

of the Old Bedford Canal, instead of being shown to exist, was as positively disproved as anything could possibly be in this world!

Baltimore, Maryland, U.S.A.,
WILLIAM CARPENTER,
March 26th, 1894.

[We should have been glad, if, apart from all personal matters, Mr. Carpenter had described the experiment itself more fully, and shewn where it failed to support Mr. Wallace's contention. Older Zetetics understand it, but our younger members may not. Perhaps to enlighten these, our friend, Mr. C. will oblige us with a further article? *Ed. E.R.*]

LECTURES.

LECTURES have been given by Mr. Chilton at Cheslyn, Hay, and Brewood, near Wolverhampton. The local press report says, he "gave a lucid and interesting lecture, and replied well to his critics, and defended himself in an admirable manner."

LECTURE was also delivered in Highbury, London, by Mr. Isaac Smith, of Halifax, followed by a "Debate" in which the Editor defended the Zetetic positions.

MAP PROJECTIONS.

"The maps of this atlas (Public Schools Atlas of Modern Geography—Longmans & Co.) are of course drawn like those of all other atlases, on the projections which were employed two centuries ago, which served very well at a time when men had very vague ideas of the true outlines of continents and countries. Spain as it appears in the map of Africa is quite another Spain from Spain in the map of Europe, and so with many other cases. But probably in three or four centuries more truthful projections will come into use."—From *Knowledge*, March 1887, by R. A. PROCTOR.

What a lovely thing the word "science" is! There was an old lady who, in times of trouble and anxiety, always found comfort and peace in "that blessed word, Mesopotamia." But that aged person is not in it with the old women who find a solace in that blessed word "science." The latest thing in "science" is the "Interstellar Medium." Space is not void, we are to believe as commanded by "science," but it is filled with a kind of stuff called ether. It conveys lights from the stars at, say, the rate of 186,300 miles per second. Light comes in waves. The waves have a mean value of 50,000 to the inch. Thus light comes 60,000,000,000,000,000 waves in one second of time. Some stars, according to Hershel, take 300,000 years to send their light to our earth! Go on, work it out!! When found, make a note of it, and then say "science" doesn't want about 1,000 times more faith than Christianity, if you can! From *Lux*, Jan. 13th, 1894.

THE EARTH—NOT A GLOBE—REVIEW.

"To Him that stretched out the Earth above the Waters; for His mercy endureth for ever."—Psa. 136 : 6.

No. 8.

JULY, 1894.

PRICE 2D.

OUR EARTH MOTIONLESS.

DEFINITE CONCLUSIONS OF SCIENCE.

A popular lecture proving that our earth neither rotates upon its axis nor around the sun.—Delivered at BERLIN by DR. SHEFFER.

(Continued.)

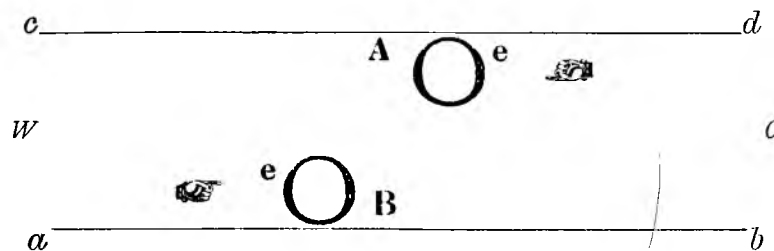
To prove the impossibility of the second proposition, *i.e.*, the revolution of the earth around the sun, will present no difficulty. We can bring self-evident proof to the contrary. *The earth revolves around the sun and is retained in its orbit by the strength of the solar attraction*, and these propositions contradict, point blank, the fundamental law of gravitation itself. It is known to everyone that the direction of the weight is perpendicular to the wall, otherwise the grain of dust would fall. In the same way the direction of the weight of our planet must be perpendicular to the sun, as to the centre of its attraction. But such, in fact, is not the case at all. The direction of the earth's weight is not only not perpendicular, but even changes with every moment.

In order to prove the correctness of my observation, we will now examine more carefully the modern theory of the annual rotation of the earth around the sun, and we will examine it under the aspect in which it is treated in the scientific works that discuss this subject. To explain the change of seasons, in other words to demonstrate the solar ecliptic, the scientists have *assumed* the following position: The earth's axis inclines to its orbit at an angle of $66\frac{1}{2}$ degrees; this angle is preserved by the earth during the whole time of its rotation around the sun *i.e.*, the axis of the earth is parallel to itself at every point of its transit. We can make this theory approximately clear to ourselves by the following illustration: Taking this candle for the sun, we will now revolve around it this little globe, so that, by a simple practical experiment, we may form for ourselves an idea how the four seasons take place. . . . [diagram 1 omitted]. Here on the diagram we can plainly see that the axis of the earth does not change its position with relation

to the earth's orbit during the whole time of the earth's rotation, *i.e.* it remains parallel to itself. It is only by conceding this that we can explain the four seasons of the year. To this point the modern theory appears perfectly satisfactory, but if we examine it more carefully, its inconsistency will become evident. Thus I will now touch at once that incomprehensible and, at the first glance, unobserved circumstance, which has always appeared to me absurd, whenever I had to explain to my audience the rotation of the earth around the sun.

As it would be absurd to suppose that the sun, during the yearly revolution of the earth, in its turn daily circumscribes the earth, modern theory, to meet the necessity of the case, has to suppose that the terrestrial globe, while rotating yearly around the sun, turns daily around its own axis in the direction from west to east. But such two simultaneous rotations are, as we shall directly see, perfectly inadmissible. During the interval from the 21st of June to the 22nd of September such two simultaneous motions coincide well enough, but from the 22nd of September onward, and back to the 21st of June, the juxtaposition of such two motions carries us on directly to a perfect absurdity; it would follow that the terrestrial globe, rotating diurnally around its axis from west to east, moves onward in a direction quite the opposite. But I believe that everyone is aware that a moving body, according to the nature of its rotary motion, either receives an impulse forward, or, on the contrary, the impulse forward directs its rotary motion. Consequently, if the terrestrial globe rotates from west to east, then it must also proceed onward in the same direction, and, in case of a sudden appearance of some new force, compel the earth to deviate from its primal direction, the force which makes the earth to move around its axis must (if it is the stronger) either overcome the newly manifested force or be destroyed by it.

FIG. II.



If we compare the two halves (or parts) of the terrestrial revolution around the sun, to wit, the semi-revolution from W to O, through B, with the semi-revolution from O to W, through A, we find that, from W to O, the direction of the rotation agrees to a certain point with the direction of the motion, and from O to W it is directly opposite to its

onward motion. This will best be seen if we rotate this sphere around the lighted candle in the same manner as represented for the earth as Fig. 1. In order to explain such a strange contradiction we ought to suppose that, during the revolution of the earth around the sun, the direction of the terrestrial weight is also changed, but this would amount to an absurdity, and something in direct contradiction to the accepted formula, that the direction of the terrestrial weight depends on the sun, as on a body which keeps the earth in its orbit. Fig. 2 will explain the whole still plainer. If the globe, *e*, is compelled to rotate towards *O*, in the direction pointed to by the hand, and move onward from *a* to *b*, and from *d* to *c*, then, in its motion from *W* to *O*, it must have the direction of its weight on the line *a, b*, and in its motion from *O* to *W*, on the line *c, d*, to wit, in the first case, have its weight directed downward, and in the second case upward. Although in the universal space there exists neither an up nor down, the question itself is unaffected by that circumstance. Presently we will return once more to this question and prove that such an incessant change of the direction of the terrestrial weight is in direct contradiction with science.

According to the now prevailing modern view, the earth is kept within its orbit by the force of the sun's attraction. But even this proposition contradicts the assumption of the dual rotation of the earth, unless we make such allowances as will contradict all our scientific notions, for it is impossible to imagine to ourselves two simultaneous motions of the terrestrial globe around its axis, and around the sun, in agreement with the *change* of years and that of the seasons, during which the direction of the terrestrial weight would be constantly turned toward the sun, as we ought to find it were the earth supported in its orbit by the force of the attraction of the sun. It is supposed that in every circuitous motion there are two forces in action. For instance, if we attach a ball to a string, and swing it around so that the cord will be extended out straight, then the one force, which tends to project the ball in a straight line from the centre, is named centrifugal force, and the other, contained in the very cord itself, shows a tendency to draw back the ball toward the centre round which it revolves, and is called centripetal force. During the simultaneous activity of both the forces the ball cannot move on a direct line on which both forces tend to move it, but is forced to adopt a movement in the direction of a diagonal, and, from the union of an infinite number of such diagonals, it begins moving in a circle.

If we examine a little more carefully this circuit-motion of the ball, we will find it anything but complex. That point of the ball to which is attached the cord, *i.e.* near which acts the centripetal force developed by my hand, lies on that side of the ball which is directed to the centre of the movement, *i.e.* in the direction of the hand, and, if the ball had a

propensity at the same time to assume a motion around its axis, then the latter would find itself at the same spot where the thread is tied, and this given point on the ball ought to remain turned toward the hand. That which is law for one body is law for all other bodies, placed in the same conditions as the first. The moon—the only heavenly body so close to our planet as that we can observe it in detail—is placed, in relation to her revolution around the earth, under precisely the same conditions as the ball we are now examining is, in relation to the point where the thread is fixed. Let us fancy the ball as the moon, the hand as the earth, and the thread as the terrestrial attraction, invisible in reality, but acting like the thread, and we will see that the moon is turned toward our globe always on the same side, for the force of attraction has deprived it forever of the slightest possibility to effect any change in the direction of the weight and rotation around its axis. Why then, not derive from the laws of motion regulating the moon, a very close deduction for our own planet? Indeed, if the terrestrial globe revolves around the sun, and is kept in suspension in its orbit through the attraction of the sun, then this globe, as well as the moon, must find it impossible to rotate around its axis. In such a case, the one side of the earth would be constantly lighted by the sun, while the other would find itself in perpetual darkness. But we see no such thing, therefore we must infer that the modern explanations of the movements of our planet around its axis and the sun are devoid of the least probability, and disagree entirely with the exigencies of experiment.

Perhaps we might suppose that the terrestrial globe occupying a central position, revolves in twenty-four hours around its axis, while the sun describes annually above it that circle which is shown by the ecliptic. But there is no room for such a supposition until the rotation of the earth itself around its axis is demonstrated on more solid proofs; and, besides, as I have shown, it is the contrary, which can be most easily proved. The immobility of our planet is chiefly maintained by me on the principle that we cannot find in nature any constant atmospheric current always running from east to west. On the same principle, if our planet revolved around the sun, its whole atmosphere ought to be retarded and forced in a direction contrary to the forward motion of the earth, and would have to follow our planet like a long tail, as we see in the case of comets. Of whatever substance may be the tail of the latter, we are forced to examine it as the atmosphere of these as yet but little known bodies, and if the comets themselves travel in the universal space, then their atmosphere is compelled to follow them in the shape of a luminous tail.

Finally, let us return once more to the law of gravitation in order to demonstrate conclusively that the rotation of the earth around its axis

and the sun is an utterly improbable hypothesis. A little further back, while repeating to you in substance the theory now thoroughly accepted of the earth's revolution, I have shewn that, as the theory now stands, the position of the terrestrial weight must inevitably be shifting at every second. Out of this would result the following: If the sun really retains the terrestrial globe in its orbit, then the direction of the terrestrial gravity must constantly tend from the centre of the earth toward the point fixed on its surface at that side which is turned to the sun; on this point acts, immediately, all the centripetal force proceeding from the sun, and, therefore, as in the instance of the moon when the centre of all the lunar gravity is concentrated on that side of her is turned to us, it is to this point that must gravitate all the weight of the terrestrial globe as all the weaker and lighter bodies. But our experiments show to us quite the contrary: the centre of the earth's gravity does not change in the least, and placed in its middle, depends only on the terrestrial mass; no outward force of the kind of the sun's attraction is able to affect it in any way, or can force it to displace itself. And if so, then do not such facts prove fully and clearly (1) that the terrestrial globe is not kept in its orbit by the sun's attraction, because such an enormous force could not but affect the point where is concentrated the centre of the earth's gravity; and (2) that the centre of the earth is at the same time the centre of its weight, and also the centre of all the visible universe? Of course, I do not reject entirely the influence on our planet not only of the attraction of the sun, but also of the moon, but I only maintain that the force of their attraction is not so powerful as to influence, in any serious way, the solid portions of the terrestrial body, when we find that even with fluid and gaseous bodies, especially such as the air, this influence is felt but to a very feeble extent. If the attraction of the sun is so trifling that it can act but in quite a slight and to us as yet not quite clear manner on fluidic bodies, then we have still less reason to suppose that such a weak force could neutralize the centrifugal force of the earth and keep it in its orbit. For such an effect as this a force of gigantic proportion would be required—a force under whose action all the terrestrial atmosphere would long since have been carried off to the sun, in the same way as the force of attraction of the terrestrial globe is ever ready to attract to itself every just forming lunar atmosphere.

Let us now see what changes would be called for in the same department of astronomy were my assertions to be some day verified, and it should be found that the earth is motionless, and occupies the central position of the visible universe. Such changes would be in some respects important, in others unimportant. They would chiefly consist in our henceforth regarding the hitherto seeming motion of the heavenly bodies as a real motion, as the astronomer Tycho de Brahe did before.

He maintained that the earth stands still in the centre of the universe, and around it, as around its natural centre, moves diurnally the whole heavenly sphere; the moon and the sun in addition to the above motion describing around the earth independent movements on special curves, while Mercury with the rest of the planets describes an epicycloid. . . . I may also add that the position assumed by our scientists who consider the fixed stars as suns of the same nature as our own, and all the other planets as bodies identical in substance with our earth, will be found to be without foundation. Such a theory is irrational, if it were only because of the principles on which are based the determination of circumferences and weights of the celestial bodies. The weight of the sun, for instance, was determined in accordance with the amount of the expression of its imaginary attractive force on the surrounding planets. As soon as it is found that the sun must surrender its office of principal star and become simply a planet revolving around the earth, directly depending on the force of the latter's attraction, all previous calculations will naturally be proved erroneous. The sizes of the heavenly bodies have been determined on no less false principle.

Who but is more or less acquainted with that phenomenon which shows us an object diminishing in proportion to the distance, so that if an object is placed at a distance which exceeds 5,000 times its diameter, the human eye is unable to see that object? It is on the basis of this law that the sizes of all the heavenly bodies have been calculated. According to their seeming size and the ratio of their distance from the earth, science has endeavoured to determine the number of times that their real size surpasses their seeming one. But in determining by that principle our scientists have neglected to consider one of the most important points; they forget that the law which makes objects apparently diminishing in proportion to their distance from the observer does not affect luminous bodies; the brighter the light of the body the longer its bulk will remain unchanged in our sight, whereas an object but faintly lighted becomes invisible, as I have said, at a distance which exceeds its diameter 5,000 times. If the said law extended to luminous bodies, then a flame one inch wide could not be seen at the distance of 225 yards, whereas we know from experiment that the size of its apparent bulk does not change even when the candle is carried to a distance of several thousand yards. As the sunlight is extremely bright, the bulk of the sun must therefore seem unchangeable at an extremely long distance, and it is very possible that the sun in reality is but little bigger than it seems to us at the distance. Besides that, it is not only possible but a great deal more plausible to accept the assumption that the laws which shew to us an object diminishing with the distance are applicable only to our own dense atmosphere which surrounds us, and are not operative in a medium so rare as that of the upper spheres. When,

after a clear and cold night, the vapours of the air are drawn down to the earth, and the rising sun illuminates the air cleared from the mist, then the mountains, the villages, the environs and edifices, at other times hardly delineated in the blueish atmosphere, suddenly rise before our eyes as if growing up by enchantment; they seem nearer and allow us to examine the slightest details of their structure. In this case the law of the diminution of objects is evidently changed. And there in the ether, in that attenuated matter—or rather let us only speak of ether as empty space—in this vacuum of the universe how can these laws be ever applied? Generally speaking, as far as I know from personal experience, the *science of optics* is not quite accurate, the sight of the human eye is more or less influenced by the purity of the atmospheric air. . . .

Equally erroneous will be found all the determinations of distances of the fixed stars, once that we have to regard the earth as fixed. According to the now accepted and wholly dominant theory, on the 21st of December the earth is 40,000,000 miles (185,000,000?) from the point at which it stood on the 21st of July (June?) On these same dates, with the help of the telescope, directed to one and the same point of the heavens, is observed a certain star which crosses the meridian in the same direction and in the same point of the heavens. It results then that a distance of 40,000,000 miles (185,000,000?) counts as nothing in our comparison of the distance of the observed star! But even such an evident proof of the recision of the fixed stars from the earth loses certainly all its weight if we assume the earth to be motionless.

And now, gentlemen, allow me to lay before you one more contradiction, which, had it been insisted upon before, might have shewn to our scientists long ago the erroneousness of our astronomical calculation. It was found from the determination of the sun's attraction that every body which exerts on the terrestrial globe a pressure of one pound exerts on the sun a pressure of 27 pounds. If all bodies act on the sun with such an increased pressure, it would then seem that the mass of the sun ought to be likewise and in the same proportion more compact than the terrestrial mass, *i.e.*, it would consist of a more dense matter; and yet, by comparing the calculations of the weight with those of the circumference of the sun, it has been found that the sun's matter is just four times less in density than the substance out of which the earth is formed. The result, then, would be that one and the same body would weigh on the sun 27 times more than when on earth, and its weight would act on the sun 108 times more than it would on our planet; and yet the substance of the sun would present but $\frac{1}{4}$ of a part of the density of the matter of the terrestrial globe! This, I must say, is incomprehensible to me, and I view such a theory as the result of correct calculations based on a false principle.

I also deny the existence of the atmosphere on any planet whatever. A heavenly body crossing the universe with a velocity hardly comprehensible cannot be possessed of an atmosphere similar to the air of our earth. And here, as before, the moon—a planet with the qualities with which we are best acquainted—gives us a fully correct comprehension, or rather it corroborates all that is shown to us by the natural laws. The moon has no atmosphere, and, therefore, there is but little probability that the other planets would have any more than she has. All the observations tending to shew that the moon must have an atmosphere are based, no doubt, on equally erroneous principles; they could be accepted with any degree of certainty only when the experimenter could be carried beyond the atmosphere of the earth, or, at the least, when we should build our observations on the summit of Dhawalaghiri. The outer surfaces of the body of the sun, moon, and other planets cannot be similar in appearance to the surface of the terrestrial globe; they must consist of strongly compacted matter, such as we see sometimes in the substance of the frequently falling aerolites. All the non-solid bodies, the strata of the earth, and the rocky portions would be torn off and precipitated on the earth by the force of its attraction. Thus, on the ground of these premises, the assumption that some of the planets may be inhabited is void of any probability and has to pass into the realm of fiction. . . .

Man, while determining the distance of the stars most important to us, on the strength of an imaginary rule of distance and falsely applied laws of the diminution of objects in proportion to their recession, began to calculate the size of these stars, and, astonished at their dimensions, mistook the fixed stars for bodies similar to our sun, and our earth for a very unimportant portion of the whole universe. Arrived at the latter conclusion, it very naturally appeared absurd to him that all these powerful, all these gigantic and numerous celestial bodies should revolve around our little globe, obey it, and submit to its desires. At that time appeared a new hypothesis: the earth is not motionless, it revolves around itself and around the sun. This theory is accepted as the correct one, and step after step are now built new suppositions, new combinations deduced from the union and combination of imagination with correct mathematical calculations.

Here I end my dissertation, although it would be but an easy matter to point out a great many more contradictions on which rests the modern theory which I now combat and is opposed to mine. We cannot help desiring and hoping that perchance there may be found at least one astronomer who, armed with all the weapons of modern speculative science and its apparatus, will undertake to re-create the whole system of Tycho de Brahe. The result of such an attempt would doubtless prove something scientifically grand. All that now under

the Copernican system appears to us so incomprehensible and diametrically opposed to the fundamental laws of nature would be finally explained in the simplest and most rational way. We can now see how right was the venerated astronomer Bandes, when, expressing his opinion on Tycho de Brahe's system, he remarked, "This theory presents in itself a great deal more of probability, as it explains so well all of the individual phenomena of nature." Unfortunately, Bandes was mistaken when he imagined that this system contradicted the laws of attraction. But I believe I have fully disposed of such a misunderstanding, and proved that it was not Tycho de Brahe's system, but that of Copernicus, which contradicts all the laws of gravitation.

To add a few more proofs to our assumption we will say:

1. That the form of the continents contradicts the theory of the rotation of the earth. If our globe were revolving around its axis, then the outlines of the continents ought to elongate themselves in a direction from east to west, when in reality this elongation of configuration extends from north to south.

Besides that, the width of their northern edges arises from the attractive force of the northern pole, and the points turned south from the repulsive force of the south pole.

2. There are no fixed stars in the sense of this word, because it has been observed that these stars, besides their diurnal revolution around the earth, perform independent circuitous movements. Vain have been all the efforts of the astronomers to find a central body whose force of attraction might account for the fact that these stars are kept within their orbits; and such a body must exist somewhere. This central body is our earth. May it not also explain the fact that the greater the accumulation of soil in the northern hemisphere the larger is the number of stars above?

3. Various changes in the fixed stars have been often remarked, namely a change of colour or the intensity of light, and sudden appearance and as sudden disappearance of single stars—which does not at all agree with the assumption that they are as large and independent bodies as it has been hitherto supposed.

4. The similarity in the component parts of all the meteorological masses, that is to say, of the bodies attracted by the force of gravity within the earth's atmosphere, gives us chiefly some idea of composition of the mass of all the heavenly bodies, and proves that they cannot be inhabited. The greatest aerolites known to us had a diameter of 7 to $7\frac{1}{2}$ feet.

5. According to the exact researches of Wilhelm Malman, in the middle latitudes of the temperate zone the prevailing atmospheric current appears to be W.S.W. Although agreeably with the law of terres-

trial rotation the prevailing winds ought to be found in those regions easterly, we see the contrary and find them westerly.

As my following work will tend to demonstrate the agreement in the progression of the creation of the universe with truth and fact, and taking into consideration that this pamphlet of mine (the only reasonable refutation of the earth's rotation) shows a similarity with the opinions of many scientists who preceded me, in conclusion I wish to quote a few words from Goethe. The poet, whose prophetic views remained during his life wholly unnoticed, said the following: "In whatever way or manner may have occurred this business, I must still say that I curse this modern theory of cosmogony, and hope that perchance there may appear in due time some young scientist of genius who will pick up courage enough to upset this universally disseminated delirium of lunatics." . . . From the "*Scientific American*," April 27th, 1878.

[We should be glad to see a copy of Dr. Shæpfer's further work, referred to above. He has made great advance on the way to Truth, but before constructing any new system of the universe, he should first ascertain experimentally and definitely the shape of the earth we live on.—ED. E.R.]

THE WISDOM OF GOD

IN THE CREATION OF THE WORLD.

(By Lady Blount).

1. *What is wisdom and what its value?* Wisdom consists of the knowledge of God, His ways, His works, and His revealed purposes. Its value is inestimable, for "who findeth me findeth life, and shall obtain a favour of the Lord." . . . "All they that hate me love death."—Prov. 8 : 35.

2. *Where may man find Wisdom?* "The fear of the Lord is the beginning of Wisdom."—Prov. 9 : 10. Those who despise this fountain are therefore void of Wisdom.

3. *How did God create the World?* "The Lord by Wisdom hath founded the earth; by understanding hath He established the heavens."—Prov. 3 : 19.

4. *When did God create the heavens, (or the planets?) and the earth?* "In the beginning God created the heavens and the earth."—Gen. 1 : 1.

5. *When was the beginning?* We are not directly told. Some compute that according to the lives of the patriarchs, and other dates given in the Bible, it was nearly 6,000 years ago. Jesus shews that the "beginning" occurred at the time of the creation of Adam and Eve.

6. *Through whose instrumentality did God create all things?* Through the Christ "The Word." "All things were made by Him, and without Him was not anything made that was made."—John 1 : 3.

7. *Was there a time when the World was not?* Yes, for we read; "Before the mountains were settled, before the hills was I brought forth; While as yet He had not made the Earth, nor the fields" (*open plains*, margin).—Prov. 8 : 25.

8. *In how many days were all things created?* In six literal days. "For in six days the LORD made heaven and earth, the sea, and all that in them is, and rested the seventh day, wherefore the LORD blessed the seventh day and hallowed it."—Ex. 20 : 11. As the seventh day sabbath was literal so also must the other days have been literal.

9. *What did God create on the first day?* Light, which God called "Day," and He divided the light from the darkness which he called "Night." Hence light was made before the sun.

10. *What did God make on the second day?* The Firmament, or a strong and solid expanse over-head, made to divide the waters which were above the firmament from the waters below the firmament.

11. *What proof have we that the Firmament is solid?* The word "firmament" has this meaning, and it is described as sky, which is "strong, and as a molten looking glass."—Job 37 : 18. Its purpose also shews this, as it has to support the waters which are "above" the firmament.

12. *What did God make on the third day?* He gathered the waters together unto one place, which he called "seas," and made the dry land appear, which He called "Earth," and the grass, the herbs and the trees all yielding fruit after their kind. Thus the *land* only is called "Earth" in the Bible.

13. *Did God create the Earth moveable?* No, He laid its "foundations," that it should not be moved forever, or until the ages. "The world also is established that it cannot be moved."—Psa. xciii : 1.

14. *To what may we liken the Earth?* We may liken it to a vast flat and floating vessel, fastened by its foundations like an anchor. "For He hath founded it upon seas, and established it upon the floods."—Psa. 24 : 2.

15. *What did God make on the fourth day?* The Sun and the Moon, and the Stars to divide the day from the night. These are "lights" only, and are all intended for this world. God said;—"Let there be lights in the firmament of the heavens to give light upon the Earth: and it was so."—Gen. 1 : 15.

16. *Do not the theories of Modern Astronomy discredit this account of Creation?* Yes, they contradict the teaching of Moses, which the Christ endorsed, in saying that the stars are worlds, &c. The Bible never speaks of but *one* world, or *comos*; and it calls the stars mere "lights," and the sun a "greater light," and the moon another and independent light. Now it is absurd to make a "light" or a lamp, one

million four hundred and nine thousand seven hundred and twenty-five times the size of the place to be lighted. Astronomy also contradicts the Word of God in calling the moon an opaque dark body in itself, for the Bible clearly states that God made *two* great lights, the sun and the moon, while Astronomy affirms that the moon is only a reflector. But no sphere would reflect light over a full disc, as the moon does: hence she cannot be a reflector. Besides, moonshine is very different in its nature from sunshine.

17. *Is there any other reason recorded for the Creation of the Sun, Moon, and Stars?* Yes, not only to give light upon the Earth, but for "signs," and for seasons, and for days and for years, and to "rule" over the day and over the night. "And God said, Let there be lights in the firmament of heaven to divide the day from the night, and let them be for signs, and for seasons, and for days and years—Gen. 1: 14.

18. *Have the Stars ever been used as signs for man?* Yes, prophets and wise men of old understood their signs, and the Magi, or astrologers, were guided by them, at the birth of Jesus. We are also told that the stars shall fall from heaven, and the sun be turned into darkness before the great day of judgment.—Joel. 2: 10-31.

19. *Of what shape is the earth and sea taken together?* On the surface it appears to be round as well as everywhere flat, for we read;—"It is He that sitteth upon circle of the earth, and the inhabitants thereof are as grasshoppers: that stretcheth out the heavens as a curtain, and spreadeth them out as a tent to dwell in."—Isa. 40: 22. Again, "He that created the heavens, and stretched them out; He that spread forth the Earth."—Isa. 42: 5.

20. *How may we know that the earth or land is like an island, or series of islands?* Because men have sailed around the earth, as around an island, and Peter says it is standing (as a ship at anchor) "in the water and out of the water." He also says that some are "willingly ignorant" of these facts; that is, they are not willing to learn when someone is ready to teach them these things.—2 Peter 3: 5.

21. *Is the fact that the masts of a ship approaching the shore are seen before the hull any proof that the world is a Globe?* None whatever, because this is explainable by the laws of perspective; and after a ship has wholly disappeared from the vision of the naked eye, it can often in calm weather be restored to view by a good telescope. See E.R. 4.

22. *How should we look upon human wisdom, when it conflicts with Divine?* With distrust, for theoretical "science" is mere speculation. The Creator is surely wiser than the creature; and "the wisdom of the world is foolishness with God."

23. *What then should we do?* Reverently study His Works and His Word, so that we may gain wisdom, learn to trust Him better, and

obtain that Eternal Life which He has promised through the Messiah to all them that love Him. Read Psa. iii.

24. *Why attach so much importance to this question of the Earth's shape?* Because it proves the Bible is true; and because the endless life which God promises is to be spent with the Christ (when he returns) upon the renewed earth. Matt. 5: 5; 6: 10; and Rev. 5: 10.

TO OUR READERS.

With this issue "Zetetes" will cease to be the editor of the E.R. Two months ago we placed our resignation (to take effect after No. 8 was issued) in the hands of the Secretary of the U.Z.S. This gave the Society ample time to find a fresh editor, and us an opportunity to conclude Dr. Shœpfer's important lecture. We have been reluctantly impelled to take this course through failing health, and the pressure of other work which could not be given up without neglecting the duty of doing something to try to obtain the bread which perishes. Our labour has been a labour of love. It is an honour to be allowed to stand up as a witness (a Pro-testant) for the truth of God's Word. We trust others will be raised up for this important work. We have endeavoured to teach our readers to think for themselves, and not allow the crude theories of sceptics, or scientists, to be forced upon their mental digestions. This has often been done at the expense of our own physical digestive organs. But truth is precious; and there are truths in the Holy Scriptures which, if discovered and followed, will lead to eternal health and life. We trust our readers will follow on to know these truths, and we shall be glad at any time to send free papers or tracts thereon, for postage only. What is the use personally of finding out that the Bible is true if we do not go on to discover the great object of its revelations. Still it is a good work to try to prove to others the perfect reliability of the Holy Scriptures; and we trust our friends will not slacken their efforts herein. All should help. The burden has hitherto fallen upon a few. All honour to these friends. Still go onward. Our little bark, the E.R. has now been fairly launched out into the deep. We are grateful to God for being allowed to share the honour of bringing her so far; and we cannot bid our friends even a partial adieu without expressing our gratitude also to the brave comrades in London, Bath, Halifax, and Ashton, &c. who have granted us their kindly aid. To all our friends we would say, let our motto still be, ONWARD.

John Wesley, in his Journal, writes:—"The more I consider them the more I DOUBT of all systems of astronomy. . . . Even with regard to the distance of the sun from the earth, some (astronomers) affirm it to be only three, and others ninety millions of miles!"—Extract from Wesley's works, published by Mason, 1849.

ROLL ON !

TO THE THEORETICAL GLOBE.

Roll on, thou mighty Ball apace !
Through misty realms of endless space,
In mad career and lightening race,

Roll on !

Although we suffer brain-wracked chills ;
We cannot pause to mend our ills,
Whirl-over ! oceans, valleys hills !

And never mind,

Roll on !

Roll on great giddy globe, mid-air,
Through seas of ether dashing—where ?
Drive all thy dupes to blank despair.

Roll on !

My mind is all a dizzy whirl !
Can no one stop this fearful swirl,
And let the flag of Truth unfurl ?

But never mind,

Roll on !

“ ICONOCLAST ”

(With apologies to W. S. Gilbert).

CORRESPONDENCE.

All Letters sent to the Editor should be legibly written on one side only of the paper, and should have some direct bearing on the subject before us. They must be accompanied by the name and address of the sender. Stamped addressed envelopes ought to be enclosed for replies. Short pointed letters or articles preferred.

The Editor cannot, of course, be held responsible for the various opinions of his correspondents; nor can he enter into correspondence respecting articles, &c, held over or declined. Letters must now be addressed to

“ LEO CASTLE,”

c/o Mr. John Williams,

32, Bankside, London, S.E.

NOTES.

J. C. Akester, Hull.—Accept our thanks for Count Mattei's Homœopathic remedies sent. We have lost all faith in Allopathy, but we are willing to give these tiny pillules a trial. The “ Science ” of Medicine is in as hopeless a state of confusion as that of Astronomy. We have sent you a copy of *Natural Food* which advocates a return to natural and Edenic diet.

Bath.—The promised article shewing the belief and Cosmogony of the early Christian “ Fathers,” so-called, should be very interesting, and it would doubtless be welcomed by the new Editor of the *Review*. We avail ourselves of this opportunity to thank your Ladyship for many past kindnesses, and trust you will still continue your interest in the Plane Truth. We are glad to see your poem, *The Nebular Hypothesis* is being republished in America. Truth is spreading.

L. T. Jones, Baltimore.—We do not know where you could obtain an English translation of the Astronomical works of Tycho Brahe. Perhaps some of our readers can tell.

Henry Barnes, London.—Why do you not send us a proof that the earth is a globe ? Your “ boys ” seem to be very sharp. Doubtless it is owing to the fact that they have such a clever father. But how is it they are in advance of you ? for Edward says ;—“ Both Frank and I know water is level fast enough.” If they really have this truth established “ fast enough ” in their precocious minds, can you explain to them, or to us either, the difficulty of finding level water on a spherical earth ? Their other “ difficulties ” are childish compared with this. Boys ! “ ask father ” to explain this for you, and then send on a copy of his “ explanation ” for publication in the E.R. When he has done this, we will, if health permit, attend to your other little difficulties.

H.H.S., Bayswater.—No ! we have not seen the book of Fables promised us by Mr. Score. It is perhaps not out yet. Thanks for what was forwarded. Respecting Job 26 : 7, the word “ earth ” in the Bible never includes the sea. It is not therefore, a synonym for the term “ world.” It refers to *land* only. See Gen. 1 : 10. Job is not speaking in the context of the World, but of *Sheol*, (*Hades*) and the *Abyss*. We speak of a plane being “ stretched out,” not a sphere. “ He stretcheth out the north, over *Tohu* ” (desolation—thus accurately describing the regions north long before the modern and mad attempts to reach the “ pole ”); “ and hangeth the earth (*land* only) upon (or over, Rev. Ver.) *Balyahma* ” (the emptiness, or nothingness of the abyss). “ Sur le néant,” French Ver. D'Ostervald Revissée. Dr. Adam Clark, a Newtonian, quotes a Chaldean version thus ;—“ He layeth the earth upon the waters, nothing sustaining it.” This points to Psa. 24 : 2. Dr. Bullinger sends the following translation ;—“ Stretching-out the northern-heavens over (*al*) desolation (*tohu*) ; hanging the-earth over (*al*) not-what [i.e. not anything (solid)].” And he adds ;—“ As the heavens are stretched out having nothing (apparently) to support them, so the *eretz* (earth) is hung like them and has nothing *solid* to support it. That is, air is beneath the one, and water beneath the other.”

Ulysses G. Morrow, Allegheny.—Copies of your paper, *The Herald of Glad Tidings* to hand. We are glad to see you are so boldly advocating the PLANE TRUTH, and thank God He is raising up witnesses to the Truth in all parts of the World. Go on, and prosper in all truth.

C.H., London.—A most serious defect in your mathematical puzzle is (see E.R. May, p. 159) your assumption that the line S.N. is a straight line. As this represents a ray of light from the sun to the north centre, we deny that it is true to fact. Light from above does *not* travel in straight lines through a medium of ever increasing density. We hope (D.V.) yet to be able to make some revelations on this subject at some future time.

R.I.P.—We have no room for your many enquiries and very long letter ; but we shall try to squeeze in somewhere a brief reply to each point raised.

W.H.E., Ind., U.S.A.—Your long, rambling and illogical letter betrays you. It has, consequently, gone to its own place ; namely, the waste paper basket. We want facts, not fancies ; and reasons not ravings.

W. Carpenter, Baltimore.—Too late for this number.

Letters to the Editor.

Seedley, Manchester.

Dear "Zetetes,"—I became acquainted with The Earth Review, through seeing it in Mr. Coleman's window in Manchester when passing. I have for about 9 years been satisfied in my own mind that the earth is "flat"; but I am hardly capable of convincing others. I believe you are one of the few who are really qualified for meeting the Modern Scientists on these matters, and I wish you "God Speed."

At the spontaneous request of a class of young men meeting in the Congregational School, I accepted the position of Teacher. I at once tried to provoke a spirit of inquiry among them, and have succeeded. I soon found that "Science" was destroying faith in much of the Bible in this School, as it is in the Churches, and among the People. Now the question is, Is Modern Science more reliable than the Bible?

I thought the questions enclosed might be interesting to you as shewing the state of mind of our young men. One, a Pupil Teacher, admitted he had never read anything against the Globe theory before. Science teaches its disciples not to question but to believe.

Yours in the Christ,
G. HOBBS.

CURVATURE.

Dear "Zetetes,"—The following appeared in "Tit-Bits," some time ago:—

The Captain of the s.s. *Milo*, referring to the question as to how far a powerful light can be seen, says: "The other day, when off Skagen, the rays from Hantsholmen lighthouse were distinctly visible, though the light was fully seventy-two miles away."

Mr. B. wrote and asked how the light could be seen unless the light-house was 3,500 feet above sea-level? This is the official reply he received.

Editorial Department,
Tit-Bits, Dec. 21, 1892.

The paragraph you refer to was sent me by the Captain of the s.s. *Milo*, and he vouched for its accuracy. Under these circumstances I cannot enter into a discussion as to the possibility of his being able to see it or not. P.S.—Mr. B. allowed that the reported observation was made from a mast-head 100 feet above sea-level.

Surely this is a Tit-Bit proof that the earth is *not* a *Globe*, but that it is a vast irregular Plane.

Yours, &c.
J. W.

Plymouth.

Dear Sir,—The Title of the Work about which you ask is "The Grand Old Book," by Rev'd A. M'Caig, B.A., L.L.B., Tutor at Pastors' College, London." Publisher: Elliot Stock, London.

The "Mercury" gave it unqualified praise, and winds up with:—"The whole book deserves most careful study, and will be prized by all who love their bibles and cling to them as 'the Word of God.'"

It is pitiful to think that a christian journal (C. Commonwealth) should be behind a daily paper in its appreciation of an effort to defend God's Word.

I thank you, heartily, for the pamphlets you kindly sent. I have, so to speak, imbibed the opinion of the sphericity of the earth from my babyhood, and it seems terribly iconoclastic to endeavour to shatter that opinion. . . . On the other hand, I can see nothing to controvert in your tracts. To accept a flat, stationary earth, and a revolving sun, is certainly to render possible a literal rendering of many passages of Scripture which are commonly accepted as illustrative; e.g. the "foundations" of the earth."

You have at any rate made out a sufficiently good case to render unjustifiable the refusal of the C. C. a short time ago to open its columns for a discussion of the subject.

Yours faithfully,
THOS. E. STEVENSON.

Glasgow, April 21st 1894

Dear Brother,—I got acquainted with the Truth of the "Earth a plane," through the Rainbow (Dr. Leask's articles), which were to my mind very convincing. I had a copy of your 'Cranks' from Brother T. J. Hitchcock. This truth has doubtless the grand simplicity that is characteristic of all God's Truth when known, but it has also its depth and profundity to engage profitably the most learned minds. It is truly amazing, that in view of plain outstanding testimony, and ocular demonstration of the great distance at which a light (45 miles off) can be seen, men should, knowing the illusory

character of certain states of the atmosphere, persist in their stupid plea of the Earth and the Sea's rotundity.

The blinding fascination of antipathy to truth, because it is Bible truth, is wonderful. Popular names, with a string of supplementary letters attached, wield an influence that to some minds seems irresistible. Such titles also carry a responsibility that is truly serious, and ought to make their possessors pause lest they inculcate error.

The simple Truth too simple is,
Inscribed on Nature's page;
For modern pride, which bolder grows,
With each succeeding sage.

Hoping you are stronger,

I am yours in Christ,
JAMES GRAY.

Dear Sir,—The *World of Wonders* by Cassell & Co., part I. gave an account of the Pendulum experiments at the Polytechnic in May 1851: Now do I understand this experiment rightly?

As the pendulum is fastened to the top of the Lecture Room, and once set in motion, its motion must vary as the earth is doing in its diurnal motion, so that in 24 hours the earth having turned a complete *topsy turvey*, the lecture room must have done the same, and the pendulum also, so that the leaden bullet would at one time find itself at the top of the room, instead of at the bottom—not suspended at the end of the wire, but being at the top of the wire suspended to the bullet!

If this is not what the theoretic donkeys are going for—what is it?

It may be my ignorance of the subject, but to me it is the greatest piece of nonsense I have yet seen on the subject.

Yours, &c., A. W.

Doncaster, May 8th 1894.

Dear Brother,—I enclose the extract from Proctor's article on Astronomy in the Encycl. Brit. It is the last edition, but the *volume* referred to was published in 1878. The series was not completed till 1887. I also send a paragraph from a novel by F. M. Crawford, a popular writer. It is a doctor into whose mouth the words quoted are put. The report of Dr. Schepfer's lecture is very important. They have a pendulum at S. Kensington which oscillates over a brass table, changing its bearing at each beat; but it only goes on for a short

time and is then stopped, so you cannot tell whether it returns after a longer time. This is cute of the authorities!

Yours sincerely,

H. C. BOWKER, M.A.

"We talk more nonsense about science than would fill many volumes: because, though we devote so much time to the pursuit of knowledge, nevertheless the amount of knowledge actually acquired, beyond all possibility of contradiction, is ludicrously small as compared with the energy expended in the pursuit of it, and the noise made over its attainment. Science lays many eggs, but few are hatched. Science boasts much, but accomplishes little; is vainglorious, puffed up, and uncharitable; desires to be considered the root of all civilization, and the seed of all good, whereas it is the heart that civilises, and never the head."

Paul Petoff, p. 117

By F. MARION CRAWFORD.

Tuebrook, May 7th, 1894.

Dear Sir,—I thought I would get the pamphlet on the "Good Friday fraud" before writing. I have now read and re-read the same, and think the various authors are right.

I should much like to know what Mr. Dimpleby said when you presented the matter to him. Did he seem to think there was anything in it; or try to shew you were wrong? Can you let me know?

Am sorry you intend to give up the editorship of the "E. R." I hope you will not do so until you have found another equally capable.

Am much pleased that a man of Dr. Schepfer's standing and ability should attack the twirling mass. Shall be glad to read the next article.

Yours faithfully,

WM. BATHGATE.

[Mr. D. failed to present any proof of the earth's sphericity; and when the flaw in his "Good Friday" chronology was insisted on, he offered the objector his professor's "gown"! But as the latter had already discarded one gown, he told Mr. D. he did not want another. He only wanted error rectifying, and truth proclaiming. Ed.]

Portsmouth, May 27th 1894.

Dear "Zetetes,"—I thank you for loan of the little book containing your Blackburn discussion of ten years ago. I return it herewith. I have read it with great interest, with the interesting Newspaper letters. I am pleased with the May No. of E.R., in which you have given a prominent place to your Lecture here. I like the letter signed R.I.P., also Lady Blount's Spontaneous and Hypothetical Poem. I regret to hear a possibility of your resigning the Editorship; it is no doubt a tax upon your time and your present weak condition. The conflict between error and Truth, whether Scientific or Theological, always requires some sacrifice. Your advice to us here is in season, but I fear we shall not do much. I shall endeavour to revive the subject later on. I only wish I could do more to keep the little Bark afloat. I hope your health will soon be better. You were not well when you were here. I know the burden of the "Olive Branches," especially when there are so many. Persevere in the Natural living. I am certain the "Diet Cure" is the only path to health.

Yours faithfully,
G. T. BOLT.

Belfast, June 8th 1894.

Dear "Zetetes,"—Two Lectures by Mr. Atkinson came off on 25th and 26th April, in the Arthur Hall, Arthur Square, Belfast. The Hall was kindly lent by the owner for the occasion, and Mr. Ashe, a gentleman who has lately seen the truth, presided. There were about 100 persons present, and a good deal of interest shown. Mr. Atkinson went into the subject very fully, and took great pains to make all understand the subject. The Diagrams prepared were numerous and well got up. . . . Mr. Atkinson handled the subject in a masterly way, proving by natural facts, common sense, and the Scriptures, that we are living on a flat and stationary Earth, established and fixed, so that it "cannot be moved." Some questions were put, and briefly answered. Those interested are thinking of having a night for special enquiry. I thought you would like to have this report for the encouragement of others.

Yours sincerely,
H. CLARKE.



CAUSES OF EXTINCTION.

(THE FLOOD?)

"It is impossible to reflect on the changed state of the American continent without the deepest astonishment. Formerly it must have swarmed with great monsters: now we find mere pigmies, compared with the antecedent, allied races. If Buffon had known of the gigantic sloth and armadillo-like animals, and of the lost Pachydermata, he might have said with a greater semblance of truth that the creative force in America had lost its power, rather than that it had never possessed great vigour. The greater number, if not all, of these extinct quadrupeds lived at a late period, and were the contemporaries of most of the existing sea-shells. Since they lived no very great change in the form of the land can have taken place. What, then, has exterminated so many species and whole genera? The mind at first is irresistibly hurried into the belief of some great catastrophe; but thus to destroy animals, both large and small, in Southern Patagonia, in Brazil, on the Cordillera of Peru, in North America up to Behring's Straits, we must shake the entire framework of the globe. . . . It appears from the character of the fossils in Europe, Asia, Australia, and in North and South America, that those conditions which favour the life of the

larger quadrupeds were lately co-extensive with the world; what those conditions were, no one has yet conjectured. It could hardly have been a change of temperature, which at about the same time destroyed the inhabitants of the tropical temperature, and arctic latitudes on both sides of the globe. . . . I have seen, in the Cordillera of the Andes, the evident marks where stupendous mountains have been broken into pieces like so much thin crust, and the strata thrown on their vertical edges; but never did any scene, like these streams of stones, so forcibly convey to my mind the idea of a convulsion, of which in historical records we might in vain seek for any counterpart (The Flood?) yet the progress of knowledge will probably some day give a simple explanation of this phenomenon, as it already has of the so long-thought inexplicable transportal of the erratic boulders, which are strewed over the plains of Europe." . . . Darwin's Journal, on H. M. S. "Beagle."

CLIMATE AND PRODUCTIONS.

(SOUTH LATITUDES COMPARED WITH NORTHERN.)

"On the West coast, (Tierra Del Fuego) however, the wigwams are rather better, for they are covered with seal-skins. We were detained here several days by the bad weather. The climate is certainly wretched; the summer solstice was now passed, yet every day snow fell upon the hills, and in the valleys there was rain, accompanied by sleet. The thermometer generally stood about 45°, but at night fell to 38° or 40°. From the damp and boisterous state of the atmosphere, not cheered by a gleam of sunshine, one fancied the climate even worse than it really was." . . .

On the climate and productions of Tierra del Fuego and the South-west Coast, Darwin says;—"The following tables gives the mean temperature of Tierra del Fuego, the Falkland Islands, and for comparison, that of Dublin":—

	Latitude	Summer temp.	Winter temp.	Mean of Summer and Winter.
Tierra del Fuego	53°38' S.	50°	33°.08'	41°.54'
Falkland Islands	51°30' S.	51°	—	—
Dublin	53°21' N.	59°54'	39°2'	49°37'

Hence, we see that the central part of Tierra del Fuego is colder in winter, and no less than 9½° less hot in summer, than Dublin. According to Von Buch the mean temperature of July (not the hottest month in the year) at Saltenfiord in Norway, is as high at 57°.8, and this place is actually 13° nearer the pole than Port Famine! Inhospitable as this climate appears to our feelings, evergreen trees flourish luxuriantly under it.

On the height of the snow-line and on the descent of the Glaciers in South America, says Darwin;—"For the detailed authorities for the following table, I must refer to the former edition.

Latitude	Height in feet of snow-line.	Observe.
Equatorial region; mean result	15,748	Humbolt, Pentland.
Bolivia, lat. 16° to 18° S.	17,000	
Central Chile, lat. 33° S.	14,500 to 15,000	Gillies and the Author.
Chiloe, lat. 41° to 43° S.	6,000	Officers of the Beagle, and the Author.
Tierra del Fuego, 54° S.	3,5000 to 4,000	King.

"As to the height of the plane of perpetual snow seems chiefly to be determined by the extreme heat of the summer, rather than by the mean temperature of the year we ought not to be surprised at its descent in the straight of Magellan, where the summer is so cool, to only 3,500 or 4,000 feet above the level of the sea; although in Norway we must travel to between lat. 67° and 70° N, that is, about 14° nearer the pole to meet with perpetual snow at this low level. The difference in height, namely, about 9,000 ft. between the snow line on the Cordillera behind Chiloe (with its highest points ranging from only 5,600 to 7,500 ft.) and in central Chile (a distance of only 9° of latitude), is truly wonderful.

The descent of glaciers to the sea must, I conceive, mainly depend (subject of course to a proper supply of snow in the upper region) on the lowness of the line of perpetual snow on steep mountains near the coast. As the snow-line is so low in Tierra del Fuego, we might have expected that many of the glaciers would have reached the sea. Nevertheless I was astonished when I first saw a range, only from 3,000 to 4,000 ft. in height, in the latitude of Cumberland, with every valley filled with streams of ice descending to the sea-coast. Almost every arm of the sea which penetrates to the interior higher chain, not only in Tierra del Fuego but on the coast for 650 miles northwards is terminated by "tremendous and astonishing glaciers," as described by one of the officers on the survey. Great masses of ice frequently fall from these icy cliffs, and the crash reverberates like the broadside of a man-of-war through the lonely channels. These falls as noticed in the last chapter produce great waves which break on the adjoining coasts. It is known that the earthquakes frequently cause masses of earth to fall from sea cliffs: how terrific then would be the effect of a severe shock (and such occur here) on a body like a glacier already in motion and traversed by fissures! I can readily believe that the water would be fairly beaten back out of the deepest channel and then returning with an overwhelming force would whirl about huge masses of rock like so much chaff. In Eyre's Sound in the latitude of Paris there are immense glaciers, and yet the loftiest neighbouring mountain is only 6,200 feet

high. In this Sound about fifty icebergs were seen at one time floating outwards and one of them must have been at least 168 ft. in total height. Some of the icebergs were loaded with blocks of no inconsiderable size of granite and other rocks different from the clay-state of the surrounding mountains. The glacier furthest from the Pole, surveyed during the voyages of the *Adventure* and "Beagle" is in lat. 46° 50' in the Gulf of Penas. It is fifteen miles long and in one part seven broad and descends to the sea-coast. But even a few miles northward of this glacier, in the Laguna de san Rafael some Spanish Missionaries encountered "many icebergs, some great, some small, and others middle-sized" in a narrow arm of the sea on the 22nd of the month corresponding with our June, and in a latitude corresponding with that of the Lake of Geneva!

In Europe, the most southern glacier which comes down to the sea is met with, according to Von Buch on the coast of Norway, in lat. 67°. Now this is more than 20° of latitude or 1,230 miles nearer the pole than the Laguna de san Rafael."—*Darwin's Journal, on H. M. S. "Beagle."*

CLIMATE AND PRODUCTIONS OF THE ANTARCTIC ISLANDS.

"Considering the rankness of vegetation in Tierra del Fuego, and on the coast northward of it, the condition of the islands south and south-west of America is truly surprising. Sandwich island in the latitude of the north part of Scotland, was found by Cook, during the hottest month of the year, "covered many fathoms thick with everlasting snow;" and there seems to be scarcely any vegetation. Georgia, an island ninety-six miles long and ten broad, in the latitude of Yorkshire, "in the very height of summer, is in a manner wholly covered with frozen snow." It can boast only of moss, some tufts of grass, and wild burnet: it has only one land-bird (anthus correndera) yet Iceland, which is 10° nearer the pole, has according to Mackenzie, fifteen land-birds. The South Shetland Islands, in the same latitude as the southern half of Norway, possesses only some lichens, moss, and a little grass; Lieutenant Kendall found the bay, in which he was at anchor, beginning to freeze at a period corresponding with our 8th of September. The soil here consists of ice and volcanic ashes interstratified; and at a little depth beneath the surface it must remain perpetually congealed."

RECAPITULATION. "I will recapitulate the principal facts with regard to the climate, ice action, and organic productions of the southern hemisphere transposing the places in imagination of Europe, with which we are so much better acquainted. Then, near Lisbon, the commonest sea shells, namely, three species of *Oliva*, a *Voluta* and *Terebra* would have a tropical character. In the southern provinces of France, magnificent forests entwined by arborescent grasses and with the trees loaded with

parasitical plants, would hide the face of the land. The puma and the jagua would hunt the Pyrenees. In the latitude of Mont Blanc, but on an island as far westward as central North America, tree-ferns and parasitical Orchideæ would thrive amidst the thick woods. Even as far north as central Denmark, humming birds would be seen fluttering about delicate flowers, and parrots feeding amidst the evergreen woods; and in the sea there, we should have a *Voluta*, and all the shells of large size and vigorous growth. Nevertheless, on some islands only 360 miles northward of our new Cape Horn in Denmark, a carcass buried in the soil (or if washed into shallow sea, and covered up with mud) would be perpetually frozen. If some bold navigator attempted to penetrate northward of these islands, he would run a thousand dangers amid gigantic icebergs, on some of which he would see great blocks of rock borne far away from their original site. Another island of large size in the latitude of southern Scotland, but twice as far to the west, would be "almost wholly covered with everlasting snow," and would have each bay terminated by ice-cliffs, whence great masses would be yearly detached; this island would boast only a little moss, grass, and burnet, and a tit-lark would be its only land inhabitant. From our new Cape Horn in Denmark, a chain of mountains scarcely half the height of the Alps would run in a straight line due southward; and on its western flank, every deep creek of the sea, or fiord, would end in "bold and astonishing glaciers." These lonely channels would frequently reverberate with the fall of ice, and so often would great waves rush along their coasts; numerous ice-bergs, some as tall as cathedrals, and occasionally loaded with "no inconsiderable blocks of rock," would be stranded on the outlying islets; at intervals a violent earthquake would shoot prodigious masses of ice into the water below. Lastly, some Missionaries attempting to penetrate a long arm of the sea, would behold the not lofty surrounding mountains, sending down their many grand icy streams to the sea-coast, and their progress in the boat would be checked by the innumerable floating ice-bergs, some small and some great; and this would have occurred on our 22nd of June, and where the lake of Geneva is now spread out!"—*From Darwin's Journal, on H.M.S. "Beagle," voyage round the World.*

"REFRACTION" EXTRAORDINARY.

BY WILLIAM BATHGATE, M.B.C.A.

On 10th of May, 1596, William Barents, a Dutchman, started from Amsterdam as chief pilot of two ships that had been fitted out to explore the Arctic Sea and discover, if possible, a north-east passage to China. This was his third voyage, as he had previously commanded two expeditions on a similar errand.

By November they had reached Nova Zembla, a large island off the North-east of Russia; but were unable to proceed further in consequence of the ice. They erected a large, wooden hut and prepared to pass the long and dark Arctic Winter as comfortably as possible.

On January 22nd of the following year, some of the sailors when away from the hut perceived signs of daylight and concluded that soon the sun would cheer them again; but Barents told them that it was yet more than two weeks too soon to see the sun from the island of Nova Zembla. On 24th January, it being clear weather, three of the sailors went to the sea-side on the north of the island and saw the upper edge of the sun which had not been visible since the third of November.

On seeing it they went speedily back to tell Barents and the rest of their companions the joyful news. "But William Barents," says the writer of the account, "being a wise and well-experienced pilot, would not believe it, esteeming it to be about fourteen daies too soone for the sunne to shine in that part of the world; but we earnestly affirmed the contrary and said we had seene the sunne," (whereupon divers wagers were laid).

"Upon the twenty-seven day it was cleare and bright weather, and then we all saw the sun in his full roundnesse above the horizon, whereby it manifestly appeared that we had seene it upon the twenty-foure day of Januarie. And as we were of divers opinions touching the same, and that one said it was cleane contrary to the opinions of all olde and new writers, *yea, and contrary to the nature and roundness both of heaven and earth*; some of us said that seeing in long time there had been no day, it might be we had overslept ourselves, whereof we were better assured: but concerning the thing in itself, seeing God is wonderfull in all his works, we will refer that to His Almighty power, and leave it unto others to dispute."

After making various calculations and consulting as to the positions of the stars, etc. they proved they had not missed a day; and then the account continues;—"Which we striving and contending about amongst ourselves, we could not be satisfied: but were wondered thereat; and some were of opinion that we had mistaken ourselves, which, nevertheless we could not be persuaded unto, for that every day without fail we noted what had past, and also used our clock, for on 26 Januarie it was faire, cleare weather, but on the horizon there hung a fog-bank or dark cloude, whereby we could not see the sun and our companions mocked us; but we were resolute in our former affirmation that we had seene the sunne: but not in his full roundnesse; but it fell out that one of our men got out and sawe the sunne and called us all out, wherewith we all went forth and saw the sunne in his full roundness a little above the horizon, and then it was without doubt

that we had seene the sunne upon the 24 of Janarie which made us all glad, and we gave God hearty thanks for His grace shewed unto us, that that glorious light appeared unto us again."

According to the ordinary calculations, the sun should not have appeared until the 9th February. Its upper edge should have been $4^{\circ} 26'$ below the horizon! General refraction not being more than $34'$. For fourteen days after, the refraction gradually grew less.

After the return to Holland, the phenomenon caused the greatest surprise, and gave rise to much controversy among the learned men of the day. The opinion generally was that it was "opposed to nature and reason."

Inconsistency of Limitless Space.

A rational conception of the physical or organic form of the universe cannot be entertained in any logical mind consistent with any idea of the earth as a rotating globe. That which destroys conception of the centre and circumference of the universe also destroys the idea of its form—the assumption that space is eternal and illimitable prevents any conclusion that the cosmos or world of existence, has any centre, for how could a *centre* be conceived in a universe whose circumference (!) is *infinite space*! The principles of modern astronomy are thus suicidal—the hypothesis demands the action of tangential and centripetal forces to hold worlds in position—and this "law" of the two potential forces, logically analysed, refutes the system and destroys its claims. If one sphere acquires the actions of these two forces upon it, there is no logic which does not lead to the conclusion that all spheres require them—it demands that the moon revolve around the earth, the earth around the sun, the sun around a larger and another sun, and that, in turn, another, and so on *ad infinitum* with an eternity of geometrical progression, through a universe without a centre, without form, and consequently without *existence*, for how can there be existence without the two essential factors of form—centre and circumference? But the idea of boundless space is a product of the astronomer's mind—he reaches this conclusion by assuming the convexity of the earth's surface, and thus loses himself, his science, and his reason in a whirling mass of worlds in a fathomless abyss of space—and agnosticism!—*Herald of Glad Tidings (America)*

The Peacock's Tail.

The peacock's tail is one of those phenomena which provokingly expand in the face of the extreme evolutionist, spreading insoluble difficulties in his way. Darwin confessed that he could not account for this magnificent appendage to the plumage of a very silly bird. Natural selection and the survival of the fittest seem to be baffled here. The poor peacock flouts his wonderful fan before us, and the complacent science of the day is speechless in front of it. Some of us are not likely to be pronounced or advanced evolutionists until the peacock is persuaded to tell us how he managed to develop this resplendent and iridescent collection of feathered rainbows. We are asked to believe that he did it to please female vanity. But though there is such a quality as female vanity everywhere potentially working, the females usually apply it to their own side rather than the other. This is really too much! The peahen must be the most prodigious admirer of masculine finery in the universe, and must be gifted with an unspeakable, inordinate appetite for the artistic. The perversity of the peacock is proverbial; but to the poor evolutionist, this gorgeous fowl, parading in all Solomon's glory, but without any wisdom at all, is shamefully unfair. Just to indulge the faculty for admiration in the other sex, he struts to and fro in a costume which defies all the pretty fancies of hypothetical assumption.—*Christian Commonwealth.*

THE EARTH-NOT A GLOBE-REVIEW.

*When the majestic form of Truth stands before the bar of justice,
that hideous monster, Error, hangs its head in silence.*



"Parallax" Experimentally Proving Water to be Horizontal.

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UNDER NEW MANAGEMENT.

We are sure that our readers will be sorry to learn that our late Editor (Zetetes) Mr. Albert Smith; who has done such valiant service to the cause of truth; has been, owing to continued illhealth, obliged to give up the Editorial Work of our Magazine. We know that Mr. Smith is one of those men who lead a very busy life, and we fear that he has laboured in this, and other causes, with a zeal far beyond his physical strength. Since the launching of this herald of truth, he has borne a large share in the battle against scientific infidelity and error. We should have liked him to have been able to continue, but feel it better to lose him partially than altogether. We are thankful to know that as health and time permit, he will write for us, and this I am sure we look forward to with great pleasure. We feel certain that his abilities have been appreciated, and we trust that he will long be spared to us, that we may yet have much enjoyment and instruction from his able pen.

"Under New Management" does not necessarily mean under better management, although we shall do our best to make the journal merit the same good character it has always had. Let us go forward against the popular errors of the day, and expose them to the light. Let the reason and common-sense God has given to us be used aright. We do not complain of men having theories, but we do disagree with them for palming their theories off as absolute truth. They may have their theories if they like, but let them label them as such. Locke has well said:—"Truth, whether in or out of fashion, is the measure of knowledge and the business of the understanding; whatsoever is beside that is nothing but ignorance or something worse. To know many things and know them *all wrong* is not knowledge, or sense, or science."