

[Copy of Letter to G. A.]

Hatfield Cottage, Gwendoline Road, Leicester, England.
Dear Brother Aldridge, Sept. 3rd, 1903.

I have to thank you for your letter, received on Sunday

last, August 30th.

I do not deny that you have in the south a centre around which the southern stars revolve. If some Zetetics deny this it is because they have not yet seen the evidence for it. But as you know that southern constellations revolve around a so-called south "pole," so we know that water everywhere is level, and the earth (or land, see *Gen.* i. 10) therefore a plane. If the earth were a globe, according to popular belief, the surface of all canals, rivers, and seas, would be convex.

It is as inconsistent of the globularist to deny that water is level as it would be of me to deny your evidence about the southern stars. Both are evidently facts, and no fact should be contradicted. The fact that water is level is utterly inconsistent with the globular theory, but the motions of the heavenly bodies have, speaking generally, nothing to do with the shape of the surface of the earth. But you and I are both Christians, and we ought alike to respect the Word of the Creator. No part of the Bible can be more undoubtedly the Word of God than the Ten Commandments which God spake on Mount Sinai. In the second commandment "God said" that

Heaven is "above,"

The earth "beneath,"

And the water "under the earth."

Can you reconcile this with the whirling globe theory? Where is heaven on such a hypothesis? Shall we as Christians accept the teaching of God's Word respecting his own Creation, or shall we accept the "hypothesis" of "science" falsely so-called?

If the statements of the Bible respecting the form and order of the universe are not reliable, how shall we credit it on other matters? If you try to shake the faith of Zetetic Christians in the inspired descriptions of God's Universe will you not as a Christian teacher incur a grave responsibility?

We Zetetics hold to the plane-earth doctrine because it throws so much light on Scripture statements, and strengthens our faith generally in God's Word; but I have publicly debated the question here on the basis of "science" alone, and I have never yet met a man who could give me one irrefutable proof of the earth's globularity, or its supposed awful motions. We know that all infidels stand on the side of the astronomers, because modern theoretical astronomy subverts Bible teaching. Where, then, should all Christians be found? Let us stand together on the side of God's Word. You in the south could help us in the north; and we in the north may be able to help you in the south.

You say, "the sun moves *apparently* from east to west." Why not believe the evidence of your senses, that is, that the sun does move? The Bible says the sun moves; and the same good book says that the earth is established so that "it cannot be moved." Can you give me a proof that the earth moves as astronomers affirm? I would like to see such a proof.

There may be, and I think there are, some difficulties still remaining on the Zetetic side; but one thing is certain, our teaching does not tend to subvert faith in the divine inspiration of the Bible.

I shall be glad to see your further photos. Please mark which way the stars revolve—your camera being of course pointed to the south.

With kindest regards, believe me, yours faithfully,

ALBERT SMITH.

Further Questions.—1: Where does the sun rise to you on the 21st March, or 23rd September? Is it due east? That is to your right hand? And what is your latitude? 2: Where does the sun rise in December, say the 25th? How much south of east? Ditto when setting? 3: Where on June 21st? Please also give times of rising and setting. 4: Does the moon appear to act in the same way? When?—A.S.

THE EARTH.

VOL. IV.

NOS. 41 & 42.

DECEMBER AND JANUARY.

THE BOOK OF JOB IN CONNECTION WITH "SCIENCE" TRULY SO-CALLED: OR, DIVINE ASTRONOMY.

"Hast thou perceived the breadth of the earth."

When speaking upon the subject of the Divine Cosmogony, revealed to Moses by the Creator and recorded by Moses, very frequently have I referred to the above passage of Scripture. I have reminded my hearers that there is great depth and much food for study in this portion of Holy Writ, *i.e.*, in the whole Book of Job. But even a casual reader may clearly perceive, that the lesson which the Lord God Jehovah intended to impart to mankind in the one eight-worded question, which appears at the head of this article, is, that true knowledge and wisdom can alone emanate from the Creator Himself.

Therefore I am rejoiced to announce to my readers that I have been favoured with an early copy of a new work by Dr. Bullinger, on the Book of Job.* Part I., giving its scope, as containing the "oldest lesson in the world;"† and Part II., giving a new translation of the whole book.

It is with the latter that we are principally concerned now; because, for the first time, that wonderful and beautiful book is made intelligible to English readers.

Both the A.V. and R.V. are, as is well-known, in many places quite incoherent—conveying and containing inadequate reasonable meaning. Of course, I need hardly add that there could be no improvement made to the original.

*NOTE.—Published by Eyre & Spottiswoode, 33, Paternoster Row, E.C.
Price, 5/- cloth; 7/6 leather (suitable for presents).

To be obtained also of the Ed. of *The Earth*.

†NOTE.—For the justification of the translation, where it differs from the A.V., our readers must consult Dr. Bullinger's work itself.

Dr. Bullinger's new translation is based on six great principles, which make it quite unique. (1) It is *Rhythmical*; (2) It gives the *Structure* of the whole and every portion. (3) It notes and translates all the *Figures of Speech*. (4) It is *Idiomatic*. (5) It is *Critical*, giving the notes from Dr. Ginsburg's Hebrew Text. (6) It distinguishes and preserves the various *Divine Names and Titles*.

The work will specially interest readers of *The Earth*, for they are aware how much the Book of Job has to say about Astronomy, and about the Earth.

Dr. Bullinger says however, that while the book contains a divinely inspired account of what the various speakers said, it does not follow that what they said was inspired. He passes over, therefore, the references to Astronomy made by Job and his friends, for though we may regard them as representing the current beliefs of themselves and their times, yet they cannot be cited as Divine utterances.

It is quite a different matter, however, when we come to the words of Jehovah Himself, in chapters xxxviii., xxxix., and xl. There we have the Creator of Heaven and Earth speaking of His own works. He who created all things is the only One who knows all about them and is able to reveal them.

It is wonderful to read His own words about His own works, and Dr. Bullinger has succeeded in making the words live before our eyes. We sometimes hear of young ladies' circles for reading Tennyson or Browning, &c. We shall be surprised, if among Christians there are not circles formed for reading this wonderful book, if only for the beautiful English in which it is presented.

When we come to Jehovah's own address to Job, we see that it is divided into two parts. Each is followed by an utterance of Job: the first time to say he could not answer; and the second time to answer to some purpose.

The two parts of Jehovah's great address are about two great departments of His creative work. The first about the *Inanimate* Creation; and the second about the *Animate* Creation.

It is with the former of these that the readers of *The Earth* will be specially interested.

As we read it in the A.V., it seems a jumble—and the various subjects seemed to be mixed up in hopeless confusion;

but Dr. Bullinger shows us the Structure, and we see at once, as it is presented to the eye, how perfect and yet how simple it all is. We give

THE STRUCTURE OF JOB xxxviii. 4—35.

THE INANIMATE CREATION:

(JEHOVAH'S WISDOM EXHIBITED IN OUTWARD ACTIVITIES).

A | 4-7. The Earth.

B	a ¹ 8-11. The Sea.	}	Things pertaining to the Earth.
	b 12-15. The Dawn.		
	a ² 16-18. The Springs of the Sea.		

C | 19-. Light.

C | 19-21. Darkness.

} Things pertain-
ing to both
the heavens and
the earth.

B | a₁ | 22, 23. Snow and Hail.

b | 24-27. Lightning.

| a² | 28-30. Rain, Dew, and Frost.

} Things
pertaining
to the
Heavens.

A | 31-35. The Heavens.

It will be seen that first we have the Earth (A. vv. 4-7.) This is balanced by the Heavens (A. vv. 31-35). Then, following the Earth, we have (B vv. 8-18) things pertaining to the Earth. Then again alternate, Liquids and Light.

Then in the centre we have Light and Darkness (C & C, vv. 19-21).

Then, balancing the things of the Earth, we have (B, vv. 22-30) the things pertaining to the heavens, leading up to the Heavens themselves, (A. vv. 31-35).

We will now take the liberty of giving our readers the whole of the first part of Jehovah's address, about

THE INANIMATE CREATION.

They will not fail to notice two great points :—

(1) How absolutely incompatible is the *theory* of Evolution in the face of this Scripture. One *must* go ; and the theory of Evolution must vanish, before the fact of Creation.

(2) How plainly the gropings of scientists stand exposed. Time was when they thought they knew so much, that, like school-boys, they thought "the Book was wrong." But to-day—every fresh discovery of fact shows the falsity of their old exploded theories, and the wondrous perfection of the Divine Word. Once, they thought they knew all about "Light," and they laughed at the statements in this chapter : Now they find they know so little they are beginning to discover something of the meaning of His words, when Jehovah speaks of "the parting of the light."

But we must now give the translation itself.

A, (*vv.* 4-7).—THE EARTH.

4. Where wast thou when I Earth's foundations laid ?
Say ; if thou know, and understandest it.
5. Who fixed its measurements (for thou wilt know) ?
Or, Who upon it stretchèd out the line ?
6. On what were its foundations made to rest ?
Or, Who its corner-stone [so truly] laid ?
7. When all the morning stars in chorus sang,
And all the sons of God did shout for joy.

a¹, (*vv.* 8-11).—THE SEA.

8. Or, Who fenced in with doors the [roaring] sea,
When bursting forth from [Nature's] womb it came ?
9. What time I made the clouds its covering robe,
And darkness deep the swaddling band thereof ?
10. When I decreed for it My boundary,
And set its bars and doors, and to it said
11. "Thus far—no farther ; Ocean, shalt thou come ;
"Here shalt thou stay the swelling of thy waves ?"

b, (*vv.* 12-15).—THE MORN AND DAWN.

12. Hast thou called morning forth since thou wast born,
Or, taught the early Dawn to know its place ?
13. [Bid Morn] lay hold on outskirts of the Earth,
[Taught Dawn] to rout the lawless from their place ?

14. [Bid Morn] change earth as clay beneath the seal,
[Bid Dawn] enrobe the beauteous world with light ?
15. Thus Morning robs the wicked of their prey ;
And stays, arrested, the uplifted arm.

a², (*vv.* 16-18).—THE SPRINGS OF THE SEA.

16. The fountains of the Sea ; hast thou explored ?
Or, Hast thou searched the secrets of the Deep ?
17. The gates of Death ; Have they been shown to thee ?
Or, Hast thou seen the portals of its shade ?
18. The utmost breadths of earth : Hast thou surveyed ?
Reply, if thou hast knowledge of it all.

C and C (*vv.* 19-21).—LIGHT AND DARKNESS.

19. Where lies the way that leads to Light's abode ?
And as for Darkness : Where's the place thereof ;
20. That thou shouldst bring each to its proper bound
And know the paths that lead unto its house ?
21. Thou know'st [of course] : thou must have been then
born ;
And great must be the number of thy days.

a¹, (*vv.* 22, 23).—SNOW AND HAIL.

22. The Treasuries of Snow : Hast thou approached ?
Or, Hast thou seen the store-house of the Hail ?
23. Which 'gainst a time of trouble I have kept,
Against a day of battle and of war.

b (*vv.* 24-27).—LIGHTNING AND THUNDER.

24. By what way part themselves the rays of Light ?
How drives the East-wind o'er the earth its course ?
25. Who cleft a channel for the floods of rain ?
Or passage for the sudden Thunder-flash ?
26. So that it rains on lands where no one dwells,
On wilderness where no man hath his house ;
27. To saturate the wild and thirsty waste,
And cause the meadows' tender herb to shoot.

a², (*vv.* 28-30).—RAIN, DEW, AND FROST.

28. The Rain : Hath it a father [besides Me] ?
The drops of Dew : Who hath begotten them ?

29. Whose is the womb whence cometh forth the Ice?
And heav'n's Hoar-frost, Who gave to it its birth?
30. As, turned to stone, the waters hide themselves;
The surface of the deep, congeal'd, coheres.

A (vv. 31-35).—THE HEAVENS.

31. Canst thou bind fast the cluster Pleiades?
Or, canst thou loosen great Orion's bands?
32. Canst thou lead forth the Zodiacs monthly Signs?
Or, canst thou guide Arcturus and his sons?
33. The statutes of the heavens: Know'st thou these?
Didst thou set its dominion o'er the Earth?
34. The clouds: to them canst thou lift up thy voice
That plenteousness of rain may cover thee?
35. Canst thou send lightnings forth, that they may go
And say to thee 'Behold us! Here we are?'

I wish I had space to give more, but the above will serve as a specimen of Dr. Bullinger's work; while it will be of special interest to all Zetetics, as bringing out the grandeur of Jehovah's words as He speaks of His own works.

THE ANTARCTIC EXPEDITION.

The narrative of the latest Antarctic Expedition, under Captain Scott of the ship *Discovery*, is on the table before me. I read this report with the greatest avidity. My first, and, indeed, my chief, anxiety was to find some genuine evidence of the midnight sun down south, in keeping with stories which were circulated by the men of the ship *Morning*, on their landing in England.

At the time that these curious reports were circulated, I judged them to be thoroughly irresponsible, and now that I have read Captain Cook's highly responsible narrative I remain in just the same state of mind as before, in that, from first to last there is not the faintest mention of any Midnight Sun, or of any *continued* daylight,—but the whole phraseology of the report is distinctly in opposition to any such conclusion, and I find the 24 hours invariably divided

into the usual intervals of morning and evening, noon and night.

The sun also is spoken of as going and coming, and as rising, and as being *below the horizon*, and consequently as *setting also*. This appears to be about September, and is of the utmost importance, in that the point of sunrise is clearly indicated in one instance, showing that the sun actually rose about East North East—northerly—and lit up the sides of the mountains facing *north*. This point of sunrise is of the utmost importance, because, if the earth were a globe, the sun must have risen about due East, and the eastern sides of the mountains would have been lit up "by the glow of the sun" when "still below the horizon;" whereas the passage goes on to say that "the other sides were *dark and shadowy*."

The word "*shadowy*" has also great weight in it, because the shadow would of course be to the South, and just opposite to the point of sunrise. Here then—and in the words of the authorities themselves—we have clear proof that the sun not only rose above the horizon, but also,—and this is the crucial point—rose in addition to the *Northward*, and not East nor South as it must have done had the earth been a revolving and spinning globe and the sun itself a *stationary object*.

The sun is spoken of, on this occasion, as "*returning*." What does returning mean? Clearly, that the sun was not stationary, but on the *move*, and that during the Antarctic winter the sun had moved into northern latitudes, and was, in September, "*returning*" south again, and thus made the Antarctic summer, or the resemblance of a summer, which is about as much as they really get in those extreme latitudes.

Further, I have now very much pleasure in pointing out that these extreme latitudes are possible only on one condition, and that condition is that the sun's path, during our winter months, is in fact a sharp ellipse. Of this I am certainly positive, and without *it* the latitudes down south could not, and would not, exist. It may encourage readers to believe me if I say how I obtained the knowledge of the sun's *daily* path being an ellipse during our winter months.

It occurred this way. When fifteen years of age, I went a voyage to Australia in my cousin's ship, *The Albemarle*. We had a first officer, named Mr. Merritt, and he was the

smartest of the smart; the best trimmer of canvas I ever met with, and a gentleman and philosopher. When taking the sun, at 12 (midday), he would occasionally talk to himself aloud, and this more frequently as we approached Australia. As I was always looking on I used to hear his audible but no doubt (as he thought) private chat. His method of "taking the sun" was purely his own, and very clever. He usually commenced about ten minutes before noon, and kept constantly turning to the compass, so as to note the bearings (as I naturally suppose) of the ship's head and the sun.

On some of these occasions he would say: "The sun's path must have a great ellipse on it." This he would repeat several times nearly every day, until the sun came almost plumb overhead and the observation almost impossible.

Now reader, you will understand how I know that the sun's daily path must have a great ellipse on it; and many years of plan making confirms me in the belief that it must be so. And it is this ellipse alone which admits of southern latitudes in the direction of New Zealand; without it those latitudes are quite impossible on a Plane Earth, as the *distances* would be *preposterous* and convey the idea that the Plane Earth is nothing more than the globe flattened out.

This, of course, is not the case, and I am exceedingly obliged to Lady Blount, whose highly superior and clear discernment enabled her, without human aid, to use her God-given judgment and to abandon a former map of the earth which was a flattening of the globe, pure and simple. It looked very nice, I admit, but was hopelessly astray for all that, and only served as an amusing bogey for the scientific members of the Royal Geographical Society to poke fun at; and planists have to thank her ladyship for upholding my skeleton, but possible, plans in lieu of that costly affair. By means of my plans we shall, no doubt, arrive at something conclusive—finally genuine and acceptable—but perhaps, not in my life-time, as I well know the veritable difficulties of the case, and also know that hurry is not *speed* in this matter, which is *too big* for one life-time.

I do not wish to fall into the same error of *immensity* as the astronomers. Their whole idea of a God-glorious Creation is *immensity*—impossible and *impracticable* immensity—whereby they overlook the kernel to eat the shell. Speak-

ing of our earth (the kernel), they say it has no significance whatever, but is dwarfed by millions of stars, suns, and other worlds, which apparently create themselves. In this they are very much mistaken, as our earth is by far the *largest*, which in itself is not a bad bid for significance. The sun is undoubtedly only 32 miles in diameter, and this can be so easily proved, that I wonder at their persistence in a hopeless and untenable position.

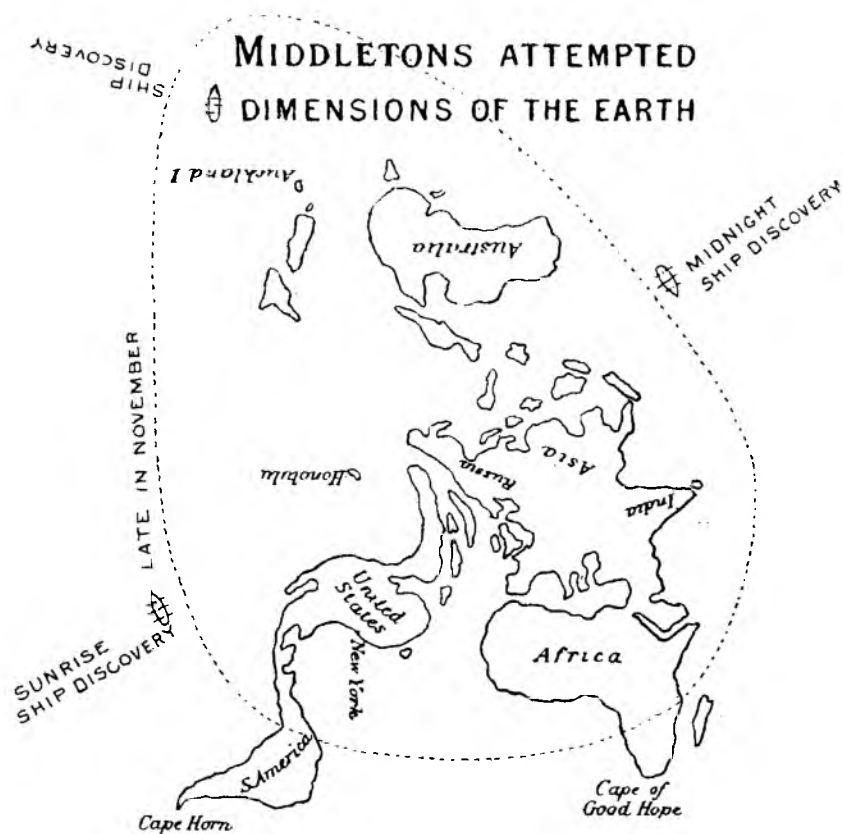
To recur more directly to the account of the Antarctic Expedition. There is positively no mention of, nor even suggestion of, the continuous daylight so often claimed for the Antarctic regions; but morning and evening, noon and night, is the repeated language of the narrative throughout.

Fine nights may have occurred now and then, but such these latitudes every month for a few days, and probably goes away south in the interval.

The "*flat horizon*" is also spoken of, and at the same time geographical miles. These expressions are inconsistent, one with the other. The horizon was of course *flat*, and the miles were also *statute miles* (as are all miles on maps). The map makers know this quite well.

I have now said sufficient to show that the Antarctic Expedition furnishes further proof that the earth is a plane surface; but sunset still admits of a few explanatory remarks. This feature is very important. The sun, without doubt, sets away to the northward, and not southerly nor due West, as it would do on a globe; thus, to the ship *Discovery*, it might make a Midnight Sun, much in the same direction as the Midnight Sun when seen from the North Cape—the main difference being that the sun is further to the southward, and therefore invisible to a spectator at North Cape, Norway. But for this difference of distance the two Midnight Suns—North and South—might be described as visible almost from the same place.

This is very fairly shown on my diagram. The midnight sun at North Cape is lost to view, owing to increasing distance from the observer, about August, and it gradually increases its distance still further South—till Christmas Day—but, owing to the ellipse of the sun, its return path Northwards from the *Discovery* crosses the meridian of Greenwich again, and eastward from the locality of the Midnight Sun as seen from North Cape.



The elliptical path of the sun most certainly invites the closest observation, such as might perhaps be achieved from the observatory of Ben Nevis. This observatory I am told cost £5,000 to establish, but is now to be dismantled—may I ask why? Is it found to be too inconvenient, as telling tales? Or what other reason is to be put forward for the dismantling of an observatory, just calculated by its position to be of the highest service? Have they actually seen the Southern Midnight Sun from it? and is this the reason for its abandonment? We of the Planist School have no terror of any hidden secrets which such an observatory would disclose. As a set off to this abandonment, will some rich

planist try a captive balloon from North Cape—to go up like the French Balloon—say a mile high?

Depend upon it, the aeronauts in such a balloon will see the Midnight Sun, such as may possibly be seen by South Poleites, in common with the crew of the *Discovery*.

E. E. MIDDLETON.

CELESTIAL PHENOMENA.

By Lady Blount.

(continued from p. 276).

The stars, which are not many thousand miles high, disappear by perspective as we go further away from them. And with respect to the sun, as I have before stated, it is not sufficiently large, nor sufficiently high, to light all of the world at one and the same time."

Astronomers assert that the stars and sun are larger than our earth, and, as they locate these so-called "worlds" thousands and millions of miles away in space, their light would shine upon the portions of the "globe" (?) so revolving as to receive their light. But we have not the shadow of proof that the stars are much more than spots of light; they have not been proved even to have a disc or body. They are therefore too small to be seen over the entire earth at once. The highest power telescope has failed to make them look any larger. It only makes their light seem brighter, but does *not* affect their size.

It is said, and the evidence favours the deduction, that there are constellations of stars characteristic of the southern as well as the northern parts of the earth, and that these constellations revolve around their separate centres respectively. I think Zetetics will have to admit this.

Let us note, however, that the Great Bear is at all times visible from every meridian, and high up in the heavens, north of the Equator. I have been informed that Sigma Octantis and the southern constellations are not seen until you get some 8, 14, and 16 degrees south of the Equator, but I know not whether this statement is authentic. The

Southern Cross should at all times be visible from every known and habitable point of the southern "hemisphere" (so-called) as the Great Bear is from every point in the North; but I am told it is not so.

The great traveller, Humboldt, says: "We saw distinctly for the first time the Cross of the South on the nights of 4th and 5th July, in the 16th degree latitude; it was strongly inclined low down on the eastern horizon.

The sun is a somewhat large body emitting heat and light, but, compared with the earth it is a small body, possibly contained within an environment of about 30 miles, and thus it can only light up one part of the earth at one time. For every 15 degrees of longitude West the time of day is one hour later. The cause of this difference in the time of day in different places is because the sun goes round earlier or later to some places than to others, lighting them up in succession, hour after hour.

The outstretched heavens above appear a dome,
To everyone on earth—where e'er he roam
He sees a dome or vault, above each station,
As many domes as points of observation.
Of these apparent domes there is no dearth,
Each man beholds the same above the earth.
My Zenith's highest point—just where I stand
Forms the horizon to a distant land,
And while those far off West on sunrise feast,
My noon is someone's sunset in the East.

ABERRATION.

Regarding the above, a friend and critic, Mr. Caldwell Harpur, writes: "I have been wondering why you did not utilize that passage in *Whitaker's Almanack*, which is the strongest argument on your side I have seen for a long time, and which in my opinion raises the chance of Zetetics being right.

"I called your attention to it in my letter of 22nd Jan., but here it is again. Page 674 of 2/6 edition, 1903, 'Rather more than half a century ago an instrument called a reflex-zenith tube was invented by Professor Airy, and erected at the Greenwich Observatory, to determine the aberration, constant, and parallax of the 'Greenwich star,'

Gamma Draconis. The result, however, proved disappointing, and no treatment of the observations gave other than a negative result for the parallax, and a constant of aberration widely different from other determinations.'

"Now the 'aberration' of the fixed stars forms the chief proof of the motion of the earth round the sun, a proof much more relied on by astronomers than the pendulum proof (which only proves rotation) and is but 100 years older. If then the 'aberration' does not exist, Newtonian astronomy has received a severer blow than any yet dealt it."

The above corroborates the fact which I have often pointed out to my readers, viz.: that we planists can prove by ocular demonstration, by tracing star motions and eclipse cycles in backward course, that the teaching of the Bible is reliable in its statement that the Creator "hath founded the earth on her basis that it shall not be removed for ever;" as it does in setting forth Life and Re-Creation in and through the Lord Jesus our blessed Redeemer.

Why should Christians lightly give up their belief in God's Word, and in the glorious promises of Life and Immortality, through our Lord Jesus? The astronomers' system of the Universe is founded upon assumption; and shall we give up our belief in God's Word for the sake of a set of unproved assumptions? No never!

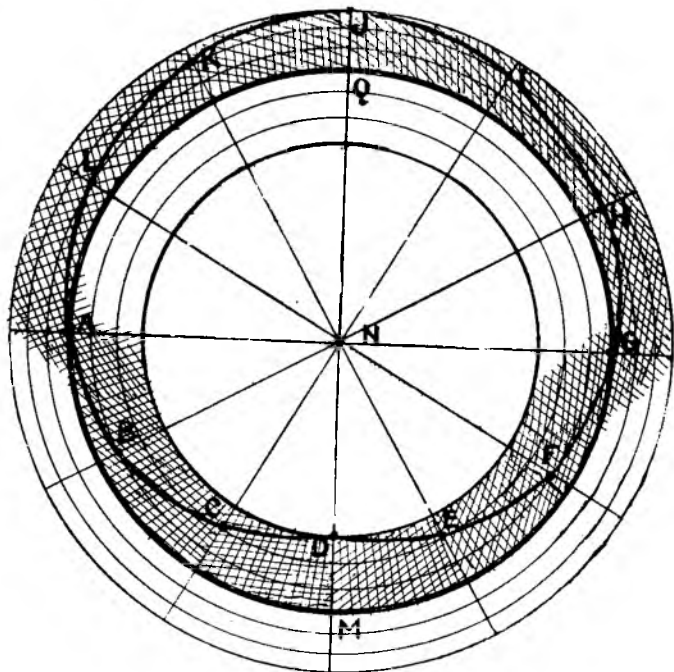
THE RELATIVE POSITIONS OF THE SIGNS OF THE ZODIAC OVER THE PLANE EARTH.

A M G Q represents the Celestial Equator. The point A, when the sun is on the Equator, represents the first point of Aries; B the first point of Taurus; C of Gemini; D of Cancer, when the sun is $23\frac{1}{2}^{\circ}$ north declination.

The next division represents Leo; the next Virgo; and C the first point of Libra, when the sun is again on the Equator, and the days and nights are equal. For these points A and G are called the equinoxes.

The rest of the signs go south, namely Scorpio, Sagittarius, Capricorn, at point J, when the sun has $23\frac{1}{2}^{\circ}$ south declination; then K, Aquarius and Pisces.

The line joined to twelve points A B C D E F G H I J K L, is called the Ecliptic, and represents the sun's relative positions, on the Ecliptic, in the twelve signs during the twelve months of the year.



In a future article I hope to give something further on Eclipses. But for the present I would refer my readers to my articles in *The Earth*—Nos. 8 & 9, p. 99; Nos. 19 & 20, p. 121; Nos. 21 & 22, p. 149. Suffice it now to remind you that eclipses are like sentinels, reminding us not only of the progress of time since Creation, but telling forth that the time is approaching when One greater than any mere human astronomer has said: "The sun shall be darkened and the moon turned into blood, before the great and notable day of the Lord." When this prophecy is fulfilled it will further prove the Bible to be more reliable than this world's scientists, who would have us believe that the moon's light is but reflected sunlight.

N.B.—The first diagram printed in "Celestial Phenomena" was the wrong one, and used by the printer in error.

SOUTH AND NORTH:

THEIR RESPECTIVE STARS AND THEIR MOTIONS, ETC.

Mr. Cook says that deductions are predicated.

He also replies in the affirmative to my third question, saying: "at the Equator all days are practically 12 hours in length. In our latitude ($31^{\circ} 57' S$) they vary from a little over 14 hours to a little under 10 hours. Further south they vary within greater limits." By this reply Mr. Cooke leaves the question to a great extent in its original position.

It appears evident to us that the differences which exist in the north and south would not be possible if the earth were a globe turning upon an axis underneath a non-moving sun. The two hemispheres would, at the same latitudes, have the same general phenomena, both in kind and degree; but the peculiarities which we believe exist in the south as compared with the north, are only such as could exist upon a stationary plane.

In the north the light on summer evenings seems unwilling to terminate; but in the south we are informed that the reverse is the case the day ending suddenly, and the night also passes into day in a few seconds.

Mr. Cooke—in reply to the questions: "Does the sun ever shine on the south side of buildings in places more than $23\frac{1}{2}$ degrees south of the Equator? Where, and for how long? And at what time of the year?"—says that, "in the early morning and late afternoon, the sun shines upon the south side of buildings between September 23rd and March 21st, at places more than $23\frac{1}{2}^{\circ}$ south of the Equator the sun never shines on the south side at mid-day; at places between the Equator and lat. $23\frac{1}{2}^{\circ} S$, the sun shines on the south wall throughout the day at Midsummer (December).

Mr. Cooke's replies to the other questions are for the most part as favourable to the plane earth postulation as to the globular hypothesis; at the same time he makes a stand for the globular theory, though he gives a decided "No" to the question: "Are you going to take up the proof that the earth is a globe?" He cannot explain the Bedford Canal experiment on the Globular hypothesis.

He says: "If I were near the canal I should repeat

the experiment myself just out of curiosity, but should be quite prepared to wager my entire belongings that there is a mistake somewhere about your accepted account." We can assure Mr. Cooke there is no mistake.

The Perth Astronomer's contention that the modern calculations in respect to the recurrences of lunar eclipses being so accurate proves the truth of the globular hypothesis, is weak in fact. The only improvement that modern astronomers have made is in the observations upon the differentiations of eclipse cycles for hundreds of years, and arriving at more accurate results, irrespective of any theory as to the motion of the sun and the stability of the earth, or *vice-versa*.

The integrity and ingenuity of the Perth Astronomer is unquestioned. He endeavours, by means of a "model sky," &c., to teach the young idea to understand something about modern astronomy, and in his magazine, entitled *The Education Circular* (Western Australia), the APPARENT *movements of the sun*. In laying down the north and south points he says: "We APPEAR to be situated upon a plane bounded by a circle called the horizon, and surrounded by a hemisphere called the sky, on the surface of which the sun APPEARS to describe a semi-circle every day. It is found that the sun is steadily moving eastward amongst the stars, taking exactly a year to complete one revolution." (Capitals ours.) But having admitted so much, Mr. Cooke cannot lose sight of the fact that, in his position as the Government Astronomer, it is necessary for him to assert that it is really an apparent movement of the sun eastward amongst the stars, and that the earth rotates on its axis. He asks: "Is it at all likely that the sun and stars really move round the pole once a day, as they seem to do?" We reply: "Yes, most decidedly—and the enormous distance away from the earth of the sun and other orbs is only an assumption devoid of a shred of tangible proof."

THE METRIC SYSTEM.

Metric—from the Greek *metron*, *metrikos* ("measure")—is the term applied to a system of measures of length, ca-

capacity, and weights. It is a modern system, of continental origin, practically originating in France. *Metre* is the fundamental unit of length of the French Metric system. It was intended to be one ten-millionth part of the earth's assumed "meridian quadrant," (i.e.: "a quarter of the earth's meridian"). Closely connected with the metric system was the proposed division of the right angle, or circular quadrant, into 100 equal parts, instead of 90, (90 degrees); but this has not met with much favour.

The system itself has been decimalized as far as possible; i.e., weights, lengths, measures of quantities and capacity, have been divided into hundredths and tenths, and multiplying forward by tens and hundreds up to thousands and millions—these, in their turn, being capable of division into hundreds and tenths by the decimal method. The monetary system of France, and other continental nations, is subjected to this decimal system.

Some years ago there was a decimal craze in France, where it was attempted to decimalize the hours, days, weeks, and months of the year. The day and night were to be divided into two portions of 10 hours each—making a full day and night of 20 hours, and the week was to consist of 10 days, and so on. As a matter of fact, the week of 10 days was attempted to be put into practice in France. This attempt to nullify the chronology of Genesis, by abrogating the week of seven days and "The Seventh Day Sabbath," was a failure, although a paganized Christian Church has made it fashionable to keep the first day of the week in place of observing "The Seventh Day Sabbath."

Time and its divisions cannot be decimalized. Time and seasons have their root-origin founded on the bed-rock of Truth (the Bible). In this respect the Anglo-Saxons (a Bible-respecting race, honoured by God,) have associated themselves with Bible teaching, though, for the most part, they have consented to keep the first day of the week instead of "The Seventh Day" which God appointed.

A metre being the fundamental unit of length of the French metrical system, and one ten-millionth part of the assumed earth's meridian quadrant, its length is 39.370 inches, i.e.: nearly 3-ft. 3 $\frac{3}{8}$ -in., and it is the French equivalent of the English yard, or about 36 inches, (said to be the length of a pendulum vibrating seconds of mean time from which the yard is computed).

The metrical mile consists of 1,000 French metres ($\frac{8}{9}$ -ths mile, one kilometre, or 1,093 English yards) the old Roman mile (miliare) being the *mille passus*, or 1,000 paces, of the Romans—a Roman mile being 1,614, and an English mile 1,760 yards (5,280 feet), a square mile being 6,400 square chains (640 acres).

A millimetre is the 1,000-th part of a metre; a centimetre, the 100-th part of a metre; a decimetre, the 10th part of a metre. But '12' finds a part in the metric system of length—a line being $\frac{1}{12}$ -inch, and an inch $\frac{1}{12}$ -foot. A geographical mile is the 60-th of a degree of latitude (about 2,025 yards), in use in England and Italy. The unit of surface is the arc, which is 100 square metres.

The metric system, as applied to capacity, is in vogue with chemists. A litre is 1.7598 pint ($35\frac{1}{4}$ fluid ozs. and 11 minims) which is the volume of 1 kilogram of distilled water at its maximum density, and is therefore intended to be 1 cubic decimetre, or 15432.348 grain measures. A litre contains 1,000 French grammes.

For 10 times, 100 times, 1,000 times, and 10,000 times—*deca*, *hecto*, *kilo*, and *myria* are respectively used. Micron is used by the National Commission for one-millionth of a metre. *Deci*, *centi*, and *milli* are used as prefixes.

The foregoing metric measures have been given so as to show the basis of the Metric System—and the measures, as also the weights, are computed to a nicety. They have their uses in the laboratory, and in arriving at delicate equations; but in ordinary commerce old English weights and measures are to be preferred to the *Metric System*.

E. A. M. B.

DISAPPEARANCE OF A SHIP ON SEA.

By a Clergyman of the Ch. of England.

In almost every illustrated Geography book, in which its author wishes to prove the globularity of the earth, he represents—among other attempts—a ship bound on an outward voyage, looking, with its observer and the sea on which

it sails, like this:—An observer is seen standing on the shore, watching the departure of a ship; and one and the same vessel is seen at three different points of distance from the observer, marked *a*, *b*, and *c*. The sea surface over which the vessel is sailing, is shaped by the geographical artist into a *curve*. The observer, *o*, in the scene, occupies a position somewhere near the "north pole;" no land being visible above and beyond him. In this standing attitude he invariably forms a *perpendicular* line from head to foot, according to the *plumb-line* principle; the heavens being always *above* him; and the earth, on which he stands, equally *beneath* him. The *sea*—according to the illustration—is given the form of a receding downward *curvature*. The *eye-line* like any ray of light, which is always an absolutely *straight* line is seen to pass the vessel *a* (nearest the observer) through its rigging; a few miles further away, at *b*, along its hull; and a few miles further still, at *c*, the boat is wholly out of sight; because the *eye-line* of the observer being (by nature) *straight*, and the *sea-surface* being given a downward *convex* line by the theoretic artist, necessarily the *eye-line* goes off at a *tangent* above and beyond *c*.

Now, *such* an appearance of the *sea* has *never* yet been taken PHOTOGRAPHICALLY! Why not, when kodaks are so plentiful, cheap, and portable; when thousands of travellers, in every part of the world, possess them, and have photographed sea-scapes as well as landscapes? Simply because it has *never* been *known* in *nature* that the surface of the *sea* should form a *curvature*!

Water whether in a saucer, a pond, or a sea, is always *level*; it may flow down; it never rises above its level, unless forced by art; it lies always *horizontal*; and neither diagonal nor curved. Millions of people have witnessed the departure of a ship on its outward journey, and in every instance both hull and sea were parallel to each other, and were equally *horizontal*, the masts forming a *perpendicular* line at right angles with hull and sea-surface like this:



But what has been seen, photographed, and drawn or

painted, when according to *nature*, never represented the sea as a convex body of water, but always horizontal, and a ship seen at different distances appeared smaller to the observer, the farther it was removed from his eye, but always on a horizontal, or level, sea like this :



The *diminishing* of the size of the vessel is to be accounted for by the *fact* that the eye cannot see a ship as large ten miles in the distance as when only one mile from the shore, because the *eye-power* is *limited* with regard to *distance*. But this physiological fact has nothing whatever to do with the *form* of the earth, the sea, or the sky, any more than with the substance of each, but solely with *distance*. Hence the nearer a ship is to the shore the larger it *appears* to be in size as compared with one farther away ; and the farther it recedes from the shore the smaller it appears, until the vessel is entirely lost to view, when the eye-line has reached its limit, like this :

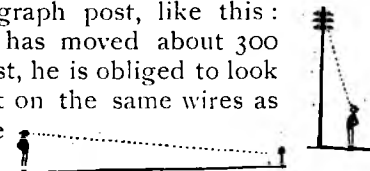


The observer, *o*, can see the ship at *a*, *b*, *c*, *d*, *e*, but it is invisible at *f* because the *sight-force* is spent, or has reached its limit at *e*, and can extend no farther into the distance beyond it.

Again, an observer, on board a ship, looking at a house near the shore, has seen it much larger than when two or three miles in the distance, as follows :



A person standing but a couple of yards from a telegraph post has had to *raise* his chin, strain his neck, and compress the nape, as he lifts up his eyes towards the wires that pass very near the top of the telegraph post, like this : But when the same person has moved about 300 yards from the very same post, he is obliged to look *down* while his eyes still rest on the same wires as they pass the same post, like this :



observer, sight-line, and the earth, forming an obtuse triangle, like this :



(to be continued, D.V.)

“STRETCHED OUT UPON THE WATERS.”

By E. H. RICHES, LL.D., F.R.A.S.,
Member of the “London Mathematical Society,”
late Cantab, etc.

(continued from p. 266.)

Philosophers may be wrong. Astronomers may be only right in their general theory up to a point. The *earth* which is “stretched out upon the waters,” founded on the seas, and established on the floods,” and “standing in the water and out of the water,” may after all *be a plane!* Let us suppose it to be a plane, as the experiments, which we have considered, certainly tend to show. Let us suppose it to be literally “stretched out upon the waters,” and in so doing by the consideration of certain facts with reference to the position of different countries with respect to each other.

The land then which is known to us, we will regard as a quantity of matter “stretched out upon the waters,” the surface of both being a plane, or in other words the whole collection of land and water known to us on the supposed convex surface of the world to be reduced to a plane. This being done, what becomes of the north and south poles? The north pole might still be regarded to be in the same *position* as it is now, but what becomes of the south pole? In this vast plane we naturally are at a loss to decide upon its limit! How far away from our known land do the waters surrounding it stretch in all directions?

This is beyond our power to decide, or even guess at, if the vast plane which we have been supposing really does exist. Who can tell of the boundless extent of the “world without end,” or who dare say that there is any limit to the waters which, maybe, extend into infinite space? In the consideration of this vast plane, the surrounding waters of the earth must be, what is called by philosophers, the south pole, which has been regarded to be in a similar position to the north pole, at the other extreme of the supposed globe. The space within the Arctic Circle has been explored to a certain extent by navigators, but the space within the Antarctic Circle at the South Pole has never been. The most experienced navigators have always failed to make any pro-

gress of importance at the South Pole, and all reckoning and calculating have been baffled.

The barriers of ice at the South Pole have prevented navigators from penetrating far; and even as far as they have gone, they have been much puzzled by a total disarrangement of their calculations. In the account of one of his voyages Sir James Clark Ross observes: "We found ourselves every day from 12 to 16 miles by observation in advance of our reckoning;" and again: "by our observations we found ourselves 58 miles to the eastward by our reckoning in two days.'

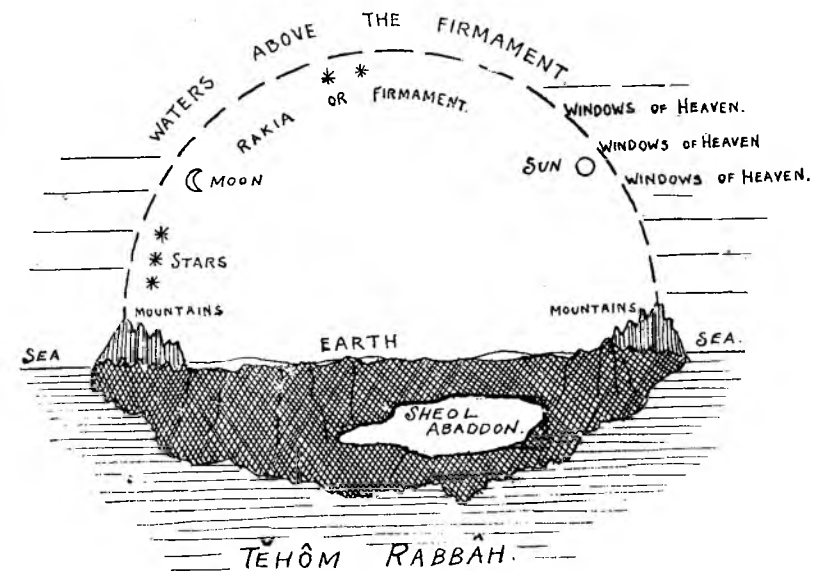
Up to the present time no navigator that has been heard of has succeeded in sailing round the world within or upon the Antarctic Circle; and if the Antarctic Circle was similarly placed in the south to the corresponding Arctic Circle in the north, where were the difficulty in sailing round it? At the north, navigators have found none of the disarrangement of their calculations that has always perplexed them at the south. For this there must be a reason; and if what we have defined to be the Antarctic Circle be really a very large circle, or glacial boundary, at a certain distance from the region of our known land in the vast plane, the truth of the reports of navigators who have attempted to sail round the world at the south, may easily be imagined. And it may be remembered here that with respect to the fact noticed by aeronauts, that the surface of the earth from a balloon appears to be concave, and that the horizon appears always on a level with the car of the balloon, is quite agreeable to certain facts in connection with, and ruled by perspective, and the reasonable and universal testimony that the nature and limits of our vision explains how the shapes, and general appearances of various phenomena are evidently governed by the laws of optics. Regarding atmospheric pressure, I will give the following quotation from Captain Ross's voyages: "Our barometrical experiments appear to prove that a gradual diminution of atmospheric pressure occurs as we proceed southwards from the tropic of Capricorn." Further on he says: "It has hitherto been considered that the mean pressure of the atmosphere at the level of the sea was nearly the same in all parts of the world, as no material difference occurs between the equator and the highest northern latitudes." And again, he observes:

"The causes of the atmospheric pressure being so very much less in the southern than in the northern hemispheres remains to be determined."

(to be continued).

EXTRACT FROM DR. HASTINGS' BIBLE DICTIONARY.

"The accompanying diagram will enable the reader to comprehend the ordinary conceptions of an ancient Semite (whether Babylonian or Hebrew) respecting the universe in which he lived. The writer of this article sketched this outline from a study of numerous Old Testament passages,

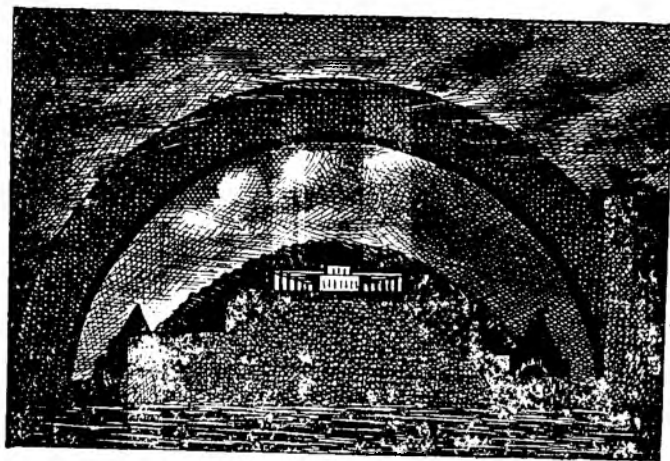


about twelve years ago, and found in Jensen's "Cosmologie der Bab," published in 1890, a diagram almost identical in character, descriptive of the universe according to Babylonian conceptions, and based purely upon the data of cunieforn

inscriptions. In both we have a heavenly upper ocean, and in both the earth was conceived as resting upon a vast water-depth or *Tehom* (called also in Babylonian, *apsu*). The Hebrews thought of the world as a disc [circle, of *Isa.* xl. 22]; and to this earthly disc corresponded the heavenly disc (called also circuit, of *Job* xxii. 14, *Pr.* viii. 27).

Beneath the world rested the unknown and mysterious *Tehom Rabah* (of the language of *Ps.* xxiv. 3). The Flood not only descended through the windows of heaven but also ascended from the deep nether springs, called "springs of the great *Tehom*" (*Gen.* vii. 11), which were cleft open. These deep springs were accordingly called *Tehomoth* (*Pr.* iii. 20), and were believed to communicate through the depths of the earth, by means of passages, with the great *Tehom* which lay below. In a striking passage in *Amos* vii. 14, the prophet portrays a judgment in which the fire of Jehovah will devour this great water-depth. "Within the earth itself lay the realm of the departed, Sheol or Hades."

The word "globe" does not occur in the Bible at all.



Himmel und Erde nach der Vorstellung der Babylonier.

J. R.

COMMON-SENSE GEOGRAPHY, &c.,
FOR YOUNG PEOPLE.

By Lady Blount and Xavier Field;
Compiled by Xavier Field.

The shoals of nonsensical books (under the name of "Geography") which are scattered broadcast in our various schools, are purposely written with a view to induce the young idea to gradually develop in a globular groove with respect to the shape of the earth—the writers saying that the earth is a globe whose velocity in its revolution round the sun is about 1,000 miles a minute, with a daily "turn-over" always going on at the rate of about 1,000 miles an hour; and yet, with these two terrific motions going on at the same time, the earth appears to be immovable; in fact, the earth is called *terra firma*; but, though our senses tell us that we are standing on the firm and immovable earth, and we see the sun and the other orbs in the expanse above us moving, they tell us that the earth is "moving" all the time, and that the sun is practically a fixture so far as we are concerned.

Why is this teaching of a globular earth whizzing through space believed in by almost everybody? The reply to this question appears in the following paragraph:—

"Give us the children from their early school age up to their teens, and the heretics can have them afterwards."

This was said by a well-known Romish priest, who knew, as we all know, that the principles imbibed in the education of our earliest years are scarcely ever eradicated; hence it is that the theory of a globular and movable earth is drilled into a child's brain before common-sense is developed sufficiently to "think out" what has been committed to memory. In after years business cares usually intervene, or youthful pursuits are indulged in, and the principles imparted in school education are "taken for granted," and even the studious individual deems it preferable to pursue his self-education on the lines of his school education. We have, therefore, written this little book, so that, if possible, a child

may be taught "common-sense geography," &c. In this book several persons are necessarily brought upon the scene, and the youthful pupil cannot but be credited with having some knowledge of orthodox school Geography; but at the end of each chapter we give an Explanation of Terms.

* * * * *

Chapter I.—WHAT IS GEOGRAPHY?

This question was put to a gentleman, one fine afternoon in August, on Brighton Pier, by an intelligent boy about ten years of age. The gentleman was evidently in doubt as to what reply he should make. As I was sitting near, and feeling more than ordinary interest in the subject, I ventured for once to dispense with the customary rules of an introduction by introducing myself. The gentleman courteously invited me to take part in the conversation.

I found that the lad's name was Frank Wilson, and that, just before "breaking up" for the summer holiday in a London school, his class began the study of Geography;—and now the boy's favourite uncle George was being questioned upon the subject.

The gentleman remarked that he should feel greatly indebted to me if I would enlighten his nephew. Frank also joined with his uncle in the request, and without further parley I spoke as follows:—

Geography is a term which is made up of two Greek words, the plain English meaning being "a description of the earth." Geography is therefore that study which deals with a general description of the earth, its physical divisions into mountains, plains, countries, kingdoms, etc., sea and land being considered only in respect to the great features that have been stamped upon them by the hand of God. Strictly speaking, the term Geography should only have reference to "a description of the earth," yet it is the custom to include in this teaching some knowledge in respect to the firmament, sun, moon, etc. But we have principally to do with what is called "Mathematical Geography," which treats of the earth's shape and size, and the positions of places on its surface.

FRANK.—O Yes, my lady; my teacher said that a "mathematical fact" means an exact fact, and, as a fact signifies

that which really exists, and "mathematical" that which can be calculated or measured, therefore, that the earth is round is a mathematical fact."

E.A.M.B.—"Now, my boy, can you remember how your teacher made it clear to you that the earth is round, and what sort of roundness he meant?"

FRANK.—"I can remember it quite well—for each of us had to take our books and learn off, word for word, what was printed."

E.A.M.B.—"Would you be kind enough to repeat the first paragraph you committed to memory?"

FRANK.—"O, yes. The book said: 'The roundness of the earth is proved by the appearance of vessels as they approach and leave the shore. At a certain distance the whole of the vessel is visible; at a greater distance the hull, or body of the vessel cannot be seen; at a still greater distance the topmast only is visible—and, further yet, the whole is out of sight. Now, if the earth were flat, the *hull* (being the largest part of the vessel) would remain longest visible; but, as the lower part disappears while the rigging is yet to be seen, there must be something coming between the eye and the lower part of the vessel, and that something is the *roundness of the earth*. This appearance is similar to that of a man going over the top of a hill, where the feet are first lost to the spectator, then the body, and at last the head. The circumnavigation of the *globe* (meaning sailing round the globe) and the *circular* shadow which the earth always casts on the moon when the moon is eclipsed, are other proofs of the earth's globular form.'"

E.A.M.B.—"You deserve a prize for the correct way in which you have repeated the paragraph in the book. But what is the good of your having committed the paragraph to memory?"

FRANK.—"Because I shall be able to give a good reason to anyone who asks the question: 'How do you know that the earth is a globe?'"

E.A.M.B.—"But did your teacher say that the earth is a perfectly round globe?"

FRANK.—"No, my lady. The book says that the exact shape of the earth is what is called an oblate spheroid—*oblate* meaning 'extended in front;' but the earth differs so little from being a perfect sphere ('round') that it is called

a spheroid. It is much more like a sphere than an orange is—for if an observer could be placed so as to see the whole earth, it would appear to him to be perfectly round.”

E.A.M.B.—“Now, my boy, as far as I have listened to you, I must say I am surprised at the correctness with which you have committed your lesson to memory; and if your object is simply to be able to repeat what your teachers give you to learn—no matter whether they are fitting you with real knowledge, or only fanciful notions—then, I say, go on committing to memory whatever they give you to learn. What does your uncle think about it?”

UNCLE.—“Well, your ladyship, I should say that the real good to be obtained from the boy going to school is to be measured by the real knowledge obtained. Therefore, if what has been taught is not true, the sooner he gets to know the real facts, the better it will be for him in the future. What do you say, Frank?”

(to be continued, D.V.)

MORE ANTARCTICA.

According to recent notices in the daily press, the Nordenskjöld Expedition's steam yacht *Antarctic*, which left Falmouth in October, 1901, for the southern regions, was smashed up by the ice on February 12th, 1903. The members of the Expedition were fortunately found and rescued from Louis Phillipe Island, Graham Land, and Seymour Island, farther south, by the Argentine war vessel *Uruguay*, which was especially sent to relieve them. Whether the information collected by the explorers will justify the expense, and the loss and trouble involved, remains to be seen when full reports come to hand.

Many people continue to wonder why valuable lives and energy should be risked and wasted in endeavouring to reach a questionable point called the South Pole, before proper investigation is made, and distances measured of the fringes, so to speak, of the Antarctic continent; or before the explorers have a more definite knowledge of the true superficial shape of the World of land and water.

The attack of the extreme southern regions is most likely to continue to end in disappointment, if not death and loss, so long as the authorities are wilfully ignorant of the elementary conditions to be faced. If the steam yacht *Antarctic* had been sent to 55° or 60° south latitude, and then made a true and complete circumnavigation, carefully noting the number of miles covered, many think some valuable data would have been arrived at. The flora, fauna, geology, meteorology, etc., could have been noted during the voyage—which should not have to be very extended if the world be a globe. At any rate, an important point would be nearer settlement, and one more proof would have been demonstrated, that the world is *not* a globe.

Most people know the moral courage required to “go back” on oneself, and in effect to eat one's own words, and it is just this that the inner circle of scholastic authorities dread to face, as many of them know the world is not a globe, but owing to the accumulated heap of so-called Theoretic Science of the past three centuries, the present authorities are fearful of avowing their better knowledge, and thus make a laughing-stock of Newton's theory, and all the other theories which ramify from it, and which are necessary bolsters to each other, and to the original theory. Sooner or later they know this will have to be faced, and the gigantic fraud exposed.

In conclusion, all Zetetics hope that the British Antarctic Expedition under its intrepid leader Capt. Scott, will not meet with the fate of the above, but return safely, after collecting some really useful and lasting information, which will be of service to future expeditions in these forbidding regions.

CATO.

THE inspired Psalmist says that “The heavens declare the glory of God; and the firmament showeth his handiwork”; therefore, whatever some professed Christians affirm to the contrary, the subject of Creation is connected with right views of God, his worship, and his glory. But if we would have a right conception of God, and His glory, we must see to it that we have a right conception of His works

in Creation. How, for instance, do we obtain an insight into the character of any great man, whether he be a poet, politician, sculptor, general, or king? Is it not by his acts, or his works? But suppose these acts, or works, are misrepresented to us, or defaced by someone, should we not have false and distorted views respecting the author, artist, or maker of those things? Assuredly. And so it comes to pass in respect to the construction of the world, false views have led men into a misconception respecting the Character of God, and even alas! in many cases to the denial of the very existence of such a personal being.

"ZETETES."

All communications and enquiries respecting this Magazine and the teaching it upholds, and all questions and matter for insertion, should be addressed to E.A.M.B., 11, Gloucester Road, Kingston Hill.

"THE EARTH'S" OBSERVATORY.

The Ed. does not necessarily endorse statements made under the headings of "The Earth's Observatory," Letters, etc., unless signed Ed. The Earth.

THE STANDING ORDER OF THE HOUSE OF COMMONS.

Reply to J. Z. W.—Regarding the Standing Order of the House of Commons concerning the datum line of Railways, etc., calculations are made in connection with the fact that the datum line, to which all elevations and depressions are referred, is *horizontal*, and not an arc of a circle. All great surveys are made on this principle. The following extract is given from the Standing Order of the Houses of Lords and Commons on Railway Operations, for the Session of 1862, and published by Vache & Sons, Westminster:—

"The section shall be drawn to the same horizontal scale as the plan, and to a vertical scale of not less than one inch to every 100 feet; and shall show the surface of the ground marked on the plan, the intended LEVEL of the proposed work, the height of every embankment, and the depth of every cutting, and a DATUM HORIZONTAL LINE, which shall be the same through the whole length of the work or any branch thereof respectively, and shall be referred to some fixed point.....near either of the termini."

POLE STAR AND SUN, ETC.

The earth is a plane, the surface centre being immediately underneath the star "Polaris." If at any hour of the night a telescope is lashed to any solid object, and turned to the pole-star, it will be found that the star does not maintain its exact position, but seems to slowly rise and fall in the field of view of the

telescope. The line of sight will rise above it; and about twelve hours alter it will be below it. In another 12 hours it will be again above the star.

All bodies floating in an incompressible medium, such as possibly is the subtle matter in which the heavenly bodies are placed, and exposed to atmospheric pressure, fluctuate.

As to the Pole Star and Sun. take a point in Scotland, equi-distant from the North Centre and from the point where the sun is overhead on June 21st, mid-day. From that point both the sun and the pole star are seen in a similar (or nearly so) altitude; but, according to the figures of the globularists, the pole-star is distant—compared to the sun—as 2,000,000 is to 1. "Therefore," as a correspondent points out, "it appears to me that the pole-star should be from that point, and indeed from any point in Britain, as if directly overhead, IF the globe figures were correct."

As a matter of fact the motion of the sun is a visible reality, and the sun's path expands and contracts daily for six months alternately; the sun in its path from 21st June daily expanding until December 21st, after which the path gradually contracts. Therefore, however the pole-star, as compared with the sun's position at a given point on June 21st, the position varies in regard to other points; but if the earth were a globe tearing and rushing through space in the manner described by our modern scientists, and *the Sun a Fixture*, the position of the sun in respect to the pole-star and any point in Britain would not practically vary. The fact of the sun and pole-star being seen at a nearly similar altitude, is a demonstrable proof that the differentiation in the altitudes of the sun and pole-star is *not* immeasurably great; instead of being two millions to one we may strike out the millions and replace them by hundreds—and probably we shall then be "stretching a point" in regard to the actual distance of the sun away from the pole-star. We may also take it for granted that the sun is a comparatively small body.

JAPAN AND STARS.

We are asked if the Southern Cross is seen from Japan. Well, we can only state accounts differ regarding this; Humboldt did not see it until he was in lat. 16 S, and then he states: "it was strongly inclined;" showing that it was rising in the east, and sharing in the general sweep of the star. Some observers have told us it was not visible until they arrived in latitudes 8, 14, and 16 S; and others have assured us that the Southern Cross *is* visible from Japan; and amongst the latter is our esteemed friend Mr. E. Middleton, therefore I feel convinced that it is a fact.—Ed.

"'The Earth,' a magazine, published at 11, Gloucester Road, Kingston, Surrey, having for its useless object the absurd astronomy to be found in the Semitic writing known as Genesis."

The above, from *Reynolds' Newspaper*, July 19th, 1903, refers to the fact that *The Earth's* teaching is founded upon the Bible, and we doubt not that "floods" of opposition from the world, including such publications as *Reynolds' Newspaper*, and *The Clarion* may "beat upon" *The Earth* without the slightest ill effect, for its teaching is "founded upon the Rock" of Truth!

Re THE MIDNIGHT SUN.—"I may say with some *confidence*, that though it may cause some *extra trouble*, it will in reality afford an extra proof that the earth is *not a globe*, and must be flat or the Midnight Sun *could not* be seen at all. I am, faithfully, E. E. MIDDLETON."

BIBLE COSMOGONY AND MODERN THEORIES:
A Lecture by Lady BLOUNT.

INTRODUCTORY REMARKS by Dr. E. HAUGHTON.

It is customary for writers on science to complain that the religious section of the public have hitherto been inclined to obstruct independent investigations of natural phenomena; and they say, moreover, that religious objections have now been completely silenced. In other words, it is now assumed that the philosophy which dispenses with the idea of a God, is now in possession of the whole field of science; and thus all who accept the Holy Scriptures as reliable are placed on the horns of a very awkward dilemma.

I am not myself so constituted that I can accept two contrary propositions, and pretend to believe them both, after the style of a modern antinomian, and therefore, I am prepared to show my colours at once, and to agree to the statements made by Thomas Paine and Robert Ingersoll, to the effect that it is not logical to accept the theories of modern astronomers, and at the same time to profess anything more than a very qualified belief, either in the Old or New Testaments, as we have them in the collection of books which we call "The Bible." In other words, I prefer the prophet Enoch to Laplace; Moses to Lyell; and the Books of Joshua and Job to the so-called "laws" of Copernicus and Sir Isaac Newton. Nor in saying this do I wish to diminish the just fame of the latter great philosopher. He made as good guesses as he could; but he had the honesty to say that he could not prove them by natural facts visible to all men. He only claimed that they fitted better in with what had been up to his time observed, than any explanations previously put forward. This is, of course, a reasonable statement, even when the thing claimed is open to controversy; but modern Newtonians are by no means so modest, as they always claim that all the "laws" of Newton have been proved so completely that they are to be put above Divine Revelation itself, should any statements made therein clash with his ideas.

With men like Sir Robert Ball, Mr. Blatchford, or the Editor of *The Agnostic* I join issue, and say, with Lady Blount, that the Newtonian theory is still unproved, as various statements made not only remain unproved but are actually contradicted by everyday experience and the evidence of our senses. The modern Darwinian does the same thing in other departments as the Newtonian in relation to light and the laws of motion, and so we have a multitude of writers all eager for having the glory of getting rid of design in the constitution of Nature. For my part I should as soon believe in astrology as in the boastings of some of these modern prophets, as I observe that they always reason in a circle, and use magniloquent phrases which convey the ideas that matter arranges itself, that motion originates and sustains itself; that organization designs itself; and that beauty and harmony are the result of a fortuitous concourse of atoms. Such men as Haeckel and Buchner seem deficient even in the sense of humour, or they would not talk as they do about physical tendencies and "natural selection."

Dr. Wallace is a man of a different stamp; and, like Voltaire and Bolingbroke, deserves different treatment. He has also given many proofs of independence of mind and personal integrity, all of which make us welcome the help his new views are likely to give us in getting rid of what Humboldt called "a universally diffused delirium of lunatics." It used to be said that "the undevout astronomer was mad;" but now every student of natural philosophy will find some difficulty in combining any degree of devoutness with the acceptance of received opinions. In the year 1854, a professor at Cambridge, the Rev. Dr. Whewell, (no mean authority), published a book called *The Plurality of Worlds*, in which the views put forward corresponded in many respects with those now advocated by Dr. A. Russell Wallace, in his recent volume on *Man's Place in The Universe*. He was a professed believer in Revelation, which I understand Dr. Wallace is not; but both are good scholars and honest men, and have done something to knock the bottom out of a grotesque superstition—for which we

thank them. Another honest, but misguided, opponent is to be found in Dr. Draper, of New York, who published, in 1876, a work called *The Conflict Between Religion and Science*, in which he makes Bruno fall a victim to hatred of science (which I believe is wrong history) and also parades all the so-called sciences as antagonistic to Revealed Religion.

The tide, however, is now beginning to turn, and we have discoveries in connection with the new metal, Radium, upsetting our notions as to the nature of force. We have men doubting the existence of a something called *Ether*, pervading all space. We have the daily papers joking about the stage tricks played by means of Foucault's pendulum. We have also a *Message from Mars* put on the stage, as a play. And to crown all, we have photographs illustrating Jules Verne's *Journey to the Moon*, on exhibition at the Crystal Palace. Perhaps a little later on we shall have some new Shakespeare taking his cue from Lady Blount's lecture, and poking fun at the absurdities of globes spinning round, whilst the oceans, supposed to exist on their surfaces, have no tendency to act like the water scattered by a grindstone. For myself, I am only a captious critic; I assert little, and believe less in relation to matters not revealed to us by God, or within the possibility of our knowledge. I, therefore, beg at once to give way to Lady Blount, who has strong convictions, for which she is prepared to give reasons of a convincing character.

[The various newspaper reports, and correspondence, in connection with the many lectures, in different parts of England, which have been given by the Ed. since sending out the last issue of *The Earth*, including a long report of the last of the lectures which the Ed. has given at the Y.M.C.A., by its reporter—Mr. A. H. Johnson—and for which I thank him very earnestly, are unavoidably held over for a future issue.]

[The whole of the Ed.'s extensive correspondence with the *Isle of Wight Guardian*, and *The Echo*, will shortly be published, D.V.]

BY AN INVALID.

Tell Jesus, weary heart,
Tell Him what weighs thee down;
And seek His grace—to bear *the Cross*,
That must precede *the Crown*.

Tell Jesus, anxious soul—
Lay at His feet thy care;
He, too, has suffered here below,
And sought relief, by prayer.

Tell Jesus, weeping one,
He'll listen to thy cry;
He counteth all thy falling tears,
And knows each heaving sigh.

Tell Jesus, tell Him all,
In confidential love;
And He, in answer to your prayers,
His faithfulness will prove.

W. J. YOUNG (bedridden). Composed during quiet moments.)

LETTERS.

LEVELLING AND THEODOLITE WORK.

Dear Madam,—I should like to have one more word with Mr. H. J. Young.

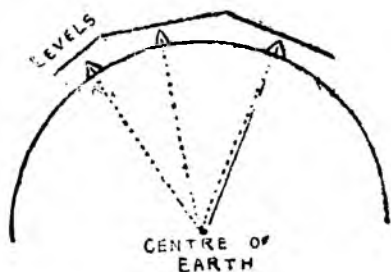
He says that my quotation from Mr. W. Winckler is not opposed to the "globular" theory. For my own part I think it is. If the curvature exist it would certainly be found in levelling operations, and would consequently have to be allowed for. According to his theory, levelling operations are a series of straight lines and angles—the longer the straight line the more acute the angle (see diagram).

Can friend Young inform me who has proved the earth to be a globe, and what was his proof? Astronomers are the men who have assumed it, but they offer no proof. They say that the hypothesis need not be true, or even probable; it is sufficient that they lead to results of calculation that agree with calculation. Would Mr. Young agree to have his work proved on these lines?

We have two of the most simple and true proofs of the earth being a plane—the plummet and spirit level,—but we are taught not to believe our own sight and senses, but to imagine that there is some magnetic influence at work that cannot be proved or explained, causing them to point to the centre of a big globe, because certain scientists have assumed that such is the case. It is like getting a clocksmith to tell a farmer his work. Practical men work on a plane earth, and work according to that fact; while astronomers assume it is a globe, and try to find one set of rules to allow for the supposed curvature and another to eliminate it.

Crockham Hill.

C. RHYS EVANS.



SCIENTIFIC EXPEDITIONS AND THE BIBLE.—To the Ed. of *The Earth*.—"Your ladyship will, I feel sure, corroborate my opinion, viz.: that all readers of *The Earth* would like to know what is beyond the southern ice-bound barriers; but, as your ladyship truly remarks, if God has willed that men shall not pass over these barriers, then the *Discovery* expedition, and all similar expeditions, must end in failure. These barriers, the mystery of 'The Great Beyond,' and the laws governing the sun's course, may belong to the Arcana of God alone. My reason for writing this letter was not so much to mention the above, as to point out that we have a sure Guide in the Bible—and knowing, as I do the immense advantage it gives to the earnest student of the Word of God to be able to read the Greek Testament—it has therefore afforded me great pleasure to impart to your ladyship some knowledge of Greek, and the way in which it is built up as a language. I fully believe that Greek was specially chosen by God for continuing the developed teachings of the Old Testament into the New. No other language but the Greek so "lays hold of" the root ideas of the Hebrew. In both languages words have defined root significations from which differentiations spread out by natural sequence. The duplication of syllables, and even triplication of words, intensify the meaning; for instance, when speaking of the Supreme—the God of all the earth—by His Holy Name, the term is thrice repeated: "Holy, Holy, Holy." Trinitarians, in seeking for

a basis on which to formulate their paganized triad, have taken this triplication to signify "Father, Son, and Holy Spirit,"—each being "the only Immortal," and each co-equal with the other from all eternity. Again: the term for "perfect," in the Greek, is from the same root as "end" (telos); "perfect": *teleios*, "perfect." Perfection, therefore, when taken with the context, implies "continuing to the end." *Teleios*, of Phil. iii. 15, signifies "relatively perfect"—not so far advanced as the *teleiomas* in verse 12.

In closing, permit me to say that, whilst you admit, as I do, Greek to be the language for the students of the New Testament, yet Latin has its uses, and your acceptance of my efforts to enable you to know more of Latin is gratifying.

NAVIER FIELD.

[Divinely charged with mystery are many things which we behold in this vast universe—for example: even the growth of a single blade of grass! And that God often "works in a mysterious way," we cannot fail to perceive, also that He, as yet, has not seen fit to unveil all His divine mysteries.—Ed.]

EXTRACTS FROM LETTERS.

"I might say that I experienced one of the greatest joys of my life, when my eyes alighted on your magazine in a newsagent's window."

"In the number of *The Earth*, for the year now fast closing, I should like, with your permission, to express my thanks, with those of others, for your untiring efforts to extend a better knowledge of the Cosmogony of the earth, in so far as it has been revealed to us children of men. Hypothesis and assumption prove nothing, and are valueless. The teaching of the Word of God concerning His Creation has to be accepted with the same faith as that of His Redemptive Work, by His Son, and Sanctification by His Spirit. This is surely the basis of our belief, the details being made clearer to our minds as we journey on. At the best, our knowledge is only "in part." No profession of skill, where *real* science is necessarily employed, accepts assumptions excepting, apparently, modern astronomy, and why this should be so is not far to discover.

"Most useful and interesting matter has been presented in the current vol. of *The Earth*, and I sincerely trust that the new vol. will be enriched with deeper knowledge, great encouragement to yourself, and all to the Glory of God."

E. ARMSTRONG, Maj.-Gen.

Woodville North, South Australia. Aug. 26, 1903.

"Yours of July 18th came duly to hand, and in reply would say, Adelaide is lat. 35 south; longitude 138.50 east, or thereabouts. If, at noonday, I stand with my back to the North and face to the South, at present season, the sun would be nearly overhead, but slightly behind me, i.e., whatever shadow I made would be in front of or to the south of me. Sun-rising, or east, would be on my left hand, but slightly behind, or, as a soldier would say, a trifle to my left rear; while sun-setting would, of course, be slightly to the right rear, or westward. At Midsummer, say 21st December, sunrise would, were I still standing in the same position, be slightly to my left front, and setting to the right front, while there would be a very short shadow behind me at noonday.

I have never been so far south as the 45th parallel, but can safely say that your informant was correct, i.e., that a person standing with his face to the north would see the sun (high up) in front of him; while sunrising, or east, would be on his right front, and sun-setting on his left front, but not very much to the front in either case.

"I notice by the cablegrams that you are having a very unusually wet summer, and only wish it could be transferred to our dry northern areas in the interior

of Australia; the benefit would be incalculable for it is years since they had a really good downpour in that country, although this year has been better in that respect than the previous six or seven. Trusting this will find you in good health and strength for the carrying on of your great work, and that this reply will be of use to you."—F.H.

A Composition by the Ed., entitled "The Visions Past," is being performed nightly by Moore & Burgess' Minstrels, at St. James' Hall, Piccadilly. The words and music, by the Ed., are exquisitely rendered by Mr. Dredge, and accompanied upon the harp by Mr. John Francis—who has arranged a charming accompaniment to the melody. Many congratulations has the Ed. received upon the successful reception of her song; and the following letter from her dear friend, Mrs. Zippora Monteith Fischel—who has a magnificent voice herself,—is valued very greatly.

54, Finborough Road, S.W. Dec. 9th, 1903.

Dear Lady Blount,—It was a great pleasure to see you last night, and I wanted my husband to meet you. We both congratulate you on the great success of your beautiful song—it decidedly made the greatest success of the whole evening—and did you notice the remarkable applause after 1st verse. Our friend Mr. Mapleson, who sat across from us, is the king's librarian of music, thought it a very pretty song—and a good song—and applauded it heartily.

ZIPPORA MONTEITH FISCHEL.

ERRATA.

Owing to mis-translation, by the printer, of my shorthand, several errors were printed on pp. 290 and 291 of last issue.—Ed.

Page 291, para. 2.—This should not have appeared in that position, the question being answered further down on the page.

Page 291, para. 6.—For "Light and heat radiate equally in all directions," read: But light and heat radiate equally in all directions over short distances, &c.

Page 291, para. 6, line 3.—For "20 degrees," read: 23½ degrees.

Page 291, para. 8.—For the three first lines, read: Why is it the sun is not visible all the night, especially as its light is so much greater than the stars?
Ans.—Because as the sun recedes from us its light strikes our atmosphere at a greater angle, and its rays are refracted from us, and the light does not pierce to the ground. This is why the sun is not visible at night. For a similar reason the stars could not be visible for a period longer than the sun is visible. That the foregoing explanation is correct, is proved by the fact that the sun is visible the whole 24 hours of the day, in the Arctic regions, when its path has so contracted, and the area within its circle is so diminished, that it remains in view (within this region) for several months, without setting; this has been recorded more than, &c.

Page 292, 22nd line.—Read: light cannot reach over more than about one half of the earth. &c.

"NOTHING."

By LADY BLOUNT.

"What shall it profit a man if he gain the whole world, and lose his own soul"
(life)—Mark viii., 36.

Nothing worth caring for,
Under the sun,
As onward we journey,
If Life's race is run,
Without God,
Without Hope,
Without Life.

Nothing worth trusting in
All the world o'er,
In might or in grandeur,
From shore unto shore;
But in Thee,
Maker, God—
But in Thee.

Nothing worth toiling for,
Not for a day,
Unless with a glad heart
We truly can say
Unto Thee,
Oh, our God,
Unto Thee.

Nothing worth living for,
Even an hour,
Unless in our Fortress, our
Stronghold, our Tower,
We have Thee,
Jesus the Christ,
We have Thee.

Nothing worth dreaming,
By day or by night,
Unless our thoughts mingle,
In sweetest delight
In Wisdom,
Divine Love
And Truth.

Nothing worth boasting of,
E'en in the least;
Man being mortal,
As even the beast;
Without Christ,
Without Hope,
Without Life.

Nothing worth reading but
God's blessed Book,
Which tells us through Jesus
For life we must look—
Jesus, the Christ,
Word made flesh,
Son of God.

Nothing worth talking of,
Even a word,
If not to the glory
Of Him who averred,
Every man
Will be judged
By his words.

Nothing remaineth—
From all we must part;
Nothing worth loving—
Soul, body, and heart;
But in Thee
Creator—God
But in Thee.

Nothing is worthy of
Even a glance;
Unless we remember
That nought came by chance
But was made
By the Word
Of our God.

No earth-sea ball whirling,
Through 'space' in the sky
But one world with heaven
Exalted on high:
Water level
Earth a *plane*,
Makes all *plain*.

All that's opposed
To God's word, is but waste
Which firm as the earth's deep
Foundations is based
On "pillars"
"Unmoveable"
And "fixed."

No pagan perplexity,*
Of three Gods in one—
The mighty Jehovah,
And Jesus His Son,
The only
Begotten,
The Lamb.

One Holy Agent—the
Spirit of God;
His people to guide, love,
Comfort, afford;
Peace of God,
Holy Ghost,
Comforter.

*The teaching in the doctrine termed "The Blessed Trinity," is (to say the least) very confusing—causing a violent collision, or opposition in the mind, and decidedly injurious to the young and the weak minded.

CH. DAMIEN'S SYSTEM.
FRENCH IN THREE MONTHS!

REVISED EDITION, 1902.

We have much pleasure in recommending the above work.

The booklet contains the three thousand words, and idioms, which are most used in ordinary conversation; sufficient to enable you to talk French all your life; no fossil philological peculiarities, but French as it is actually spoken in France. Grammar underlies each group of examples, and we think this a cleverly condensed method of teaching the French language.

The Author of *French in Three Months* also gives Lessons in Conversational French to adults, at

128, CROMWELL ROAD, LONDON, S.W.;

AND

64, ROSSLYN HILL, HAMPSTEAD, N.W.

Friends of the Ed. of this Magazine can testify to his ability and agreeable way of teaching.

The Magnetic Nerve Invigorator Co.,

JONATHAN NICHOLSON,

22, Budge Row, Cannon Street,

LONDON, E.C.

Price of Appliances £1 1s., £2 2s., & £3 3s.

Instalments may be arranged.

THE EARTH.

VOL. IV.

Nos. 43 & 44.

FEBRUARY AND MARCH.

**THE WORSHIP OF HUMAN INTELLECT
MUST CEASE:**

OR

REMARKS UPON "THE VIEWS OF MODERN SCIENCE"

(A pamphlet by Rev. G. T. Manley, M.A.)

The above pamphlet is evidently written in defence of modern science.

After quoting the names of its founders, which include Newton, Herschel, Professor Adams, Clerk, Maxwell, Boyle, Wallace, Darwin, Sir James Simpson, Prof. Adam Sedgwick, Young, Joule, and Faraday, the writer makes a neat apology at the bottom of the page—as a footnote—for not including those of Huxley and Tyndall,

However, he regards Faraday, Young, and Joule—as physicists—to be superior to Tyndall; and Darwin—as a biologist—preferable to Huxley. And the "conclusion" of the whole matter may be comprehended by critics for the truth when they consider the writer's summing up, viz: that "all points to one conclusion, that the functions of science (*i.e.*, human "science") and Christianity are to purify each other" (!).

I can only express my regret when I see such words as these in print; and the only charitable excuse for the one who penned them—impossible as it may seem—is that he must be ignorant of many of the tenets of both the Bible and modern science, otherwise he could hardly make such a statement.

But God has shown that THE WORSHIP OF HUMAN INTELLECT MUST CEASE. Human intellect is one of Satan's most seductive idols, but the time has arrived when it must fall. And the redeemed will be delivered from its snare.

Mr. Manley quotes the following words (which are the