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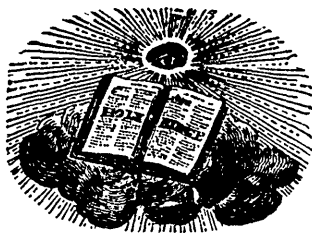
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SUNDAY SCHOOL GUARDIAN.



"ALL THY CHILDREN SHALL BE TAUGHT OF THE LORD."

VOL. VII.] TORONTO, C. W., AUGUST, 1852. [No. 3.

EXTRACTS FROM CORRESPONDENCE,

We give in this number a few extracts from letters received during the preceding month. We should like to occupy a larger space in our paper with interesting items of intelligence from our friends, and especially from those connected with the Sabbath Schools in various parts of the country. In the absence of original communications our paper must be filled with suitable extracts from other papers, and we need both, in order to supply the readers of the *S. S. Guardian* with an entertaining variety. We are gratified in being able to state the circulation of this paper is gradually increasing; but we are satisfied much more might be done by a more general effort. We commenced the volume with a large issue, and shall continue to print the same number monthly, if we find it probable that so large a

number will be required to supply the demand.

JERSEYVILLE, 16th July, 1852.

REV. SIR,—Enclosed you have fifteen shillings, for which you will be kind enough to send fifteen *Sunday School Guardians*, beginning with the first number of the present volume. They are designed for our school in this place, and some others; and let me add, that during the past winter there has been a gracious revival of religion among us; and several of the members are now seeking for the blessing of a clean heart, and a goodly number have been converted to the Lord, some of whom have since turned back; but there is one thing which is apparent, and I think ought not to be lost sight of, that out of those who were brought to seek the Lord at our last revival, who were connected with the *Sunday School*, (and there were more than a dozen of both teachers and scholars) I cannot say that one of them has turned back from following the Lord.

I am anxious to have your excellent paper more widely circulated, and should I be able to dispose of these, I may possibly send for more. I feel willing to "labour on at God's command, and offer all my works to Him."

I am your unworthy Bro.

B. McCoy.

PARIS, July 22nd, 1852.

DEAR SIR,—The enclosed is ten shillings, for ten copies of the *S. S. Guardian*. I am sorry for not being able to forward it at an earlier period, and also that the subscription is not a larger one, owing to several who have since last year left the place, but we hope soon to fill up their places by new subscribers to that valuable publication the *S. S. Guardian*.

On Monday, 27th June, we held our Sunday School Anniversary, and a very delightful time it was. The scholars recited a number of very appropriate pieces. This was something new in Paris, and the large assembly

present on the occasion, were highly pleased.

Collections amounted to 14 dollars. We number 75 scholars in regular attendance. We have about 200 volumes in our library and in circulation from week to week among many families in our village and neighborhood. May the blessing of God attend the reading of them and lead them to a knowledge of him, whom to know aright is life eternal!

Yours truly,

WM. ROWSE.

The Rev. S. WALDRON, writing from Elora, under the date of Aug. 2nd, says,—

Our S. Schools are becoming more and more interesting. The blessed work of salvation among the youth is truly matter of great joy! "Out of the mouth of babes and sucklings he receiveth praise." "Suffer little children to come unto me, and forbid them not."



MOSES IN THE ARK.

Here is a picture representing Moses when placed in the ark, by the river Nile, at the time he was discovered by the daughter of Pharaoh, king of Egypt. The history of Moses will be found in the book of Exodus, commencing with the second chapter; and we advise our young friends to turn to the place, and read attentively

the account which is there given of him. The history of Moses is one of the most interesting in the Bible. He was emphatically the child of Providence. By the most wonderful care of Jehovah, he was preserved when all the male children of the Hebrews were destroyed. He was safely hidden three months in the house of his

parents, and when put by the river, Pharaoh's daughter found him just at the time he was exposed to death. Her heart was moved with compassion, and although she knew it was one of the children which the decree of her father ordered to be put to death, yet she took him under her own protection. His own mother was selected for his nurse, and he afterwards found a home in the palace of his intended destroyer, where he obtained those qualifications which so eminently fitted him to be the deliverer, guide, and ruler of his own people.

In addition to the history of Moses, given in the book of Exodus, he is spoken of in the seventh chapter of the Acts of the Apostles, and in the 11th chapter of Epistle to the Hebrews. The whole account of this wonderful man, and type of Christ, may be read with great profit.



THE BRAZEN SERPENT.

The bitten Israelites and the Brazen Serpent are represented by this cut. Our little readers will perhaps recollect, if they have read the Bible attentively, that when the Israelites were in the wilderness, God was so displeased with them at one time that he sent fiery flying serpents to bite them, and thousands died of the wounds which the serpents inflicted, and many more would have died if God himself had not provided a remedy. The Lord

commanded Moses to make a serpent of brass and put it upon a pole, and to tell the bitten Israelites to look at it and they would be healed: and as many as obeyed the direction were cured of their wounds.

Now all this was intended to teach us important truths, in which we are deeply concerned. The bitten Israelites represent the condition of all mankind as sinners; the brazen serpent, teaches us that Jesus Christ alone can heal us of our spiritual diseases. Hence our Saviour says in the 3rd chapter of John's Gospel: "As Moses lifted up the serpent in the wilderness, even so must the Son of Man be lifted up; that whosoever believeth on him should not perish, but have eternal life."



JONAH AND THE WHALE.

"Now the Lord had prepared a great fish to swallow up Jonah. And Jonah was in the belly of the fish three days and three nights"—(ch. i. v. 17).

"And the Lord spake unto the fish, and it vomited out Jonah upon the dry land"—ch. ii. v. 10.

Jonah tried to flee from the presence of the Lord; but he could not even flee from the whale, how much less from the presence of the Lord. Let all children remember this. The history of this man will be found in the book of Jonah.

From the Independent.

WHAT MADE JOHN GO AWAY ?

Little JOHNNY would listen with wonder and delight while his pious mother daily read to him some portion of the Bible. Scenes in the life of Christ took strong hold of his young and ardent imagination. He was particularly interested in our Saviour's friendship for John, "the beloved disciple." He loved to hear her read how he leaned on Jesus'



bosom at the last supper, how after the crucifixion he took the mother of our Lord "to his own home," how he was distinguished as "the disciple whom *Jesus loved*." On one occasion, as his mother was reading that deeply-thrilling account of Christ's betrayal in the garden, when she came to the text, "*Then all the disciples forsook him and fled*," little Johnny, with tears streaming down his cheeks, looked up and said,— "Mother, what made *John* go away?" O how full of meaning is this question of little Johnny!— Again and again have I asked myself, "What made John go away?" What makes me go away? What makes any one of his disciples go away? Have we not often, when "weary and heavy laden," found rest in going to Jesus, and "leaning on his bosom?" Have we not had intimate and sweet communion with him, as with "an elder brother?" Is not his smile life? Is not his

love more than all earthly good? Then how can we ever go away? O, with what tenderness, with what affection he says, "Will ye also go away?" How sad the consequences of going away! We "wound the Saviour in the house of his friends," we "give occasion to the adversary to speak reproachfully," we become "a cause of stumbling" to others, we bring "leanness to our own souls." Then can we ever go away?

"Ah no! with thee I'll walk below,
My journey to the grave;
To whom, my Saviour, shall I go,
When only thou canst save?"

From the N. Y. Sunday School Advocate.

SHOULD WE PUT IT OFF ?

MY DEAR CHILDREN,—Let me ask you a question, and a very serious one, too. It is this:—Should we put off preparation to meet God until life is far spent, or we are brought upon a bed of death?

Now you know death selects his victims very impartially. The aged and infirm are his lawful prey, but he *more frequently* seizes cruelly upon the tender infant, also, and upon the blooming, vigorous youth, and the man in the meridian of his strength.

A far greater number, it is estimated, die in youth than live to old age, or even middle life. And you know it is a great thing to die—to leave this pleasant outward world, and go to dwell in the cold, dark grave; to leave the friends we tenderly love, and the house of God where we learn our duty and the way to heaven, and feel the Spirit drawing us to the Saviour and urging us to be reconciled to God. And why is it so great a thing to die? Because death ends our state of trial and brings us to the judgment; and what a fearful thing it will be if we

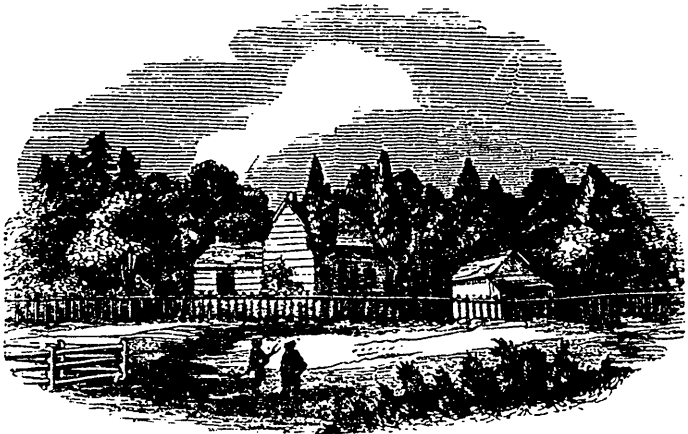
are brought to judgment before our sins are forgiven! We must prepare to meet God. That we must improve the time while we have it, a recent death in our Sabbath School in Liverpool will prove. Harriet Thomas had belonged to the school for many years, although she was but thirteen. She loved it dearly, and never staid at home unless she was too ill to be there. She tried to get others to go there, too, and was frequently seen guiding new scholars thither. She always manifested deep interest in the lesson, and in the sermon from the pulpit. She did not put off what she knew she ought to do. One Sabbath she was not there, and we heard she was ill; the next we attended her funeral. If we had only a death-bed to

judge from, we should have some painful doubts, for she was insensible nearly all the time. She had no chance to prepare then; but she had lived wisely, and we are confident that God has taken her to himself. Children of the Sabbath school, will not you do likewise?

She was cut down in health unexpectedly, and her disease deprived her of her mind. May it not be thus with you? Is it not very unwise and dangerous to put off the great work of giving your heart to God until a dying hour or an uncertain future? "Seek the Lord while he may be found, and call upon him while he is near."

C. B. WALKER, *Supt.*

Liverpool, May 1852.



MISSION PREMISES IN TONGA TABU.

INCIDENTS IN MISSION-ARY LIFE.

Missionaries are great travellers; they take long voyages to distant lands, where they see people of strange figures and rude habits. In their journeys through trackless deserts they meet with wild animals,

some very fierce and dangerous; often they are cheered with the sight of beautiful trees and flowers, lofty mountains and flowing rivers.

The manner of living in these foreign lands is different from ours, the houses in which the Missionaries live are not like the dwellings

in this country; the food is different; all is strange and foreign. Even the sky they look at is not like ours, for they do not see the same stars.

So interesting are many of the events that happen to them, that I think it will both amuse and instruct you to tell you some stories of Missionary life; and the first I shall give you will be

MR. AND MRS. TUCKER GOING TO TONGA.

After spending six months upon the briny ocean, their eyes were gladdened by the sight of the island they longed to behold; namely, Tongataboo, or, more properly, Tonga Tabu, "the sacred Tonga." The approach of night, however, forbade their entering the coral-studded passage which led to the anchorage. They retired to rest, hoping on the morrow to complete their voyage.

Again the bright orb of day gilded the horizon, they looked around for Tonga; but, alas! nought was to be seen; but the blue sky and the watery deep. Strong currents had carried them they knew not whither. The sun was setting when the object of their search appeared in view, another night had to be passed on the sea; and again the little bark seemed the sport of the waves, for the next day they had to renew their search for Tonga. Thus apparently for two nights they had been borne over coral reefs and passed between small low islands. Surely an unseen eye had watched over them, the Galilean Pilot had directed their course.

At length they attempted to thread their way between the branches of a beautifully-variegated coral when they were amused by a small canoe with only one native in it, who

seemed inclined to prove to them how much quicker he was borne forward by the wind in his light canoe than they could be in their stately vessel. No wonder that their attention was fixed at the strange sight of bare limbs and a dress of leaves.

In due time they anchored off Nu-kua-lofa, when the joyful news of the arrival of a vessel brought some of the natives to the shore. Ulukai, a Chief of the highest rank, went on board, and proceeded to the cabin; and so gracefully did he bow, as he offered to shake hands with the Missionary's wife, that she was instantly on her feet to meet this unexpected politeness in a native.

The Missionary stationed at the island followed the native Chief; and so great was his joy at seeing the newly arrived, that he would have the pleasure of carrying the lady to the shore. No easy matter, as the coral-reef over which he had to walk was very uneven: sometimes he was ankle deep in the water, and then again as much raised above it. But at length the Missionary party were safely landed at Tonga. Their adopted country pleased them. Nature seemed to luxuriate beneath a vertical sun, the countenances of the children beamed with joy as they clustered around their path, while the older inhabitants hailed them with the salutation of *Jio-ta-ofa*,—strange language to their ears; but they were told there was love in it. Here for the present we leave them to acquire that new language in order to declare the loving-kindness of the Lord to these interesting islanders, most of whom were still living in heathenish darkness.

WHAT CAN POPERY DO FOR SINNERS.

When a Roman Catholic, feeling that he is a sinner, goes to the Priest, and says, "What shall I do to be saved?" What answer does the Priest give him? Does he say to the inquiring sinner, as St. Paul did to the Philippian jailer, "Believe on the Lord Jesus Christ, and thou shalt be saved?" No: his reply is, "Repeat so many *Pater-nosters* or *Ave-Marias*, and then I will give you absolution;" or, "Go on a pilgrimage to some shrine of the Virgin Mary, and she will pardon your sins."

In the year 1816, a Christian lady was hearing a Protestant clergyman preach in a small village in the Tyrol. This village was situated a few miles from a place called, "Our Lady of the Hermitage;" a place of pilgrimage much frequented by the Roman Catholics. The clergyman was trying to persuade the pilgrims, of whom there were a great number not to go to this Romish shrine. As the lady sat listening, her attention was specially attracted by a very aged female, who, quietly seated among the rest, was evidently no listener to the discourse, but continued to tell her beads with eager and ceaseless assiduity.

When the preacher had concluded, the lady approached the old woman, and asked whether she had understood him. "Alas! no, Madam," was the reply; "for this gentleman speaks German, and I understand nothing but French." "Come with me, then to my room," said the lady, in a kind tone, "and we will converse together upon it; besides, you seem to be exceedingly tired." "Yes, indeed, lady," answered the poor creature: and no wonder; for I have walked three miles this morning; and I have

still four more to crawl through, before my appointed penance is performed; and that is hard upon one of my age." "How old are you, then?" asked the sympathizing listener. "I must be ninety-two, I think; for I was born in 1724; so you can reckon my age yourself, madam. This is the fiftieth time that I have made a pilgrimage to Our Lady of the Hermitage. I am a poor wretched sinner, and have many sins on my conscience; and, alas! I become, year by year, aware of such sins as I did not see to be such before; and they tell me, that my only hope of forgiveness is doing penance, and going on pilgrimage. But I feel very sure that this is the last time I can do so; and so I do hope I shall obtain forgiveness; for if not, I am a lost and undone creature to all eternity." "The Lord has doubtless sent you hither, my poor old friend," said the lady, much affected, "in order that you may hear tidings which will bring peace to your soul. Calm yourself, therefore, I beseech you, for I see that you are much agitated, and listen to what I am going to say: or you can read, perhaps?" "Yes madam." "O, that is well!" exclaimed the lady; "for then you receive God's testimony instead of mine;" and, so saying, she held out to her a French New Testament, and pointed to the text, John i. 29: "Behold the Lamb of God, which taketh away the sins of the world." When the aged woman had read these words aloud, the lady turned to John xix. 30, and pointed to the words: "When Jesus therefore had received the vinegar, he said, It is finished: and He bowed his head, and gave up the ghost." And then, from these two texts, the lady pro-

ceeded, in simple scriptural language, to prove that sinners were not required to do any thing to save themselves; but that Jesus Christ came into the world to procure salvation for all that believed on him, and now offered it to all as his free gift, without money and without price.

Every word she uttered sank deep into the heart of the eager and earnest listener, who seemed lost in astonishment and admiration at the thought of a free salvation as the gift of God. Suddenly she started from her seat, and, hurrying to the fire, threw her rosary into the flames, "It is finished," she cried, "my sins are pardoned, and Jesus has redeemed me from the curse of the law; and now I will go my way; but not to proceed to Our Lady of the Hermitage; no; but to go home, and tell my neighbours, that Jesus and Jesus alone, has saved the old sinner from her sins!"

The lady now knelt down with this aged young convert, and thanked God with her for this new evidence of his saving power. She then presented the old woman with a New Testament as a parting-gift, which in the exuberance of her joy, she repeatedly kissed, and then, like the Ethiopian nobleman, went on her way rejoicing that the aim and object of all weary and fruitless pilgrimages had at length been obtained.

From the Journal of Education for July.

ILLUSTRATIONS OF ASTRONOMY,

PHYSICAL CONSTITUTION AND APPEARANCE OF THE SUN AND PLANETS.

To measure the celestial bodies is almost as great and difficult a task as to measure their distances from each other. The ingenuity and skill, with which man has been endowed by his Creator, have, however, enabled him

to accomplish the one with as much accuracy and precision as he has approximated to the other.

Physical Constitution of the Sun.

—Concerning the physical nature of sun, very little is known. As before the said, it appears, when seen through a telescope, like a globe of fire, in a state of violent commotion or ebullition. La Place believed it to be in a state of actual combustion, the spots being immense caverns or craters, caused by eruptions or explosions of elastic fluids in the interior.

The most probable opinion is, that the body of the sun is opaque, like one of the planets; that it is surrounded by an atmosphere of considerable depth and that the light is sent off; from a luminous stratum of clouds, floating above or outside the atmosphere. This theory accords best with his density, and with the phenomena of the solar spots.

Of the temperature of the sun's surface, Dr. Herschel thinks that it must exceed that produced in furnaces, or even by chemical or galvanic processes. By the law relative to the diffusion of light, he shows that a body at the sun's surface must receive 300,000 times the light and heat of our globe; and adds that a far less quantity of solar light is sufficient, when collected in the focus of a burning-glass, to dissipate gold and platina into vapor.

The same writer observes that the most vivid flames disappear, and the most intensely ignited solids appear only as black spots on the disc of the sun, when held between him and the eye. From this circumstance he infers that however dark the body of the sun may appear, when seen through its spots, it may, nevertheless, be in a state of most intense ignition. It does not, however, follow of necessity that it must be so. The contrary is at least physically possible. A per-

fectly reflective canopy would effectually defend it from the radiation of the luminous regions above its atmosphere, and no heat would be conducted downward through a gaseous medium increasing rapidly in density.

The great mystery, however, is to conceive how so enormous a conflagration (if such it be) can be kept up from age to age. Every discovery in chemical science here leaves us com-

pletely at a loss, or rather seems to remove farther from us the prospect of explanation. If conjecture might be hazarded, we should look rather to the known possibility of an indefinite generation of heat by friction, or to its excitement by the electric discharge, than to any actual combustion of preponderable fluid, whether solid or gaseous, for the origin of the solar radiation.

MAP No. 4.

RELATIVE MAGNITUDE OF THE SUN AND PLANETS

FIG. 1

FIG. 2

THIS MAP ILLUSTRATES

THE RELATIVE MAGNITUDE OF THE SUN AND PLANETS.	P. 32
THE NUMBER, MAGNITUDE AND APPEARANCE OF THE SOLAR SPOTS.	P. 130-142
THE SUBJECT OF THE SUN'S REVOLUTION UPON HIS AXIS.	P. 142
THE CAUSE OF THE VARIOUS CHANGES AND DIRECTIONS OF THE SOLAR SPOTS.	143
THE SUBJECT OF THE SUN'S PHYSICAL CONSTITUTION	P. 144

The relative magnitude of the Sun and Planets is represented in Map. 4, Fig. 1. The scale of the charts is the same as in No. 2—namely, 40,000 miles of diameter to an inch. As the sun is 886,000 miles in diameter, he is drawn $2\frac{1}{2}$ inches across, to show his true magnitude as compared with the planets. These may be seen on the right side of the map, commencing with Mercury at the top, and passing downward to Herschel. Neptune is opposite to Herschel on the left.

The secondary planets will be seen around their primaries.

The magnitudes of the primary planets as compared with the earth are as follows, viz.:

Mercury, . . . $\frac{2\frac{1}{2}}{1}$	Ceres, . . .	$\frac{1}{33}$
Venus, . . . $\frac{9}{10}$	Pallas, . . .	$\frac{1}{33}$
Earth, . . . 1	Jupiter, . .	1,400
Mars, . . . $\frac{1}{6}$	Saturn, . .	1,000
Vesta, . . . $\frac{1}{28000}$	Herschel, .	90
Astræa, unknown.	Neptune, .	90
Junó,		$\frac{1}{28}$

The sun is 1,400,000 times larger than the earth, and 500 times larger than all the other bodies of the Solar System put together. It would take one hundred and twelve such globes as our earth, if laid side by side, to reach across his vast diameter.

The moon's orbit is two hundred and forty thousand miles from the earth. Now, if the sun was placed where the earth is, he would fill all the orbit of the moon, and extend more than two hundred thousand miles beyond it on every side! What is a globe like ours compared with such a vast and ponderous body as the sun?

General Remarks respecting the Sun—its Magnitude, &c.—Of all the celestial objects with which we are acquainted, none make so strong and universal an impression upon our globe as does the Sun. He is the great centre of the Solar System—a vast and fiery orb, kindled by the Almighty on the morn of creation, to cheer the

dark abyss, and to pour his radiance upon surrounding worlds. Compared with him, all the solar bodies are of inconsiderable dimensions; and without him, they are wrapped in the pall of interminable night.

The sun is 886,000 miles in diameter. Were a tunnel opened through his centre, and a railway laid down, it would require, at the rate of thirty miles per hour, nearly three and a half years for a train of cars to pass through it. To traverse the whole circumference of the sun, at the same speed, would require nearly eleven years. His diameter is 112 times that of the earth, and his mass 1,400,000 times as great. He is 500 times larger than all the rest of the Solar System put together. The mean diameter of the moon's orbit is 480,000 miles; and yet, were the sun to take the place of the earth, he would fill the entire orbit of the moon, extend more than 200,000 miles beyond it on every side.

The form of the sun is that of a spheroid; his equatorial being somewhat greater than his polar diameter. The map referred to exhibits the relative diameters of the sun and planets.

Spots on the Sun—their Number.—By the aid of telescopes, a variety of spots are often discovered upon the sun's disc. Their number is exceedingly variable at different times. From 1611 to 1629, a period of eighteen years, the sun was never found clear of spots, except for a few days in December, 1624. At other times twenty or thirty were frequently seen at once; and at one period in 1825, upwards of fifty were to be seen; over one hundred are sometimes visible. From 1650 to 1670, a period of 20 years, scarcely any spots were visible; and for eight years, from 1676 to 1684, no spots whatever were to be seen. For the

last 46 years, a greater or less number of spots have been visible every year. For several days, during the latter part of September, 1846, we could count sixteen of these spots which were distinctly visible, and most of them well defined; but on the 7th of October following, only six small spots were visible, though the same telescope was used, and circumstances were equally favourable.

Nature of the Solar Spots.—The appearance of the solar spots is that of a dark *nucleus* surrounded by a border less deeply shaded, called a *penumbra*. They are both well represented on the map. When seen through a telescope, the sun presents the appearance of a vast globe, wrapped in an ocean of flame, with the spots, like incombustible islands, floating in the fiery abyss.

Concerning these wonderful spots a variety of opinions have prevailed, and many curious theories have been constructed. Lalande, as cited by Herschel, suggests that they are the tops of mountains on the sun's surface, laid bare by fluctuations in his luminous atmosphere; and that the penumbrae are the shoaling declivities of the mountains, where the luminous fluid is less deep. Another gentleman, of some astronomical knowledge, suppose that the tops of the solar mountains are exposed by *tides* in the sun's atmosphere, produced by planetary attraction.

To the theory of Lalande, Dr. Herschel's objects that it is contradicted by the sharp termination of both the internal and external edges of the penumbrae; and advances as a more probable theory, that "they are the dark, or at least comparatively dark, solid body of the sun itself, laid bare to our view by those immense fluctuations in the luminous regions of the atmosphere, to which it appears to be subject." Prof. Olmsted supports this

theory by demonstrating that the spots must be "nearly or quite in contact with the body of the sun."

In 1773, Prof. Wilson, of the University of Glasgow, ascertained by a series of observations that the spots were probably "*vast excavations* in the luminous matter of the sun;" the nuclei being their bottom, and the umbrae their shelving sides. This conclusion varies but little from that of Dr. Herschel, subsequently arrived at.

Magnitude of the Solar Spots.—The *magnitude* of the solar spots is as variable as their number. Upon this point the map will give a correct idea; as it is a pretty accurate representation of the sun's disc, as seen by the writer on the 22nd of September, 1846. In 1799, Dr. Herschel observed a spot nearly 30,000 miles in breadth; and he further states, that others have been observed whose diameter was upwards of 45,000 miles. Dr. Dick observes that he has several times seen spots which were not less than $\frac{1}{5}$ of the sun's diameter, or 22,192 miles across.

Revolution of the Sun upon his Axis.—The axis of the sun is inclined to the ecliptic $7\frac{1}{2}^{\circ}$, or more accurately $7^{\circ} 20'$. He revolves in the same direction in which the planets revolve around him, and the time occupied in making a complete sidereal revolution is 25 days 10 hours. But when a particular spot has arrived opposite any particular star from which it is started, in the direction of which the earth was 25 days and 10 hours before, the earth is found to have advanced some 24° , or 1,700,000 miles in her orbit; and the sun must actually turn a little more than once round, to appear to make a complete revolution to a beholder on the earth. His *synodic* revolution consequently requires 27 days, $7\frac{1}{2}$ hours, or near 46 hours more time than his sidereal revolution.

Direction, Motions and Phases of the Solar Spots.—As the result of the sun's motion upon his axis, his spots always appear first on his eastern limb, and pass off or disappear on the west.

The figure of the sun affects not only the apparent *velocity* of the spots, but also their *forms*. When first seen on the east, they appear narrow and slender, as represented on the left of Fig. 1. As they advance westward, they continue to widen or enlarge till they reach the centre, where they appear largest, when they again begin to contract, and are constantly diminished till they disappear.

Another result of the revolution of the sun upon an axis inclined to the ecliptic, and the revolution of the earth around him, is, that when viewed from our moveable observatory, the earth, at different seasons of the year, the *direction* of the spots seems materially

to vary. This fact is illustrated by fig. 2. In June we have, so to speak, a side view of the sun, his pole being inclined to the *left*. Of course, then as he revolves, his spots will appear to ascend in a straight line. In September we have passed around in our orbit, to a point opposite the south pole of the sun, and the spots seem to curve upward. In December we have another side view of the sun, but we are opposite the point from which we had our first view, and on the other side of the ecliptic. The result is, that the poles, of the sun are now inclined to the *right*; and the spots, in passing over his disc, incline downward. The polar inclination of the sun, as given in the figure, is greater than it actually is in nature the present design being merely to illustrate the *principle* upon which we account for the peculiar motion of the solar spots.



THE PALM TREE.

This tree was considered one of the most important productions of the East. It was remarkable for its erect and cylindrical stem, crowned with a cluster of long and feather-like leaves; and is as much esteemed

for its fruit, the date, as for its juice, whether fermented or not, known as palm-wine, and for the numerous uses to which every part of the plant is applied. The finest palm trees were about Jericho and Engeddi.

There were many along the banks of the Jordan, and towards Schythopolis. Jericho is called the city of palm-trees. Deut. (xxxiv. 3.) A branch of the palm-tree, as symbolical of victory, was carried before a conqueror in processions and rejoicings for victory. The Jews sent a golden branch of the palm-tree to the Kings of Syria, as a kind of tribute or present. The palm-trees of the plain of Jericho are famous throughout Scripture, and even in profane authors. In the temples of Jerusalem, Solomon caused pillars, or pilastres, to be made in the form of palm-trees. (1 Kings, vi. 29.) &c., probably in imitation of the Egyptians, who adopted such pillars in their temples. Palm-trees from the same root produce a number of *suckers*, which form a kind of forest by their spreading upwards. Probably to this multiplication the Psalmist alluded in Psalm xcii. 12. The tree was also considered characteristic of Judea, not so much because it was more abundant there than in other lands, but because that was the first country where the Greeks and Romans met with it in proceeding southward.

AN INDUSTRIOUS HELPER.

A little girl in Lancashire was determined to help the Church Missionary Society. She was poor; yet she was not content to give a trifle. She surprised those who knew her circumstances, when she said she meant to give twenty-six shillings a year. On being questioned respecting her mode of obtaining the money, she stated that she had engaged to clean the school-room for sixpence a week, and intended to give all her earnings of this kind to the cause. She was true to her resolution, and by continued industry was enabled to contribute to the

above amount. Does not such an instance as this put to shame some of the idle ones? They complain that they have nothing to give; but if they would attend to those few words of St. Paul, "*Let him labor with his hands, that he may have to give.*" like the industrious helper to whom we refer, they would many of them assuredly be able to render some measure of help to this cause. —*Juvenile Missionary Instructor.*

A RICH POOR MAN.

One windy afternoon, I went with a friend into a country almshouse. There was sitting before a feeble fire a very aged man, who was deaf, and so shaken with the palsy, that one wooden shoe constantly pattered against the ground. But deaf, sick, and helpless, it turned out that he was happy. "What are you doing, Wisby?" said my friend. "Waiting sir." "And for what?" "For the appearing of my Lord." "And what makes you wish for his appearing?" "Because sir, I expect great things then. He has promised a crown of righteousness to all that love his appearing." And to see whether it was a right foundation on which he rested, that glorious hope, we asked old Wisby what it was. By degrees he got on his spectacles and opening the great Bible beside him pointed to the text, "Therefore, being justified by faith, we have peace with God through our Lord Jesus Christ; of whom also we have access by faith into this grace wherein we stand, and rejoice in hope and the glory of God."—"Though you possess untold wealth if you have not old Wisby's faith you are a poor man. Better have Wisby's hope than Victoria's sceptre, Lazarus' rags than Dives' purple. Better is poverty with piety, than riches with perdition.—*Herber.*



 INVITATION.

1.

O come ye children, all who idly squander
 Time away, time away ;
 And you who on the Sabbath love to
 wander,
 All the day, all the day.
 No longer walk in ways of vice,
 Though old companions may entice,
 But make with us a better choice,—
 Come to school, come to school.

2.

O, yes, we know you'll always find it better,
 If you turn, if you turn ;
 And though you do not know a single letter,
 You may learn, you may learn.
 We've books for every class design'd,
 And teachers willing, good and kind,
 Who love to train the youthful mind,—
 Come to school, come to school.

3.

And though so many favours we received,
 All are free, all are free ;
 And if you are unwilling to believe it,
 Come and see, come and see.
 None are too poor to enter there,
 Or deem'd beneath a teacher's care,
 And if you would our blessing share,—
 Come to school, come to school.

4.

'Tis there, each Sabbath, we with joy as-
 semble,
 Neat and clean, neat and clean ;
 No more in fields and meadows ramble,
 Vile and mean, vile and mean,
 We learn to love God's holy day,
 To read his word and sing and pray,
 And you may join us, yes you may,—
 Come to school, come to school.

 ALL IS WELL !

1.

What's this that steals, that steals upon
 my frame ?
 Is it death ?—is it death ?
 That soon will quench, will quench this
 vital flame,—
 Is it death ?—is it death ?
 If this be death, I soon shall be,
 From every pain and sorrow free,
 I shall the King of glory see,—
 All is well—all is well !

2.

Weep not, my friends, my friends weep
 not for me,
 All is well—all is well !
 My sins are pardon'd, pardon'd I am free,
 All is well—all is well !
 There's not a cloud that doth arise,
 To hide my Saviour from my eyes,
 I soon shall mount the upper skies,—
 All is well—all is well.

3.

Tune, tune your harps, your harps ye saints
 in glory,
 All is well—all is well !
 I will rehearse, rehearse the pleasing story,
 All is well—all is well !

Bright angels are from glory come ;
 They're round my bed, they're in the
 room ;
 They wait to waft my spirit home,—
 All is well—all is well !

4.

Hark, hark ! my Lord, my Lord and Master
 calls me :
 All is well—all is well !
 I soon shall see, shall see his face in glory,
 All is well—all is well !
 Farewell, dear friends, adieu, adieu,
 I can no longer stay with you ;
 My glittering crown appears in view,—
 All is well—all is well !

5.

Hail, hail ! all hail ! all hail ! ye blood-
 wash'd throng,
 Saved by grace—saved by grace !
 I've come to join, to join your rapturous
 song,
 Saved by grace—saved by grace !
 All, all is peace and joy divine,
 And heaven and glory now are mine ;
 O halleluiah to the Lamb !—
 All is well—all is well !

INVITATION; OR, ALL IS WELL!

Andante.

O, come ye chil-dren, all who i - dly squan-der, Time a -
And you who on the Sab - bath love to wan-der, All the

What's this that steals, that steals up-on my frame? Is it
That soon will quench, will quench this vi-tal flame? All the

way, time a - way;
day, all the day. No lon-ger walk in ways of vice, Though

death? is it death?
death? is it death? If this be death, I soon shall be, From

old com - pan - ions may en - tice, But make with us a
e - very pain and sor - row free, I shall the King of

bet - ter choice, Come to school, come to school.

glo - ry see, All is well— all is well!

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