help her to get away; otherwise they would say we had kidnapped her, so we had to be very careful. At last, one night the missionaries heard a cough outside, and going out found there the Bible woman who was interested in this Mohammedan woman, and she said, "She has arrived." This poor woman who had come away from home to live a Christian life was trembling from head to foot. It meant leaving husband, leaving parents; it meant leaving children. People say to us sometimes, "You don't seem to get many converts." O, if you people at home knew and realized what it means to the people out there to become Christians! There were only about twenty minutes left to get her into the train to send her to the conference home.

I went into a zenana once, where was a woman in whom I was very much interested. Suddenly she came across to me, and the first thing she said was, "Have you a husband?" I said, "No." She said, "Alas, alas, and when did he die?" I said, "I have never had one." "Never had one?" She thought it was strange, and at last she said, "I know why it is; it is because you are a Christian, and you Christians can not marry." I said, "Certainly we may." Then she went on to tell me about her husband and son, and her jewels, and then asked where I was going. I told her I was going home to England for a little while, then to America, and then coming back to India. She looked at me, and an altogether different look came into her face. Just by my side in a little coop was a big, fat goose, and the poor thing could not move. She looked at that goose, then looked up at me and said, "Memsahib, I am just like the goose in that coop; I am in the zenana, and I can not get out; but you, because you are a Christian, are like a bird flying about in the sky; you can go out and see everything God has made." She had never before seen a bit of nature. The difference in the life of the Christian woman and the life of the woman who knows nothing whatever about Christ, came to her at once.

I have often seen the people of India by the hundreds bathing in the filthiest of water to get rid of their sins. I saw one man sitting with his toes in the river Ganges, and with one hand holding a silver rosary, counting his beads; with the other hand he was holding his nose, and the more prayers he said with one breath, the more holy he was, and the greater his reward.—*Daisy Stanford.*

THE CHILDREN'S COOKING CLASS

CONDUCTED BY D. D. FITCH

Salads — No. 15

IN our last lesson we were told how to make the dressings for salad. Several recipes for combining the various salad ingredients follow:—

PEA AND ONION SALAD.—Green peas, canned or stewed, one pint; onion, one; salt; mayonnaise.

Drain all liquid from the peas, and add to them the salt and finely minced onion. Allow to stand for an hour or two, and then mix in enough mayonnaise to make the salad of the right consistency. Serve a spoonful of this on a leaf of crisp, clean lettuce as an individual portion.

GREEN PEA AND NUTTOLENE SALAD.—Proceed as for pea and onion salad, adding one cup of finely diced nuttolene to the ingredients called for in that recipe. Minced celery may be added if desired.

LIMA BEAN SALAD.—The beans for this salad should be cold and not have been boiled long enough to make



EGG SALAD

them mushy. Add grated onion or minced celery or both if desired, and enough mayonnaise or favorite salad dressing to make them of the desired consistency.

EGG SALAD.—Hard boil as many eggs as you have persons to serve. Upon removing the eggs from the boiling water, drop them at once into cold water, so that the shell will come off more readily. When the eggs are cold, cut them in quarters lengthwise, place them with their points together on a leaf of lettuce, and drop in the center a spoonful of the nut salad dressing, and serve.

VEGETARIAN CHICKEN SALAD.—Protose, one-half pound; nuttolene, one-fourth pound; celery, one cup; juice of two lemons; onion, one; salt. Mince the celery, onion, protose, and nuttolene, and mix together. Add the salt and lemon juice, and allow to stand for an hour or so, stirring occasionally to bring the lemon juice up from the bottom into the mixture. Then drain off any liquid that may remain, and add either mayonnaise or favorite salad dressing. Serve on leaves of lettuce, with a small spoonful of dressing on top of each portion.

TOMATO SALAD.—This salad is easily prepared. All that is necessary is to pare and slice chilled tomatoes and serve them on leaves of crisp lettuce dressed with nut salad dressing.

FRUIT SALAD.—This is the queen of all salads. Take equal proportions of sliced bananas, diced apples, oranges, and seeded cherries, and mix them with golden salad dressing. Other fruits, such as pineapples, currants, peaches, grapes, and fresh figs, may be used, if preferred.



M. E. KERN *Secretary*
MATILDA ERICKSON *Corresponding Secretary*

Society Study for Sabbath, January 21

Missionary Volunteer Methods, No. 1 — An Hour With the Past

LEADER'S NOTE.—For Scripture drill review texts in calendar for the week. Information concerning the history of the young people's work in your conference should be obtained from your conference Missionary Volunteer secretary. The leaflets needed should also be obtained from your secretary. References in the program refer to this paper unless otherwise stated. Invite the older church-members to join you in this program. If possible, get some older person, whose heart is young, to give the talk on the importance of the young people's work. Missionary Volunteer Series, No. 34 gives an outline of the programs for the year. If you do not have a copy, order to-day. Price, five cents.

Program

Scripture drill.

Brief History of the Young People's Work Among Seventh-day Adventists (eight-minute paper). See Missionary Volunteer Series, No. 3.

Brief History of the Young People's Work in This Conference (five-minute talk).

Importance of the Missionary Volunteer Movement (five-minute talk). See Missionary Volunteer Series, No. 26.

Are You in the Line of Advance? (Reading.) See page 5.

Report of work done.

Missionary Volunteer Reading Courses

Senior No. 4 — Lesson 13: "Story of John G. Paton," Chapters 1-7

Test Questions

1. Of what parentage was John G. Paton?
2. Describe his early home, telling something of the religious atmosphere there.
3. What trade did Paton learn? Of what practical value was this knowledge to him?
4. Relate an incident showing his firmness of character.
5. What definite purpose did he have in life?
6. Why did he go to Glasgow? Tell something of his early struggles there.
7. Describe the home-leaving.
8. After he gave up teaching, into what work did the providence of God lead him? How marked was his success?
9. Do you see any indications of the future foreign missionary?
10. What helpful suggestions do you find in this lesson on methods used in city mission work?

Note

"After a considerable term of service as a city missionary, Paton was about to be removed to some other field, because of the apparent infertility of his work. A few who had enjoyed his ministry determined that they would try what individual invitations could do to increase the number of his congregation. Astonishing were the results! The largest available place speedily became too small for the crowds that were brought together by this simple form of individual effort."

Junior No. 3 — Lesson 12: "How the World Is Clothed," Pages 316-335

Test Questions

1. WHAT did some people use for pins during the Revolution? What did pins cost in 1812? Why?
2. When did England first make pins? When did this country? How many does the United States make every year?
3. How are pins headed, sharpened, polished, and put in paper?
4. What pins are still partly made by hand? How many glass-headed pins can a man head in a day?
5. Tell how a piece of wire is made into a needle.



JOHN G. PATON

6. Who invented the sewing-machine? What two kinds are now common?
7. In what different industries are sewing-machines essential?
8. What first created a demand for the large clothing factories?
9. How is the work divided among those employed in these factories?
10. Describe the cutting of garments.
11. What is meant by "sweating," as applied to the making of clothing?
12. At what time of year are summer suits manufactured? winter suits?

Books Young People Should Read

"Miracles of Missions," a Four-Volume Series, by Arthur T. Pierson

CLOSELY linked to the great commission, "Go, teach all nations," is the promise of our Saviour, "And, lo, I am with you always, even unto the end of the world." It is said that history is the interpreter of Scripture, and truly the story of Christian missions is in itself a proof of the actual presence of our Commander-in-chief on the field of conflict. The

incidents given in these volumes are forceful demonstrations of this truth, yet they are only the gleanings from a world-wide harvest-field "gathered behind reapers who have, in more abundant sheaves, already given their testimony." The sketches are brief, and for this reason will be of especial interest to those who can not command time or means to explore more bulky volumes. The variety of fields from which these stories of missionary heroism and reward are gathered, will serve to show how wide and also how varied is the Saviour's working. "They mutually illustrate each other's central lesson, that the Lord God of Elijah still lives, and that he who can use the mantle of faith, to smite the waters, will still find that they part before the more than magic charm of that all-powerful name, Jehovah, God!" Cloth, \$1 per volume; paper, thirty-five cents. Order from Review and Herald Publishing Association.

Word From England

MANY of the Missionary Volunteer societies in this country are showing their interest in missions by giving their weekly donations to some definite field. It is interesting to know that the young people in England are working shoulder to shoulder with us, in the effort to give this gospel message to "every creature." Miss Edith Chapman, in writing of the work of the Watford society, says:—

"We had a good summer, and I believe that our young people were blessed. We aimed to raise £2 for our North Scottish Mission before the opening of school. This seemed too much as compared with what we raised the previous summer, but we thought we might be able to do it if we worked hard. The total donations for the summer season were £5 4s. 2d. Our young people all received a blessing in thus working for missions. They worked; for none of our people here can afford much in the way of donations unless they work hard. The boys did gardening, cycle cleaning and repairing, canvassing, etc., and the girls did needlework and some cooking. Every one seemed to thoroughly enjoy the work." M. E.

Did You?

HAVE you secured a copy of the Morning Watch Calendar for 1911? If not, do so at once. It will also make an acceptable little gift for some friend or Sabbath-school pupil. It will help you in your study of the Sabbath-school lessons. It will help you form the habit of devoting some time each day to personal Bible study and prayer. It will remind you to place your hand in the Saviour's as you turn to face the battles of a new day.

"One morning," says a writer, "I called to see a man at his place of business. 'He is in, but you can not see him for twenty minutes,' I was told. I urged that my card should be sent to him; for it was important. The clerk replied: 'I can not do it. Come with me.' He led me through the basement till we were beneath the sidewalk of Broadway. He bade me look quietly down a long corridor, at the other end of which I saw my friend upon his knees. The dim light revealed an open Bible upon a chair before him. The clerk then said: 'He spends thirty minutes there each day, and there is not a man in the house who would dare to interrupt him.'"

That man had learned the secret of living the life that counts. Truly, as Henry Ward Beecher has said, "The first hour of the morning is the rudder of the day." As the rudder guides the ship, so the morning hour gives the bent to the day. Will you not let the quiet hour of morning prayer open the door of your life to the Divine Guide, that he may come in to adjust the rudder for the day? O, how different our lives would be if we never failed in this particular!

Does Prayer Do Things?

ONE day I ran across a party of about twenty Pittsburg men on their way to a men's Christian convention in Cincinnati. There were a few ministers in the party, but it was made up chiefly of business men, typical, keen, alert American business men. We got together and talked about things of common interest.

And this question was asked: Does prayer do things? Then the question was spread out some. I go into my room at night to retire. I read a bit from the Book, and kneel to pray. I pray for a man in Pittsburg or in Hang-chow, China. Does anything take place in Pittsburg or in Hang-chow that wouldn't have taken place if I hadn't prayed? Of course, the praying before God, the good wishes in my heart going out to some one else—these influence me. I rise better for both.

But is that all? Does anything happen at the other end? Does my prayer do anything in Hang-chow? If I write a business letter to Hang-chow, enclosing a foreign draft, the letter does something. A vast amount of business is carried on that way. Would the prayer as really do something as the letter and the draft?

There was a good bit of talk back and forth, and questions asked. It was interesting to find these men ready to admit that they really believed something would occur at the other end. They belonged to a church noted for its sound teaching, and came from the church city of Pittsburg. The matter-of-fact power of prayer to do business "at the other end" seemed to appeal to these business men. Apparently they had not been looking at prayer that way. But they readily admitted that it must be so.

Then the next question asked itself: How much of this foreign business are we doing? And so the little crowd talked along, while the train pounded the rails at the rate of forty-odd miles an hour.

Prayer does do things. Something happens at the other end that wouldn't happen if the prayer were not made. The banker can touch London and Paris and Shanghai and Calcutta and Tokyo, without moving from the desk where he is dictating letters, with his correspondence spread out before him. The praying man can as really touch these cities as he kneels in his room with map and Book spread out before him.

Things are changed out there that need changing. That banker does business, too, in his home city and out in the home land. But many times, with many a house, the bulk of foreign business is in excess of that done at home. Now we want to do a large business abroad in soul-winning and in world-winning, as well as at home.—S. D. Gordon, in "Quiet Talks With World Winners."

In His Glory

GREAT the king on David's throne,
And rich his royal food;
Gold the king esteemed as stone,
And ivory as wood.

Grand the ruler's wardrobe was;
Much riches he displayed;
Bright the jewelry he wore
When royally arrayed.

But though all nations of the world
Around this king did rally,
One thing surpassed his glory yet,—
"The lily of the valley."

JULIA ROSS.



THE INTERMEDIATE LESSON

II — The Holy Spirit Given

(January 14)

LESSON SCRIPTURE: Acts 2: 1-21.

MEMORY VERSE: "And it shall come to pass in the last days, saith God, I will pour out of my Spirit upon all flesh." Acts 2: 17.

The Lesson Story

1. All sin had been confessed and put away, as the disciples sought God while waiting for the promised gift of the Holy Spirit. "And when the day of Pentecost was fully come, they were all with one accord in one place." Had there been discord or unholy ambition as to who should be greatest, as there had been at one time among the disciples, the Holy Spirit would have been grieved away.

2. "And suddenly there came a sound from heaven as of a rushing mighty wind, and it filled all the house where they were sitting. And there appeared unto them cloven tongues like as of fire, and it sat upon each of them. And they were all filled with the Holy Ghost, and began to speak with other tongues, as the Spirit gave them utterance.

3. "And there were dwelling at Jerusalem Jews, devout men, out of every nation under heaven." God had brought together these good men that they might learn of Jesus and carry the tidings back to the countries where they had before lived. When the experience of the apostles "was noised abroad, the multitude came together, and were confounded, because that every man heard them speak in his own language.

4. "And they were all amazed and marveled, saying one to another, Behold, are not all these which speak Galileans? And how hear we every man in our own tongue, wherein we were born?" Men from all parts of the world were there, "and they were all amazed, and were in doubt, saying one to another, What meaneth this?"—"we do hear them speak in our tongues the wonderful works of God." They could not understand the manifestation of such power from God.

5. There are always some who will not humble their hearts to believe the message sent by the Spirit of God. Signs and miracles may be wrought by them, but they will not obey the Lord. There were those on the day of Pentecost who had so long hardened their hearts in sin that they mocked at the power Jesus gave those who witnessed for him. They tried to make the people believe the disciples were drunk, saying, "These men are full of new wine.

6. "But Peter, standing up with the eleven, lifted up his voice, and said unto them, Ye men of Judea, and all ye that dwell at Jerusalem, be this known unto you, and harken to my words: for these are not drunken, as ye suppose, seeing it is but the third hour of the day." That would be nine o'clock in the morning, and men are not usually drunk at such an early hour.

7. Then Peter quoted scripture to show that what the people saw and heard was a fulfilment of prophecy. He said: "But this is that which was spoken by the prophet Joel; And it shall come to pass in the last days, saith God, I will pour out of my Spirit upon all

flesh: and your sons and your daughters shall prophesy, and your young men shall see visions, and your old men shall dream dreams: and on my servants and on my handmaidens I will pour out in those days of my Spirit; and they shall prophesy."

8. This prophecy was given for the last days, so it reaches to our own time. In these days we may expect the promise will be fulfilled and even greater things done than on the day of Pentecost. The Holy Spirit imparts gifts which enable every true child of God to work for the Master.

9. Joel also tells of the signs that will be seen before Jesus comes the second time. Quoting from Joel, Peter said, "And I will show wonders in heaven above, and signs in the earth beneath; blood, and fire, and vapor of smoke: the sun shall be turned into darkness, and the moon into blood, before that great and notable day of the Lord come: and it shall come to pass, that whosoever shall call on the name of the Lord shall be saved."

10. It is in the last days that the most powerful witness must be borne to prepare the people to meet the Lord. The Holy Spirit will come in even greater power than at Pentecost to prepare the people of God to do their work. Like the disciples, we should confess every sin, and pray earnestly that God will send us the power to witness for him.

Questions

1. On what day was the Holy Spirit given to the disciples? What mind did all possess when that day came? Relate an incident showing that they had not always been of one mind. Where were they? What will prevent the Holy Spirit being received now?

2. What was suddenly heard? What was it like? What place did it fill? What appeared to the disciples? To how many was the Holy Spirit given? With what were they filled? What did they begin to do? What gave them utterance?

3. Who dwelt in Jerusalem at this time? From what nations had these men come? For what purpose had they been brought to Jerusalem? When the report of the rushing mighty wind was noised abroad, who came together? How were the people affected when they heard the disciples speak? Why?

4. How did all the people feel? What question did they ask one another? Name some of the nations represented on that occasion. Acts 2: 9-11. What did they say? What could they not understand?

5. How is the Spirit of God often resisted? What did some of the people do on this occasion? What did they try to make the people believe? What did they say?

6. Who stood up to answer when the disciples were accused of drunkenness? How did he show that the charge was false? What time of day would be "the third hour"?

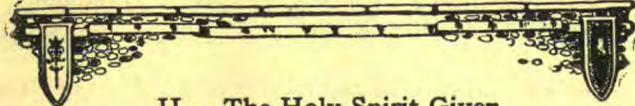
7. Why did Peter quote from the Scriptures? What prophecy did he select? What does God say shall come to pass in the last days? What will be the result of the outpouring of his Spirit?

8. When was this prophecy to be fulfilled? When, then, does it have its special application? Repeat the memory verse. For what should we be looking? What will the Holy Spirit enable God's children to do? Name some of the gifts of the Spirit. 1 Cor. 12: 4-11.

9. Of what great event does Joel speak in his prophecy? What special signs does he mention? Who will be saved at that time?

10. When will the most powerful witness for Jesus be borne? For what must the people be prepared? How may we expect the Holy Spirit will be given at this time? What will it enable God's people to do? Will there be any mockers then? What work should we be doing now? For what should we earnestly pray?

THE YOUTH'S LESSON



II — The Holy Spirit Given

(January 14)

LESSON SCRIPTURE: Acts 2: 1-21.

LESSON HELPS: "Testimonies for the Church," Vol. VII, pages 30-33; *Sabbath School Worker*.

MEMORY VERSE: Acts 2: 17.

Questions

BAPTISM OF THE SPIRIT

1. On what day were the united prayers of the believers answered? Acts 2: 1; note 1.
2. What remarkable manifestation was seen? Verses 2, 3.
3. What was the result to the disciples? What did they do? Verse 4; note 2.

THE MULTITUDE HEAR IN THEIR OWN TONGUES

4. When the news of what had taken place was spread abroad, what occurred? Verse 6.
5. How many nations were represented there? Verses 5, 9-11.
6. How were the people affected by these manifestations? Verses 6-8, 12, 13.

PETER'S EXPLANATION

7. Who spoke for the apostles in explaining the phenomenon and in preaching the gospel? Verse 14.
8. How did he refute the charge of drunkenness? Verse 15.
9. What was the explanation? Verse 16.
10. Give the substance of Joel's prophecy. Verses 17-21.

THE CLOSING MESSAGE

11. How is God's last message to sinful men to be given? Rev. 14: 9; 18: 1; Joel 2: 23; note 3.
12. To how many does Joel's prophecy apply? Acts 2: 39; note 4.
13. What are those who have the closing gospel message counseled to do? Rev. 3: 18; note 5.

Notes

1. The day of the week in which that memorable Pentecost fell has been a subject of much interest. Though the question has absolutely nothing to do with determining what day is the Christian Sabbath, it will be of interest to know the facts. The day on which Pentecost was celebrated depends altogether upon the day of the week on which the Passover fell on any given year. The Passover lamb was to be killed on the evening of the fourteenth of Nisan, and beginning with the fifteenth day unleavened bread was eaten for seven days. The first and seventh days of the feast were sabbaths, in which no servile work should be done. Ex. 12: 6, 15, 16; Lev. 23: 5-7. On the morrow after this first sabbath, the sixteenth, the wave sheaf (or "omer," margin) of the first-fruits was offered to the Lord, and from this day they were to count fifty days to Pentecost. Lev. 23: 10, 11, 15, 16.

Jesus was crucified on Friday (Luke 23: 54), and ate the Passover with his disciples the evening before (Luke 22: 7-15), which would be the fourteenth. Sabbath, therefore, was the sixteenth of Nisan, and fifty days would bring Pentecost that year on the Sabbath.

There has been much discussion over the question of whether Jesus did not eat the Passover one day before the

regular time, so that he would be crucified on the day on which the typical lamb was slain. Andrews, after considering all the evidences on this question, concludes that Jesus ate the Passover at the regular time, and was crucified on the fifteenth. "Life of Our Lord," page 460. With him agree Edersheim, Neander, Burton, and Matthews, Hastings' Bible Dictionary, and many other authorities. This seems to be the only position the Scripture warrants.

2. This was the baptism of the Holy Spirit promised by Jesus. It filled the room, and it filled and took possession of the believers. See "Testimonies for the Church," Vol. VII, page 31.

3. See "Great Controversy," pages 611, 612.
4. See "Testimonies for the Church," Vol. VII, page 33. "The Spirit awaits our demand and reception."—"Christ's Object Lessons," page 121.

5. "Already many are receiving the Holy Spirit, and no longer will the way be blocked by listless indifference."—"Testimonies for the Church," Vol. VII, page 35.

The Book of Acts

THE book of Acts is the most remarkable church history ever written; one which is full of lessons for the remnant people of God. "The great work of the gospel is not to close with less manifestation of the power of God than marked its opening. The prophecies which were fulfilled in the outpouring of the former rain at the opening of the gospel, are again to be fulfilled in the latter rain at its close."

That the author was Luke, is acknowledged by nearly all Bible students. He was probably a Greek. He was a physician, a profession of honor among the Greeks. Jerome speaks of him as "a physician of Antioch." He was doubtless a well-educated man, of a lovable and modest disposition. He is called "the beloved physician." He does not mention his own name in the book.

It is commonly thought that the book was written about A. D. 63, as the narrative breaks off suddenly at the end of Paul's first imprisonment at Rome. It is generally believed that the book was written at Rome, as the author mentions his arrival at Rome (Acts 28: 16), and does not mention his departure. This is not conclusive, however.

Well might the book be called the "Acts of the Holy Spirit." The Holy Spirit is mentioned seventy-one times. It is a continuous record of a great spiritual revival accomplished by the superhuman power of the Holy Spirit through ordinary men.

The missionary lessons of this book ought to stir the church to-day to such activity as it has not yet experienced. Everything is ready for the quick finishing of the gospel work. What is needed is apostolic supplications, the forsaking of sins, and pentecostal power.

Don't Follow the Crowd

A SCOTTISH shepherd was taking a flock of sheep across a lake in a ferry-boat. The leader of the flock — for sheep have leaders — was an old ram, and he began to be restless. Suddenly he sprang overboard, and before anything could be done the whole flock sprang into the deep water. They followed the leader.

How easy it is to go with the crowd — to the theater, the saloon, the dance, the low moving-picture show! Noah lived among wicked people, but he did not follow the crowd, like the silly sheep. He stood alone, choosing rather to be laughed at and obey God than go with the others to destruction. The weak boy or girl goes with the crowd; the strong one stands up for the right. Only dead fish drift with the stream.—*Selected.*

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Lost Ten Thousand Dollars

At the aviation meet held at Belmont Park, New York, during the latter part of October, 1910, a prize of ten thousand dollars was offered to the aviator who would make the best time in flying across Long Island to the bay, and around the Goddess of Liberty statue, and back. The Wright brothers telephoned to their father, who is a bishop in the United Brethren Church, to get permission to make the trip on Sunday; but the old gentleman withheld his consent; and so the famous aviators lost the prize which they felt sure they could easily have won.

Mr. Wilbur Wright is forty-three years of age, old enough surely to be his own boss, if he ever means to be. But he seems to think his manhood is best conserved and revealed by respecting his father's wishes. It means more to him than money or fame. We wish all sons, at least in their early teens, had this fine sense of regard for, and obedience to, the wishes of their fathers.

One young man, a man in height if not in wisdom and principle, said recently: "The K.'s are going to have trouble with C., if they do not stop looking after him so closely, and don't let him do more as he wants to."

C.'s father and mother are estimable people. They are solicitous of his welfare, and they are willing and anxious to give him a good education, and do anything that will fit him for life's work. It is said that in forty years the average educated American earns at least twenty-two thousand dollars more than the average uneducated man. According to this, C.'s school-days are worth that much in dollars and cents to him. And, besides this, during his school years his parents are providing him gratis with board, clothing, room, and books. They want him to make a man of character and force, a man who will be able to serve the world acceptably, and so would not refuse him anything in their power that would aid in preparing him for an honorable, upright life. But because he wants to be out nights, perhaps with some girl who is not old enough even to think of having company; and because his parents think this association is unwholesome and inopportune, and object to it, he feels rebellious; and his older friend, who ought to look at things more wisely, feels that C. is being unduly restrained, and that he would be justified in breaking away from parental control.

Such an attitude is anarchistic, and devoid of any true sense of appreciation of a boy's filial responsibility. It fails to take into account what the boy owes the parents for the care and support they have given him all his life. He has demanded the expenditure of thousands of dollars, to say nothing of the years of toil and solicitude, all of which have made immense demands upon the life forces of his parents. Waywardness and insubordination, therefore, to one's parents is ingratitude of the most unworthy character. It bears no semblance whatever to a true, manly spirit.

Boys are not their own. They have been bought with a price. They belong to heaven, and heaven for the present entrusts them to their parents, and holds the parents responsible for their training. The parents of C. sense this responsibility, as do the parents of many other boys. It is heaven-born, and can not be laid off because the boy is unwilling to be guided and directed by their counsel. It rather is doubled, as it were, by his lack of co-operation.

The manly boy, the boy of true blue, the boy who will make his mark in the world, is the obedient, respectful boy. The world's record proves this. No total abstainer from intoxicants ever regretted being a total abstainer; but thousands of drunkards would give worlds to be freed from the bondage of drink. So no true man ever regretted having always been obedient and respectful to his parents; but there are thousands of men who have grieved long over their youthful insubordination. The wise boy will shun the paths that bring only regret and sorrow.

A School Incident

THE board of education of Washington, D. C., has ruled that the Bible shall be read without comment every morning at the opening of the public schools. One can imagine that this would be a rather ineffective proceeding when performed by one who would later express an adverse opinion of the Bible to the school. A case of this kind recently occurred.

A substitute teacher was explaining to the pupils of a physiology class the Darwinian theory, when a boy interrupted her with the comment, "That is not according to the Bible, teacher."

The instructor replied: "We are not concerned with the Bible here. We are talking facts."

The teacher then, it is said, told the class that the Bible is only a collection of fairy tales and fables, and is out of date.

Whereupon the dissenting pupil remarked, "Well, if you don't believe in the Bible, you can't teach me," and refused to recite further.

We wish every boy's courage and reverence for the Bible were equal to this boy's. The greatest of the world's leaders have been men who had profound love and reverence for the Book of books. Gladstone was an ardent reader and lover of the Word of God. Emperor William, of Germany, says:—

"It is a pleasure to read the Bible every night. A copy lies on a table at my bedside. I can not understand how so many people exist who do not attend to God's Word. It is the source from which I draw strength and light. I seek consolation therein in the hour of sorrow and depression and find comfort. I am convinced that many who have neglected religion, and have fallen from God, will regain their faith and feel the need of communion with the Almighty."