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THE EARTH.

Vol. IV.

Nos. 45 & 46.

MAN'S PLACE IN THE UNIVERSE.

Therefore the idea of gravitation (which truly belongs to the regions of metaphysics, existing only in imagination and not in fact) is falling into discredit, and one might almost say into disrepute. Professor Wallace's book sheds more than one ray of hope that the light of reason is dawning upon the minds of some of the science-makers, the evidence of which appears in one of his quotations from Professor Huxley:—"that the results you get out of the 'mathematical mill depend entirely on what you put into it."

True! If you put o in you'll get o out. And my advice in seeking after truth is this: if you don't possess a real standard unit to start your mill, don't forge one! It won't pay in the long run, because although the faith some have in the Bible may be very weak in comparison to that which they have placed in this world's "wisdom" yet honesty will ever be found "the best policy." But earnest Christians who are real truth-seekers and truth-lovers will never relax their faith in the Bible, when they have proved it to be true, because they "know whom they have believed" in too real a sense ever possibly to be shaken by any mere man-made system, however cunningly it may be constructed.

Prof. Wallace has ingeniously endeavoured to make the various portions of the globular hypothesis dovetail into each other, and thus present a glossed surface of apparent consistency; that is, in the eyes of some, but not of all. Because personally I can perceive no true gloss of beauty. But nevertheless the most carefully polished fallacy can only present external and transient attractions, even to those whose minds have been grossly fed upon that which will not stand the searching test of the Word of the Living God. Moreover, the most cleverly framed Scripture-contradicting myths present no "face value" to the keen truth-seeker. No mere superficial glitter can hide from his penetrating gaze

unsoundness which lies beneath. And in spite of adroit burnishing performed with rare agates carefully prepared for the purpose by the author of all lies, still he who rests in the Word of the Lord knows assuredly that only "The foundation of God standeth sure," and everything built on other foundation—however apparently smooth may be its surface—must eventually come to nought, and fall to rise no more!

Prof. Wallace has taken the globe theory for his basis, therefore his primary assumptions remain unproved, and, at the risk of offending the great upholders of "The New Astronomy," I will venture to mention some things which refuse to "fall into line" with ordinary common-sense deductions.

Take, for example, the theory about the origin of the moon, and the formation of the ocean beds. Professor Darwin—who appears to be Dr. Wallace's oracle—originated the former notion, which is that the earth, at some remote date, (being still in a practically fluid condition.) was spinning round at a rate variously estimated at from 2 to 4 hours per turn; it bulged out in the equatorial regions; and matters reached a critical climax when the centrifugal force overcame the gravitational and cohesive powers of the rotating ellipsoid. Two or more pieces were torn out of its flanks, and ultimately coalesced—forming the moon.

What a strange conception! The pieces are said to have kept at first in close proximity to the earth's surface, though gradually, the loosened masses were pushed outwards, further and further away from the earth. Here Dr. Wallace has placed himself on the horns of a mechanical dilemma, seeing that if the mass that was ultimately to make up the moon detached itself in separate pieces from the fast revolving earth (through excess of centrifugal force) the various pieces must—according to the Law of Mechanics—have been flung outwards at a tangent normal to the radius drawn to the point of separation; though if the earth were in a more or less fluid condition—as these professors maintain—the separation would not necessarily be an abrupt one. That makes it more difficult for one to imagine how the separation of a fluid mass can be affected in separate portions.

Without carrying this point as far as I should fairly be entitled to do, I will simply ask—if this is a fact—whether

anything (apart from intelligence) could cause these portions to be exactly balanced, and exactly on opposite sides? If they were not so balanced, and on exactly opposite sides, with such a high speed of rotation they would throw the main body, just as a fast-running and ill-balanced pulley can shake a mill wall to pieces. The earth would not travel along its orbit in a smooth line, but would describe a subsidiary small orbit round the common centre of gravity formed by its own mass, and that of the detached portions, independent of the rotation on its axis (though how a globe, rushing through space, can rotate on its axis is inconceivable). If the union of the various fragments took place suddenly, and while still in close proximity to the earth, the throwing effect I have referred to would be intensified.

But I again state that, apart from agreeing with Dr. Wallace that the stars are not other inhabited worlds, and that the whole universe is so constructed as to be adapted to man's organism and necessities, I look upon "The New Astronomy," from its foundation as a pagan delusion and Goddenving theory.

I note that Prof. Wallace state the mass of the moon to be one-fiftieth of that of the earth; but Sir Robert Ball, in Earth's Beginning, put it at one-eightieth. Who is correct, Sir Robert Ball, or Dr. Alfred Russell Wallace?

I am not interested to know which moon-theory the learned doctor espouses—for I take the Bible and my own God-given senses alone as my guide in the matter; but it seems right to expose these fallacies in detail, wearying though it may be.

Among other things, Dr. Wallace makes out, in conjunction with Mr. Ormond Fisher, that the pieces which detached themselves from the earth, to form the moon, left pits, which served subsequently to become the basins of the seas. He always says that these ocean beds are placed in almost complete symmetry with regard to the equator. This is not so. He further says (on p. 275), that "the highest mountains in every part of the globe very often exhibit on their loftiest summits stratified rocks, which contain marine organisms, and were, therefore, originally laid down beneath the sea." If this be so, what about the "moon-prepared ocean bed?"

Dr. Wallace tells us (on p. 234) that, it has been shown by means of the spectroscope, that double stars of short

period do originate from a single star (as the moon originated from the earth); "but in these cases it seems probable that the parent star is in the gaseous state," and thus we are told new stars are made from old ones "while we wait"! So say these modern science satellites!

Under the heading, "The sun a typical star," readers are treated to a short discourse upon "sun-spots," and that the body of the sun is gaseous; but, what we commonly term the sun is really the bright spherical nucleus of a nebulous body. "This" semi-liquid glowing surface is termed the photosphere, since from it are given out the light and heat which reach the earth." Immediately above this surface is the "reversing layer, consisting of dense metallic vapours, only a few hundred miles thick (!). Above the reversing layer comes the chromosphere-surrounding the sun to a depth of about 4,000 miles. The chromosphere and its quiescent prominences appear to be truly gaseous, consisting of hydrogen, helium, and coronium, while eruptive prominences show the presence of metallic vapours, especially calcium.....Beyond the red chromosphere and prominences is the marvellous white glory of the corona which extends to an enormous distance round the sun." Immensity in size and speed seems to be the acme of the astronomer's imagination.

Dr. Wallace states that the stars are suns, and on p. 143, referring to the age of the sun, says: "enormous epochs during which our sun has supported life upon this earth—must have been incomparably less than its whole existence as a light giver—that the life of most stars must be counted by hundreds, or perhaps by thousands of millions of years." (Of course this includes the earth, from which the moon was shot off!)

Now whether Dr. Wallace is correct regarding the nature of the sun's component parts, I will refrain from expressing my opinion, further than to say that to some extent at least I doubt its accuracy. But I know that he is wrong regarding the age of the sun and stars; because in his statements he has contradicted the Scriptures, wherein we read that God created the sun and the moon on the fourth day of Creation week—and the stars also (see Gen. i.)

Regarding motion, the author of this book says: "How these motions originated and are regulated we do not know,

but there they are;" and, speaking of the motions of the stars, he says: "although they appear to move in straight lines, they may really be moving in curved orbits."

True Zetetics love facts and seek them, but nothing is a fact which is contrary to the Creator's Word. Yet alas! even as evil men denied and killed the Prince of Life, so do many now deny, and seek to slay the Word of Truth.

One of Prof. Wallace's primary contentions is, that the earth is the only inhabited world. This, as I have already stated, on Bible lines we endorse; but, apart from Holy Writ, we think it impossible to come to such a conclusion from the professor's standpoint; because as he describes the principles and physical conditions of all human life, and its basis, to consist of the elements of oxygen, nitrogen, hydrogen, and carbon, it does not follow God could not create life upon a physical basis entirely different from ours, and completely beyond our conception.

CELESTIAL PHENOMENA.

A short time ago I published a pamphlet under the above title, with a diagram on page 17, which also appeared in *The Earth* for October and November, 1903, Nos. 39 & 40, p. 275. The diagram was a representation of the globe with the equator as a straight line, and the tropics of Cancer and Capricorn also were shown as straight lines at a distance of 23½ degrees from the equator; the lines produced beyond and outside the globe were to show the sun's relative position when in the tropics, and also to show that when in these positions the direct rays of the sun cannot reach the two poles. Readers should refer to that diagram, and compare it with the diagrams which follow.

Two or three correspondents have been pleased to criticise the diagram above referred to, as not exactly representing the globular theory. So it is necessary to write this article, and to give a few further thoughts upon this subject.

Many of our readers have, perhaps, never realized how very difficult it would be to represent the globular theory

exactly. It would be impossible for us to do so. The astronomers themselves never do so. High-class works on geography and map projection generally have the same defect. Why therefore should I be required to give what is not found, either in works on astronomy or in recognized standard atlases? However, I gave some approach to the theory; something which I think fairly represents the theory, while at the same time comparing that theory with some known facts. I cannot yield to the globular theory, nor accept all its wild hypotheses.

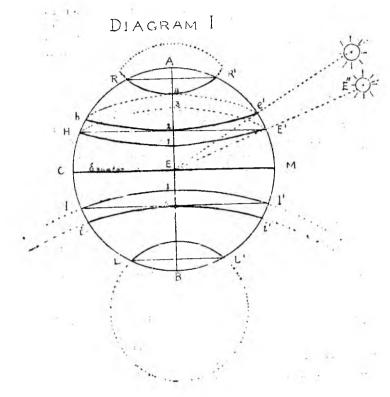
Now it has been thought by the correspondents above referred to, that I ought not to have made the lines in my diagram, representing the tropics of Capricorn, Cancer, and the equator, parallel straight lines, nor have produced the line say representing the tropic of Cancer to A (see diagram referred to). And it was thought that the diagram in *Celestial Phenomena* does not give the sun in its true position on the globular theory.

It has been said that the sun should be placed on a line drawn from the centre of the globe through the end of the line representing the tropic of Cancer as at E, and beyond in the following diagram I. This diagram I shall refer to later on.

Even then we shall find this would not be in exact accordance with the globular theory, as I will show later on. But it is thought that the line should be produced from centre E through E¹, and beyond, so that the observer at E¹ would see the sun vertical at noon. And vertical to a globularist means that an imaginary line should pass from the centre of the earth into "space," through the point where the observer is said to stand.

This then fairly represents the globularist's objection, with which I shall proceed to deal. But I have some remarks to make first, under heading of my new diagram I.

MAP PROJECTION.



The above diagram represents the general projection given with the Map of the world, that is with one so-called hemisphere. The equator C E M is given as a straight line; the tropic of Cancer—H I E¹—as a curved line, curving towards the North; and R R₁ as another curved line—the Arctic Circle—also curving towards and around the North "Pole"—A. South of the equator we have the line I I¹, as the tropic of Capricorn, curved inwards towards the South, that is in a direction opposite to the northern tropic; and lastly, the curved line—L L¹—round the so-called South "Pole." And we have been taught to receive this account of globular projection without any questioning. But let us examine it a little.

First let us ask what determines the points H and E_1 for the tropic of Cancer?

It will I suppose be replied that they are 23½ degrees from the points C and M on the equator, measured along the curve towards the North Pole. Then if the point E1 be 23½ degrees from the equator, measure along the curved line M E1 A will the point (1) also be the same number of degrees from the point E taken as being on the equator? If not, why not? If it be the same, then we have the fact cropping out, that on all maps of the world the degrees measured along a straight meridian from E to A are not as large as those measured along the curved meridian M E1 A. And if each degree measures, as we are told it does, 60 geographical miles, then the distance in such miles from M to A, along the curve, would be 5,400 geographical miles: while from E to A the line would be only about 3,436 such miles, for anyone can see that the distance from E to A is considerably less than the distance along M E1 to A.

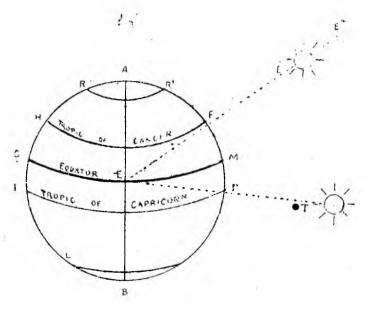
So that all our maps of the world are out of the truth, with respect to the size of countries measured from the equator, either towards the North or towards the South, even on the globular assumption. And the scale of miles is also wrong in this direction, as given with such maps. Also as the meridians recede from the centre to either side the scale is always altering until we reach the outside circle. But if we were to take E¹¹ as the true scale for the $23\frac{1}{2}$ degrees, then h^2e^1 would represent the tropic of Cancer: that is the upper curve of the two. And the same may be said of the two lower curves—II I¹ and i2 i¹. Which of these represents the true tropic? I leave readers to take their choice.

But notice what a difference it would make to the sun's position North. In one case the globularist would contend that the sun should be seen along the line E E¹, somewhere in the direction of E¹¹; and in the other case somewhere along the line E e¹, or about e¹¹.

Readers may take their choice; for both positions are founded on globular assumptions! And both tropics, whichever we take North and South, are untrue to the lines of perspective. In the North, the Arctic Circle R R¹ would shoot off northwards into space; and in the South the Antarctic Circle, L L¹, would also shoot off into space in an opposite direction. But I will leave for the present globular map projection, and ask my readers to notice diagram II.

"PARALLELS OF LATITUDE."

DIAGRAM II



We now have briefly to consider diagram II., which is based on a more natural projection.

If the spectator be supposed to be in such a position that he can see the Arctic Circle as a curve, and not a straight line, then the other great circles should be shown in a similar position as regards their curvature. In other words, the tropic of Cancer—H E¹—should curvate towards the North; the equator—C E M—should do the same; the tropic of Capricorn—I I¹—should also curve in the same general direction; and the Antarctic Circle—L L¹—the same; all of them traversing the earth in the same general direction as the rest of the parallels of latitude.

These circles are known as "parallels of latitude," and therefore they should all be PARALLEL! But this would expose the position of geographers and astronomers in making the parallels north of the equator curvate in one direction, while the so-called "parallels" south curvate in

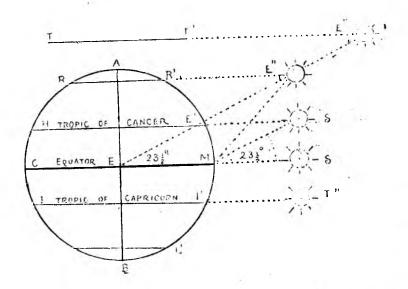
another and opposite direction! I fear there is more trickery about the globe and its delineations than most of our readers are yet aware!

Let us now notice the relative position of the sun in the tropics. We will draw a line from E as the centre of the supposed globe, and pass it through $E^{\rm I}$, towards the sun at $E^{\rm II}$, for the tropic of Cancer. Similarly we will draw a straight line from E through $I^{\rm I}$ towards T, for the position of the sun when in the tropic of Capricorn. How does that suit our opponents?

If someone should suggest that the diagram of the globe should be tilted, and that the "axis"—A B—should be inclined 23½ degrees from the vertical, all they need do is to tilt the paper just so much—or as much more as they like! It is more convenient for printing as we have placed it.

But we should like to know why the globe should be so tilted; and whether it is deemed more proper to tilt the "axis" 23½ degrees to the right, or to the left? Perhaps some astronomer might be able to enlighten us on this point, and give us reasons for his hypothesis. But I must pass on: these two diagrams are merely preliminary to what I have to say in connection with diagram III.

DIAGRAM III



TRUE PARALLELS OF LATITUDE.

If we want one general view of the so-called "globe," with the Equator as a straight line, we must make all the lines denoting latitude, both north and south, parallel to the equator. I have so placed the leading parallels of latitude in diagram III. The central line C E M represents the equator; H E¹ the tropic of Cancer; and R R₁ the Arctic Circle. South of the equator I I¹ would represent the tropic of Capricorn; and L L¹ the Antarctic Circle. The line A I would represent the supposed "axis" of the globe, as it passes through the centre of the earth at E.

In a former article and diagram the sun was placed on a continuation of the equatorial line as at S, so that a spectator at M would see the sun on the 21st of March, directly over his head in the direction of S. But when the sun arrives at the tropic of Cancer, in the northern midsummer, it is said to be $23\frac{1}{2}$ degrees north of the equator. In other words, the same spectator at M, on the equator, would see the sun at S^1 $23\frac{1}{2}$ degrees from his former vertical position at M S. Therefore, to place the midsummer sun there corresponds with fact; but it does not correspond with the astronomical theory, so the objector says that the midsummer sun should be placed in the line E E^1 E^{11} .

That is the 23½ degrees, they say, should be measured from the centre of the globe! Yet no one in this world ever saw the sun from that position; so that I am required to sacrifice fact to fancy; and instead of putting the sun at S¹, where it is actually seen in summer, I am asked to place it at E¹¹, as though it were seen from the centre of the earth!

To please the objector I will place the sun there for arguments' sake, and then let us notice what follows. When the sun is at E¹¹, the spectator on the equator, at M, would see it at some angle nearer to 40 degrees from the vertical than $23\frac{1}{2}$ degrees. This angle would be greater or less great according to the various distances at which the sun might be placed, but it would never some down to the required $23\frac{1}{2}$ degrees. Besides Zetetics have on several occasions given proof that the sun is not at such a great distance from the earth. But we have placed it as far off as it was in the former diagrams, and no objection has been raised to the

distance of the sun from the earth, but only to the angular position given.

Now, as a matter of fact, a spectator at the equator sees the sun at $23\frac{1}{2}$ degrees from the vertical; therefore, the sun's position at E^{11} is not its true position. This may be seen by making at S M S¹ an angle of $23\frac{1}{2}$ degrees; and afterwards drawing a line from M to E^{11} , making, with S M, an angle nearly twice as great!

Again, if the sun be placed at E¹¹, and we draw a line parallel to the equator across the so-called "globe," it would about coincide with the line R R¹, and so the tropic of Cancer would be super-imposed on the Arctic Circle! Would

this suit our globular friends?

But why should the objector stop at E¹¹? Why not go on to E¹¹¹? In this case we should have the tropic of Cancer, if represented at all, outside the globe, a long way north of the North Pole itself—say at T T¹! If we must take the globular theory for our standard, we should find it impossible to properly represent it on paper. We should have to continue the line from the centre of the globe, at E through E¹, on to E², on to E³, on and on for 92 millions of miles! This would be the globular theory with a vengeance.

But who could represent it? And yet some have objected because I have not been true to the theory in every detail. It is impossible to be true to it. The astronomers themselves are never true to it; nor are the geographers and those who bring out map projections. Some of the diagrams in the best astronomical works outrageously misrepresent their own theories, and the reader is thus deceived. I could give instances, but it would make my article too long, and

require too many diagrams.

What I have already shown ought to be sufficient. But I will point out another fact. If the sun were a million times larger than the globe, the globe would be a mere mote in comparison to the sun, and it would be impossible for one half of it to be darkness at any time; the rays from one side of the sun would overlap or go beyond the north pole on the one hand, and the rays from the other side of the sun would overlap or go beyond the so-called south pole! Try reader for yourself. Make your diagram of the globe on a sheet of paper, and take the whole size of one wall of your chamber for the sun; then draw your lines accordingly, that is if you can.

This tremendous exaggeration of the sun's size is a mere theory of the astronomers, and is bound up with the whole hypothetical system. To make its reputed size at all harmonize with the theory, the astronomers have to push the sun away from the earth 92 millions of miles, or more, to make it look small enough! This tremendous distance and size is the basis of their theory about sun spots. "Spots," indeed!

It is a gross misnomer, too, for the astronomers to call them sunspots, when they teach that they are thousands of miles wide. Holes so large, that as one of these scientists declares "the earth could easily drop in." This same astronomer—Mr. Garrett P. Serviss—who has been writing to *The American* (New York), is reported to have said:

"If people had telescope eyes, so that they could see at a glauce things nidden from all but the astronomers, they would leave the most exciting occupation of life, and stand gazing with awe—if not with fear—at the strange sights in the sun."

Yes, they want us to look with "telescope eyes" at these things, and not with the eyes which God has given us. If we were to look at a tiny insect with a telescope eye, or rather with a microscopic eye, we could IMAGINE it bigger than an elephant; but the little thing would not alter its actual size, would it?

It is this "telescope eye" which makes astronomers see in the sun "an immense globe of blazing gas," swaying the earth and the distant planets "as resistlessly as the ocean sways a floating chip"! The spots break out "on the distorted face of the solar giant like black soot." "Their centres are yawning holes, many thousand miles in depth"! That is to the "telescope eye," which magnifies depth as well as length and breadth.

Is it not wonderful? If we only had been created with "telescope eyes." But I think that the Creator of the world has done better for us, and given us natural eyes, wherewith we may see things in their natural proportions.

And yet a weekly paper, of Jan. 14th, 1904, which professes to honour the Creator, and advocates the Seventh Day Sabbath as the memorial of Creation, publishes the above absurd sentence as "a sign of the times," and publishes it with signs of prophecy.

Doubtless such teachings are a sign of the times in which we live; when men, and even professed Christians, are departing from the old paths which were found d up n taith in the Divine inspiration of the Bible. If the Bible be inspired,—and we believe it is—how can Christians consistently believe such extravagant astronomical theories, in the face of the first chapter of Genesis, the second and fourth Commandments, and the many references to the order of Creation which are interspersed in the Word of God. But I must draw this article to a close.

What I have tried to show is, that the globular theory is not consistent with known facts. And I have shown this especially in the last diagram by placing the sun where objectors have thus put it. And even there we have shown that this agrees neither with astronomical theories nor with Zetetic facts. In short it is impossible to represent the globular system of the universe on paper at all, for its assumptions are so extravagant and outrageous that even the astronomers themselves cannot represent them in their own books. And what is more, it seems evident that they dare not make the attempt, lest their diagrams strike their readers as suspicious and preposterous.

STRANGE "PROOFS" OF GLOBULARITY.

In Past and Future, for Feb., 1904, Mr. Dimbleby attacks what he is pleased to call "the flat earth theory." He says:

"The distance between Holy Head, in North Wales, and Kingston Harbour, just below Dublin, is 60 miles, but because, when a steamer is half-way between these two places, the lighthouse of Holy Head could be seen through a telescope, Lady Blount says that the earth cannot be globular, insomuch as the top of the lighthouse should be almost 600 feet below the level of the horizon. But distances of 30 miles are seen in other places when a good elevation is secured. For example a person standing on the highest land of Jersey, in the Channel Islands, a height of 300 feet, can see the Cathedral at Containes, in France, which is 30 miles distant."

Now if Mr. Dimbleby had seriously set his mind upon showing that our position was untrue, he should have shown that such long sights as the above could be seen on a globular earth. That is, he ought to have attempted to show that the amount of curvature on such a globe as "our earth" is said to be is compatible with the above facts. But he conveniently ignores such a reasonable proceeding, and practically says, that because in other places besides the Irish Channel, distances of 30 miles can be seen, therefore the earth must be a globe!

This is a curious way of "proving" globularity, but it is quite according to the Dimbleby style of argument. He simply asserts that "when a steamer is halfway between Dublin and Holyhead it Is on the brow of an arc, formed by the globular earth"!

But we give the readers of *Past and Future* credit for better perception than is implied in such a dictum; especially as Mr. Dimbleby further adds that the "telescope enlarges the perspective *arc* of the laws of vision." Yet this writer rails at the "pretentions of science," for not admitting "the truth of Biblical Chronology;" and speaks of the "rigmarole of fictitious systems on time."

We think he should look to his own house. He refuses to believe the Bible doctrine that the earth is placed on "foundations, so that it cannot be moved." In fact he teaches the opposite, and says that the "earth" travels through all the heavenly signs of the Zodiac! And contends that this is taught in the holy Scriptures; and he tries to make them fit in with the idea that the earth is a whirling globe, flying through space like a shooting star. This is shown in the concluding paragraph of the above quotation, which reads as follows: "the first chapter of Genesis contradicts the flat earth theory, otherwise how could the earth arrive at the autumnal equinox, which is more north than the equator, on the fourth day?"

I simply repeat the question Mr. Dimbleby raises, and I ask him to answer it himself; "How could the earth arrive at the autumnal equinox" at all?

How, in fact, can the earth "arrive" at any place, much less the place of the autumnal equinox, when as the Bible declares, "it cannot be moved"? Mr. Dimbleby not only contradicts Bible teaching respecting the immovability of the earth, but he fails to write in a clear and sensible manner. For instance, he asks "how could the earth arrive at the autumnal equinox, which is more north than the equator,

on the fourth day?" That is, the autumnal equinox, according to this authority, is more north than the equator, on the fourth day! How the earth ever could arrive at the equator passes our comprehension, much more its postulated arrival at the autumnal equinox, either on the fourth day, or any other day. But Mr. Dimbleby tries to make his readers believe that the first chapter of Genesis is responsible for such unreasonable and extravagant statements.

It is the sun, according to the Bible and our senses, which arrives at the autumnal equinox, and that orb was created on the fourth day of Creation week; but to talk of the earth "arriving" there, is not only subversive of all Bible teaching, but is contrary to all sound reason, history, and experience. Yet this writer professes that he accepts and supports Bible inspiration and science!

To be consistent men ought to give up either the Bible or that science, falsely so-called, which is in opposition to But, alas! many minds are crippled by the spirit of inconsistency: and the absence of a true logical faculty is strangely prevalent in all classes of minds. We cannot account for this sad affliction.

But strangely charged with mystery are many things by which we are closely surrounded is a truism that may at times strike us with deep force; this is the experience of the writer, who has been led to exclaim:

> Ah! strange life's conditions, And strange men's reliance, In "priestly" physicians And nebular science; And strange Truth and Knowledge, In church, chapel, and college, Are oft found with error And evil things mixed!

But, nevertheless, let us ever endeavour to remember that "all things work together for good, to them that love God."



Middleton's Representative clan of the Earth.



"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. 315.)

It may be found upon consideration, that the argument in favour of the rotundity of the earth, with respect to navigators sailing in the direction due east, or due west, returning in the opposite direction, will also apply, and equally well too in the case of the supposition that the earth's surface is a plane. This can be easily understood and does not require any explanation or illustration. Since, therefore, this argument does apply in the case of the earth being a plane, does it follow that the argument, applying in the case of it being a globe, *proves* that it is a globe?

It has been noted by navigators that there is a certain gain and loss of time in the matter of sailing east and west. This fact has been cited as a proof of the rotundity of the earth, It may be observed, however, that this gain and loss of time will also appear in the case of the earth's surface being a plane. It is wrong, therefore, and unfair to affirm that this effect can *only* be produced in the case of the earth being a globe.

There is a well known story told by many in support of the theory of the convexity of the earth's surface, that two brothers, who were twins, when they arrived at a certain age started in opposite directions with a view of circumnavigating the earth. They did so; and upon their again meeting, it was found that one was older than the other by one day! If this story be a fact, it is still no less a fact that the same thing might happen in the case of the earth being a plane. Hence it is hardly right to cite this story as a proof of the earth's rotundity.

One great argument in support of the rotundity of the earth, with respect to the North Star is often quoted. It may be interesting briefly to notice this, and endeavour to see if the argument be a strong one or not. The north polar star (Polaris) is supposed to hang, so to speak, immediately over the North Pole. Navigators have observed that this star appears gradually to approach the horizon, as they

proceed towards the equator, receding from the north; and because this star vanishes upon their arriving at the equator, it is argued that the earth's surface must be convex.

It is a known fact in optics, that, as the space between the observer, and the thing observed, increases, the thing observed becomes smaller, and its height diminishes. This may also be noticed at any time, by observing a tall tree, or church spire, &c., the distance between the object and the observer will be seen to vary. If any tall object be sighted on a plane, it will be observed, that, as the observer recedes from it, its height will gradually diminish, and at a sufficiently great distance the angle of sight, now very small, will ultimately vanish altogether.

By the same rule the apparent height of Polaris will diminish, and at a certain distance it will be lost to sight, by this simple truism in optics. It may be seen, therefore, that though Polaris vanishes in the case of the surface over which the observer is receding being convex, still it would also recede in the case of that same surface being a plane. But we now arrive at a very interesting point with reference to to the observation of the North Star. If the North Star be placed where we have supposed it to be, and the surface of the earth be of the exact convex form that we have supposed it to be, then it would be an impossible thing for this star to be seen from any place south of the equator; for the line of sight from any point sonth of the equator must of necessity go off at a tangent to the sphere, and, in that case must fail to reach the North Star. This seems evident, and must be acknowledged to be so. It is curious therefore to note the several accounts that have come to us at different times of this North Star having been seen from the south side of the equator. How it is possible seems difficult to say, if the sphericity of the earth exists, as the Copernician and Newtonian theory tells us that it does.

"THE EARTH'S" OBSERVATORY.

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



- A PRACTICAL PROOF THAT THE EARTH IS NOT A GLOBE.

The annexed drawing was made especially for The Earth by an artist who, in 1892, drew in pencil the view from nature. The mountain represented is one of the Andes, in Venezuela (S. America). The distance from the end of the mountains to Ucuare is about 20 miles. The mountain referred to is 400 metres above the level of the sea; the highest point of the range is 500 metres. The distance from Maiketia (which is less than 10 feet above the level of the sea) to Ucuare is 100 miles). The mountains—which can be clearly seen from Maiketia mountain-are 80 miles distant at the Ucuare end. If the earth were a globe the amount of curvature would prevent the mountain being seen at a distance

of 50 miles. When the height of an observer is 10 feet his line of sight would be a tangent at a distance of about 4 miles. This gives about 1.411 feet for the dip. Taking the height of the lower peak at 400 metres, or 1312 English feet. the peak of the mountain would be below the horizon about 99 feet. And taking the higher peak, 500 metres, or 1640 feet, and subtracting the dip for 46 miles. namely 1,411, this mountain point would be above the line of sight about 229 feet. So that the lower peak would be about 2539 feet below the line of sight if the earth were a globe; and similarly the higher peak would be about 2.211 feet below the line of sight. But as both peaks have been seen and drawn by my friend under the conditions named, this affords another clear proof that the earth is not a globe such as the astronomers hypothecate.

WHY THE EARTH IS NOT A GLOBE.

If the earth be a globe there can be no doubt that the air, or atmosphere. must rotate with it.

When travelling by the train, at the rate of 40 or 50 miles an hour, we have doubtless, on putting our head or hand out of the window of the carriage, felt and been surprised at the force and resistance of the air, and wondered what the force and resistance of the air would be if "the earth's swift and numerous motions," were a fact.

Could any conceivable thing resist the tremendous force of these "orbital and axial motions" ascribed to the earth?

Could anything stay on the earth, light or heavy; the mountains or hills: the seas or oceans; even the air, and things floating in the air? Nay. Nothing could possibly abide nor find a resting place upon it, if the earth and air were in opposition.

But notwithstanding all this, how can we account for the wind blowing in opposition to the earth's motion, and in every direction under heaven, carrying smoke, and dust, even the air itself, and very light and heavy things, and sub-

stances that can float or move with the air?

Of course, this is not all that could be said upon the subject; many proofs can be found, and various arguments can be produced. But there is only one thing to account for such an anomaly, and that is that the earth is not a globe, and has no motion at all.

And the truth of God's Word comes out clearly and unshaken, that God has fixed the pillars of the earth, and established the earth that it cannot be moved-

and that it has foundations, and that its Builder and Maker is God. Feb. 2nd, 1904. "TRUTH."

Extracts from an article, entitled ASTRONOMY OF THE BIBLE: by Prof. Lewis Swift, F.R.A.S.

"The Bible is not a work on astronomy." [Bible astronomy is the only true astronomy. -Ed.] The sun is one great reservoir of heat and light to the earth, and yet, strictly speaking, neither comes from there; nothing in fact, but cold dark waves of the all pervading ether. How can heat reach us from the sun, passing as it must through 93,000,000 miles of space, probably a hundred degrees below zero?

"These waves pass through space without heating or lighting it, and plunge into our atmosphere without heating or lighting that except slightly; but when they strike the earth and are reflected quicker, if possible, than a flash of light-

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ning, they are transformed into both heat and light. Light is the most rapid moving principle in nature, equal to 186,300 miles a second, or, while a person would say the words 'Christian Herald,' it would revolve seven-and-a-half times around the earth.

"I advise the reader to stop a moment, and reflect on what is involved in the mighty idea of a circuit of seven times and-a-half in one second. Light reaches us from the moon in one-and-three-fourth seconds; from tle sun in eight minutes; from the nearest star in four years; from the Pole Star in forty-eight years; and from the most distant stars, that our great telescopes can see like atoms of diamond dust floating in the sunbeams, the light must have been many thousand years on its journey.

There are other waves which are a blessing to the human race; waves of sensation, which move very slowly, only about 100 feet in a second, producing pain, and taste, and smell, and pleasure, and hatred, and love, &c, but no taste or pain is felt till the waves reach the brain. If a babe, in its cradle, had an arm 93,000,000 miles long, and should insert its finger in the sun it would not know that its finger was burned until after the lapse of 140 years."

[This "babe" illustration—after Sir R. Ball's style—is too babyish! My space is too precious for me to insert any more of this fallacious rubbish. Nevertheless, I am grateful to Mr. H. Murray Bing for his kindness in cop ing out the article and sending it from America.—Ed. \}

SOUTH AND NORTH.

T. H. A. queries the statement made in *The Earth* for December and January, p. 307, respecting the shining of the sun at places south of the equator; and he informs me that a friend of his—the captein of a steamer loading at Rosario, in the Argentine Republic—had been observing the different times of the day; and he writes under date, fanuary 26th, 1904:

"I can't say I have seen the sun shine on the south side of the houses; in fact, I can't see how it is possible in this latitude, for the sun rises ESE, due North at noon, and sets about WSW. On Midsummer day one could almost say it shines all round; for the sun is nearly right above you in this latitude, so that the houses throw no shadow whatever."

Though this is apparently neutral evidence in respect to the sun shining on the south side of buildings, yet T.H.A. says the writer seems to confirm what Mr. Cook, of Perth Observatory, W. Australia, writes, viz: "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 23½ degrees south of the equator; the sun never shines on the south side at mid-day. At places between the equator and latitude 23½ degrees S, the sun shines on the south wall throughout the day at midsummer (December)."

T.H.A. says his friend's statement appears to be at variance with the words printed on p. 301 in *The Earth*, viz: "The sun, without doubt, sets away to the northward, and not southerly, nor due west, as it would do on a globe," etc. This is an excerpt taken from an article on the "An arctic Expedition," and is in keeping with the context, and with what actually occurs. The evidence of our senses tells us that the motion of the sun is a visible reality—for if it be observed from any latitude a few degrees 10th of the tropic of Cancer, and for any period before or after the time of southing, i.e., passing the meridian, it will be seen to describe an arc of a circle. By way of illustration: if I watch the sun's progress on any day during the summer months, say at the head of the new pier at Brighton, the sun's first appearance above the horizon will be observed to be at a point considerably to the north of East, or a line drawn at

right angles to north and south, and it will be seen to ascend in a curve southwards until it reaches the meridian, thence descending in a westerly curve until it arrives at the horizon, setting considerably to the north of West, not southerly or due west, as it would do on a globe.

T. H. A. is exercised in his mind with reference to the remark on p. 19 of my pamphlet, Celestial Phenomena. He does not see how the stars characteristic of the southern and northern parts of the earth can revolve round their respective centres, and yet that the Southern Cross should be visible from every known and habitable point of the southern hemisphere.

Mr. Cook, writing from the Government Observatory, Perth, W.A., says: "there is a point in our sky round which all stars appear to revolve. There is not any star in this exact spot; but there is a small star (Sigma Octantis) situated very close to this spot, closer, in fact, than your Polaris is to your North Celestial Pole. The sun and moon always appear to revolve round this point the whole year through. Of course some allowance must be made for their gradual change in declination: i.e., their motion is more in the form of a spiral."

T. H. A. asks: "If the constellation called the Southern Cross revolves round its own centre, and that not the same as the northern centre, how can the southern Cross be seen, say at the opposite side of the plane earth?" Mr. Cook says that three stars of the Southern Cross never set; the fourth just goes below the southern horizon for a short time each day. The altitude of the South Pole is exactly the same as the latitude of the observer's locality, and if the distance of a star from the Pole exceeds this, the star will be below the horizon at its lowest transit. Thus in Cossack, lat. 20 deg. 40 min. S., the whole of the Cross will disappear as it swings round below the pole. The circum-polar constellations (meaning those which never set) depend upon the latitude of the observer. Octans, the constellation in which the Pole is situated, is truly circumpolar to us in Perth: i.e., all its stars are constantly above the horizon, or in sight at night time; each star describing a circle daily round the pole." But Mr. Cook makes this admission: "I do not know where the south magnetic pole is situated. We hope to find this out upon the return of the Antarctic Expedition."

Mr. Cook writes from a globularist standpoint; at the same time I believe in his honesty of purpose; and I am much indebted to him for photos of instruments used in making plain the astronomical instructions given in the supplement to the Education Circular; when he tells us how to find the sun's path in the sky for a particular day, and how to find a point in the sky which is the centre of the circle, it appears to me that he is describing a moving sun—not an earth moving round the sun—for to speak of the sun's path implies that the sun moves in that path; in fact he heads paragraph 16 with these words:

SUN'S ANNUAL MOVEMENT.

In this paragraph we are informed that when the sun's position in respect to the stars is measured by special instruments, it is found that the sun is steadily moving eastward among the stars, taking exactly a year to complete one revolution. I accept this statement as the statement of a matter of fact. If the sun appears to move, as astronomers confess it does so appear, why should we not believe that it does actually move? Some reasons ought to be given.

A greatly esteemed friend much desires that the kind account of myself (The Ed.) and my work in connection with *The Earth*, which appeared, with my portrait, in *Home Chat* and other papers, shall be reprinted in *The Earth*. And a great many others have made the same request; but I regret that I must disappoint my kind friends, as lack of space alone would preclude the possibility of doing so.

A mining engineer, just home from Columbia, S. America, amongst other things told me, that the cutting through Panama for the canal revealed the fact 372 that the Atlantic and Pacific Oceans were on precisely the same level, and that no locks were required for the canal. He also told me that he had travelled 800 miles down a river in Colombia in an open boat, and that there was no danger from cataracts—but only from Alligators. He says that he has travelled all over the world, and that the countries are smaller than represented on the globe.

E. E. M.

Dear Lady Blount,—The Earth to hand yesterday. I have greedily devoured its contents with much pleasure on the one hand and disgust on the other; for the quotations from "scientific writings" cause me indigestion accompanied with nausea.

The heading of your review of the Rev. G. T. Manley's pamphlet struck a chord in my breast, for it is so closely allied to what I have been thinking about this past week—viz: Intellectualism—that I feel I must give vent to my thoughts in a letter to your esteemed self. The worship of Scripture-contradicting "science" by professed Christians, is a repulsive malady comparable to gangrene in living tissues, spoken of in "The Scriptures of Truth" as "the plague of leprosy."—Lev. xiii.

What an array of names is given us in this February Earth. I notice that all those names represent many gods of speculative science so-called. But God has decreed that "every knee shall bow, and tongue confess that Jesus Christ is Lord." Have the persons represented by those names, and who have immortalized them on the pages of "the history of science," ever thought that this literal statement by the Holy Spirit applies to them as much as it does to all other men? And when the time comes, as come it will, that an account of the things done and said in this mortal earth-body shall be presented; what will these "great men of the eart"," the "mighty men of intellect" say to that Master-minded Zetetic, to whom God has committed all things?—John v. 22; Rev. vi. 15-17.

Now as to Mr. J. B. Dimbleby's statements respecting "the earth's rotation before a fixed sun," and his attempted justification of that speculation by an appeal to the first chapter of Genesis, I should like to ask, is it possible that he is absolutely blind to facts? Is he so far unacquainted with the weighing of evidence that he does not perceive the illogical dilemma he places himself in?

If, as Sir Isaac Newton affirmed, "the sun is the centre of the solar system, and immovable." how could the day and right be formed, or caused, by earth rotation before it, when it was not made? How, then, in the name of common sense can earth rotation be found either actually, tacitly, or implied in Gen. i. 5? The Bible was not written to teach or support in any way the phantasmal astronomy taught in our schools to-day. Modern astronomy is only a baby in long clothes, and I am sure it will not live much longer, seeing that "the Judge standeth at the door."

I notice that he prefaces his rigmarole by saying, "there are several astronomical facts, known to us, which are not mentioned in the Bible." But z-hat is an "astronomical fact"? It is only "a supposition put forth to explain phenomena as best men can!"

Mr. Dimbleby says he is of opinion that the revolution and rotation of the earth are clearly taught in the first chapter of Genesis. I defy his statements, and challenge his power (or any other's) to prove his assertion by any logical process whatever. In Gen. i. 4, it is written that, "God divided the light from the darkness." That was evidently daylight, for the sun was not made then. Modern astronomy dares to give God the lie by asserting that the "sun is the source of all light. The Heavens, by Guillemin, edited by Professor J. Norman Lockyer, F.R.A.S., p. 15. The man (I care not who he be) that believes that "astronomical fact" to be true, cannot believe the first chapter of Genesis to be true.

J. WILLIAMS.

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THE EARTH: IS IT A GLOBE?

"The planetary system,' said Humboldt, in its relation of absolute magnitude, relative position of the axis, density, time of rotation, and different degrees of eccentricity of the orbits, "has, to our apprehension, nothing more of natural necessity than the relative distribution of land and water on the surface of our *globe*, the configuration of continents, or the elevation of mountain chains." No general law in these respects, is discoverable either in the regions of space or in the irregularities of the crust of the earth.

The foregoing describes, in Humboldt's language, the condition of the orthodox planetary system of his day. These remarks apply with equal force to the teachings of present-day astronomers of the globular school who call themselves scientists (from scio: "I know,") science (sciens: "knowledge"). But orthodox astronomy is admittedly a theory, founded upon speculation; and the moment speculation becomes knowledge then speculation ceases. Therefore, it is a misnomer to designate such theoretical astronomers "scientists." On the other hand "plane-earthists" denominate themselves "Zetetics," from the Greek zetéo: "I seek, search for, investigate, inquire into"; zetetes: "searcher, inquirer." Zetetics are, consequently, those who do not take for granted the theories which may be offered to them, but make investigations to see whether these things be true or not, and, if not, to endeavour to arrive at the truth. They therefore investigate the common statement that "the earth is round or spherical, like a ball or an orange, because ships have actually and repeatedly made the circuit of the globe." They naturally ask: "Are these deductions in accordance with facts?" Vessels and steamers continually go round the Isle of Wight and the Isle of Man; therefore, if the earth be a "globe" "because vessels and steamers go round it," then (by the same line of reasoning) the Isle of