

around the sun! Then, and not till then, shall we find the Bible an open Book in the churches, and we may go to the church of the people without being TAXED!—From *The (Single) Tax Journal*, December 20th, 1893.

ROMAN CATHOLIC REFUTATIONS OF GALILEO.

From the mass of books which appeared under the auspices of the church immediately after the condemnation of Galileo, for the purpose of rooting out every vestige of the hated Copernican theory from the minds of the world, two may be taken as typical. The first of these was a work by Scipio Chiaramonti, dedicated to Cardinal Barberini. Among his arguments against the double motion of the earth may be cited the following :—

“Animals, which move, have limbs and muscles; the earth has no limbs or muscles, therefore it does not move. It is angels who make Saturn, Jupiter, the sun, etc. turn round. If the earth revolves, it must also have an angel in the centre to set it in motion; but only devils live there; it would therefore be a devil who would impart motion to the earth. . . . The planets, the sun, the fixed stars, all belong to one species—namely, that of stars—they therefore all move or stand still. It seems, therefore, to be a grievous wrong to place the earth, which is a sink of impurity, among the heavenly bodies, which are pure and divine things.”

The next, which I selected from the mass of works, is the *Anti-Copernicus Catholicus* of Polacco. It was intended to deal a finishing stroke at Galileo's heresy. In this it is declared: “The scripture always represents the earth as at rest, and the sun and moon as in motion: or, if these latter bodies are ever represented as at rest, scripture represents this as the result of a great miracle. These writings must be prohibited, because they teach certain principles about the position and motion of the terrestrial globe repugnant to holy scripture and to the catholic interpretation of it, not as hypotheses but as established facts. . . . It is possible to work with the hypotheses of Copernicus so as to explain many phenomena. . . . Yet it is not permitted to argue on his premises except to show their falsity.”—*Dr. Andrew D. White, “Popular Science Monthly.”*

“I learnt as my first great lesson in the inquiry into these obscure fields of knowledge never to accept the disbelief of great men, or their accusations of imposture or of imbecility, as of any weight when opposed to the repeated observation of facts by other men, admittedly sane and honest. The whole history of science shows us that whenever the educated and scientific men of any age have denied the facts of other investigators on *à priori* grounds of absurdity or impossibility, the deniers have always been wrong.”—Prof. Alfred R. Wallace.

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.

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PROFESSOR TOTTEN AND JOSHUA'S LONG DAY.

SINCE publishing our pamphlet on the *The Sun Standing Still*, a friend has lent us a copy of a larger pamphlet by Professor Totten, of New Haven, entitled *Joshua's Long Day*. It is a remarkable production, and serves generally to shew the wonderful accuracy of Bible Chronology. It is on the same lines as the writings of Mr. Dimbleby in *All Past Time*, a gentleman whom the editor of *The Earth Review* has had the pleasure of meeting more than once in London. But while these gentlemen both make good Chronologists, we are sorry to have to point out their inconsistency as Cosmologists and as Christian writers. They hold with modern Astronomers, infidels, and evolutionists of all kinds, that the earth on which we live, is a rotating “globe,” revolving about the sun, and dashing onwards through “space” quicker than a flash of lightning. This is not only contrary to natural appearances, but is also contrary to the Bible doctrine that the earth rests upon “foundations,” and is established so fast that “it cannot be moved.” One or other of these views must be false. What is the use of proving that Bible Chronology is correct if Bible Cosmology is all wrong? And where is the consistency of defending one part of the Sacred Writings, while practically denying another? According to inspired writers, Bible Cosmogony is at the basis of all God's dealings with, and revelation to, his creatures. Hence it is placed in the forefront of the Holy Scriptures, in the very first chapter of Genesis. And as Mr. Totten says;—

“It is the Bible that Atheists and Infidels attack—the Old Testament chiefly—for they are logical, and perceive that if the foundation goes, the super-structure cannot stand, no matter how eloquently it can be clothed in Agnostic sermons . . . It will not do to doubt the universality of the Flood, and ask men to accept a Saviour who alludes to it . . . If the story of Eden and the Deluge, of Jericho and Joshua are myths or fables, and

not literal facts, then to the still *rational* mind all that follows them is equally so, and faith, lost in those who foretold his Advent, can never be savingly and logically found again in Christ and his apostles."

This is well said, but it applies to those who deny the fact that it was the *Sun*, and not the earth, which stood still at Joshua's command, as well as applying to those who deny the "Longer *Day*" of Joshua. As professor Totten has no doubt a logical mind we are sure he must see this, and we trust he may also have the grace to acknowledge it. Referring to Smith's Old Testament History, he says;

"Dr. Smith does not seem to credit the chief event of this battle, since he says, 'The miracle must be understood as *phenomenal*, namely, that the sun and moon *appeared* to the Israelites to stand still' (!?) Now this is simply begging the question, and begging with it every other miracle mentioned in the Bible . . . Upon the basis of the generally accepted 'poetical version' of this incident we must prefer the out-and-out position of Renan himself, as given in his *History of Israel* (q.v.), and with it, were we honestly convinced of the reliability of that method of treating the Scriptures, we would logically go to the full extreme and reject its Divine Inspiration *in toto*. But the wise man cannot do it; and so to conserve his reason, he is forced to go down into the depths of all things until the truth shines out—convinced that it is there, if but with patience it be sought."

This might have been written for the EARTH (not-a-globe) REVIEW, it applies so well to our contention that the earth has really no such motion as that which the astronomers ascribe to it; but, if the Bible is not correct in attributing motion to the sun as well as to the moon then the professor is bound to give up his belief in the Divine Inspiration of the Scriptures. There is no logical escape from this conclusion. He must give up his belief either in the absurd theory of the earth's rotation, or his faith in a Divinely revealed Cosmogony.

Mr. Totten proceeds to verify the elements of the question, with a view of shewing that Joshua's "Long Day" consisted of the 23 h. 20 m. added to the regular day of 24 hours which marked the day of the winter solstice of the year 2555 a.m., or year of the world, "the autumnal equinoxial beginning of which year was 3333 solar years ago, reckoning from Sunday, Sept. 22, 1889, A.D." Thus the "Long Day" would consist of 47 hours and one-third, or nearly two full days, and we are informed that it was so reckoned in the calendars of the time, that is as two days all but forty minutes. These forty minutes he proceeds to shew were afterwards rectified or made up in the time of Hezekiah, the twelfth king of Judah, at "the instant of the Autumnal Equinox, in the year of the world 3293," at high noon, just before 12 o'clock as we reckon, when the shadow went back ten degrees. This is very interesting, and if accurate will serve to shew how the Chronology of the Bible may be as scientifically demonstrated as its Cosmogony, both being equally inspired. We cannot find space here to shew our readers how this is

accomplished, but we will just point out to the professor and his followers where we think there may be some inaccuracy in respect to the absolute date given for Joshua's "Long Day." This, of course, will not invalidate the fact that systematic Chronology proves a day was actually lost in the calendar after the time of Joshua's invasion of the land. We only doubt whether Mr. T. has found the exact year and day when the sun did stand still.

Professor Totten seems to assume that the moon was in conjunction with the sun on the day of the battle at Bethoron. This is contrary to the general "tenor of the record," which evidently implies that Joshua saw the moon going down in the west over Ajalon, as well as the sun "in the midst of heaven," over Gibeon. Mr. T. says;—

"The moon was therefore *recorded* (?) as about 8' west of the sun, and had the relative motion of the three bodies' (two?) not been arrested, she would have come into conjunction (i.e. become 'new') in about 13 minutes of time."

Now, as Ajalon was some miles west of Gibeon the new moon could possibly appear to a spectator further north at Bethoron as lying low "in the valley of Ajalon," while the sun at the same moment was seen "in the midst of heaven" upon Gibeon. In fact the moon could not have been seen at all if the occurrence took place at the time of her conjunction with the sun. "Bathed in such a meridian sun-glare she would have been invisible even to the Lick telescope." The moon was probably in her last quarter, low, but visibly setting in the west. If not seen, then why is she mentioned? Speaking of the "Sun Dial" incident of Hezekiah's reign Mr. Totten says;

The moon though involved in this incident could not be mentioned because she was just short of her entrance into the 4th quarter, wherefore at that moment (i.e. absolutely), was below the *eastern* horizon" (!)

Now when the moon is in her last quarter she is *west* of the sun, and if not being seen prevented her being mentioned in one instance, the fact of her being mentioned in the other case shews she was visible. And if the moon was visible as well as the sun, at the time of Joshua's "Long Day," then the moon was not in "conjunction" with the sun at that time, and so the professor has given us the wrong date for the miracle. We do not question his figures proving that a conjunction took place on the day of the year named; but we do question the conclusion that this proves it to be the year of Joshua's "Long Day."

We remember once having to question Mr. Dimpleby respecting one of his dates in a similar manner, and a very important date too. One affecting the true A.D. Mr. D. assumes that the Crucifixion occurred on a Friday, what is popularly known as "Good Friday," at the winter solstice of the *Anno Mundi* 3996. He calculates, and doubtless rightly

calculates the year when the 14th of Nisan, the time of the Paschal offering, fell upon this Friday; but if the Messiah was not put to death on a Friday it follows of course, that this could not be the year of the crucifixion. That the Saviour was not crucified on a Friday is evident from Matt. 12:40; for no calculator, not even an astronomer, can make "three days AND three *nights*" from Friday afternoon, the sixth day of the week, to the "end of the Sabbath," or Saturday, which was the seventh day. See Matt. 28:1. Hence, to add on the age of the Messiah, when he was cut off, to the year when a "Good Friday" fell on the 14th of Nisan, would not give the true A.D. And if we have not the true A.D. would it be correct to say that "The autumnal Equinox of 1889 was the 5,888th since Creation"? We recommend the professor to read a pamphlet on the subject of the true day of the Crucifixion, entitled "*The Sign of the Messiah*," by the "Rev." W. M. Jones, D.D., London. Since reading this we have no doubt that the Saviour was crucified on a Wednesday, as this day would reconcile Matt. 12:40, with Matt. 28:1, and other passages. But we cannot enter further into this question here. We only refer to these possible sources of error in otherwise excellent chronological works, in order that our Biblical Chronologists may clear them up, and prove to all Zetetics that the Bible is as worthy of credence in its systematic Chronology as we are striving to shew it is in its wonderful and natural Cosmogony.

Now, Mr. Totten, speaking of himself, says;—

"The writer does not pretend to explain *how* the day was lengthened, but accepts it as a literal fact fully corroborated by history."

We will therefore inform this Bible student how it was done. "*The Sun stood still!*" and if Mr. T. does not believe this, he may as well give up his search for Joshua's "Long Day." The inspired account not only tells us that the day was lengthened, but it also informs us *how* the day was lengthened. Yet our perplexed philosopher says; "How it was accomplished, God only knows." He might as truly say God only knows whether there was ever such a "Long Day," for if the Bible is not clear on one point it is not clear on the other. But it is clear on both points. And if the Hebrew's Writings are not sufficient authority, then it is useless calling in the corroborative testimony of the Grecian Herdotus, the Egyptians, or the Chinese. Either the Bible account is reliable *in toto* or it is not. Mr. Totten is not at liberty to accept one part of the account and deny another. We believe it is all true; and it certainly has in its favour the fact which can be proved any day by common sense experiments and common observation, namely, that the solid earth has not the awful motions attributed to it, and that the sun does move daily around us. Why, we ask, why should we believe that the moon has proper motion and not believe the same of the sun? Both are seen to revolve around us from east to west; but the moon, being

lower and nearer the earth revolves more slowly. Thus she gets left behind daily some twelve degrees or more; and so loses one complete revolution in a *moonth* or month. On what authority, therefore, does Mr. Totten say, "The Earth's *own* rotation must be rigidly included in the calculation." Can he give us a single proof that the earth has any such rotation? Has he ever found himself wrong side up? Hanging head downwards? He may be upset by our asking such questions, and set them aside as "absurd"; but we ask them in all seriousness. If the questions are "absurd," what must the theory be which logically calls them forth? We will not here attempt to shew the utter and practical absurdity of the globular theory, as there is much in Mr. Totten's book and belief with which we are in perfect harmony. But we will remind him that the globular theory was no part of the belief of ancient Israel: and being based on unproven assumptions, and as contrary to Inspired Cosmogony as to Natural Science, it can only be viewed in the light of a serious blot on the modern belief of "Our Race." The globular theory is a part of the evolution hypothesis, and both are founded upon an infidel "science" falsely so-called; and both alike fostered by a school of criticism that is antagonistic to the faith and hope of Israel. As Mr. Totten nobly says, when thinking only of inspired Chronology, and which we, in conclusion, repeat thinking both of this Chronology and the Divinely revealed system of Cosmogony;—

"If, therefore, we are to resume our place among the noble army of those who have already testified for Jesus Christ with their lives and works, we must repudiate *in toto* this iniquitous school of criticism, and recapture somehow or other, the Ararat redoubt, replace the Long Day in our Scientific Chronology, believe Moses rather than the Moabite stone, and the Bible rather than a sun-burned brick dug up at Babylon."

Bravo, professor! Add one word more and then you will be consistent, and make a good Zetetic. Let us also believe the Creator rather than the creature in the descriptions He has given us of His own Creation; and these descriptions will be found to be all in harmony with the facts of Natural Astronomy.

With Israel's greatest Teacher we pointedly ask; "If ye believe not his (Moses') Writings, how shall ye believe My Words"?

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. SHEPHER.

GENTLEMEN.—One should be endowed with unlimited courage to dare come out before a large audience with proofs of the erroneousness of a scientific formula which since our earliest youth we had been

taught to regard as the only correct and unerring theory. I am pretty certain that at this moment you have come to the same conclusion about me as, four month's ago, I would have entertained myself of any man who should have asserted that it is not the earth which revolves around the sun, but the sun which revolves around the earth. I would have considered such a man either an ignoramus or a lunatic; nevertheless, I now consider the immobility of the earth an incontrovertible fact, and even hope that my convictions will be shared by those who without prejudice will reflect upon that which I will now impart to them.

Some time ago we had the opportunity of witnessing the series of experiments with a pendulum which, according to the theory of the celebrated physicist Léon Foucault, furnish proof of the diurnal rotation of the earth around its axis. I had long neglected to acquaint myself with these experiments, although, while explaining to my pupils the motion of the earth around the sun, I had always found very extraordinary results—absurd, I ought to say—one circumstance pertaining to this motion with which you will acquaint yourselves in my present lecture. So firm was my conviction of the diurnal and annual revolutions of our globe (earth?) that I had accepted even Foucault's experiments with the pendulum as sufficiently demonstrative.

Meanwhile, I had been appointed to assist in the experiments, and, as they bear directly upon the subject in hand, I will briefly state in substance the results.

If, choosing any given point in space near our globe, we imagine a limitless series of circles, then, in consequence of their parallel position to the equator, we term such series of circles parallels.

From the exterior form of the earth we conclude that these circles go on diminishing as they near the poles. If we fancy two such circumterrestrial parallels as dividing this auditorium, then the northern parallel will be shorter than the southern. In the rotation of the earth around its axis in 24 hours both parallels will have to accomplish their rotation in the same space of time; and as they complete the circuit simultaneously, but the southern parallel is longer than the northern, then, consequently, every point of the southern parallel must move with greater velocity than the like points of the northern.

Let us now throw a glance on the apparatus called the pendulum, which is well-known to every one, but in the particular case in point a very equivocal authority. It is easy to demonstrate that the arc of the vibration of the pendulum does not depend upon the change (*Drehung*) of the point of suspension. This undisturbed regularity of the vibration of the pendulum has served M. Léon Foucault as a proof of the rotation of the earth around its axis. If we cause such a pendulum to vibrate across the parallels which we are imagining to pass through our audience,

then the arc of the vibration, as Foucault tells us will (not) change from the axial rotation of the emplacement, and will begin, in consequence of this, to gain in rapidity on the northern and less rapidly moving parallel, and will be out-stripped by the southern one, which moves quicker. In such a case, the arc of the pendulum will soon diverge from its direction from north to south, and its point turned to the north will near the east, and with the point turned south will begin more and more to near the west, till, finally, the pendulum will change its motion in the direction from east to west.

Now the reason for a deviation of the pendulum has ceased; it vibrates no more across two parallels, but only across one. The cause of its deviation from its first direction is removed; it would then seem that the deviation itself ought not to take place any longer, but nevertheless it still continues. The pendulum abandons the east and west direction to approach with its points the southeast and northwest until it reaches its starting point, at which it must again deviate according to Foucault's theory.

As the pendulum does not preserve the direction from east to west, but always gets farther and farther away, I conclude that the deviation of the pendulum is not caused by the axial motion of the earth, but is due to some other motion yet unknown.

By a series of careful experiments I have found that all pendulums are not liable to a deviation in the same degree; the heavier the ball, the more rapidly it will deviate. And as the rotation of the earth around its axis—if we admit its existence—ought to be manifested everywhere equally, then its deviation also, for every kind of pendulum, must be equal in time; but this in reality is just what is not the case.

The conviction that Foucault's arguments were erroneous forced me to verify at the same time all other proofs which have hitherto been regarded as demonstrating the rotation of the earth around its axis, and it was then I found that we had no evidence for such a theory.

Already in antiquity Aristarchus of Samos and other philosophers several centuries before Christ affirmed that the stellar sphere is motionless and that the daily rising and setting of the stars can only be accounted for on the theory of the earth's rotation around its axis. But all these men, profound thinkers, had come to the above conclusion only from the fact that otherwise such an incredible rapidity of the celestial bodies as would enable them to accomplish a diurnal circuit around the earth could never be accounted for. Of course every one must agree with me that at the present moment such an argument would be regarded as very small proof. Indeed, if we were able to take a little peasant boy from a country in which railroads were unknown, and tell him of the existence of carriages which are able to make a mile in five

minutes, of course he could never believe us ; such rapidity would seem incredible to him. He is ignorant that light travels with a velocity of 40,000 miles a second, and that the rapidity of electricity is still more considerable ! Thus, this argument with respect to the celestial bodies whose nature in as yet so little understood, and the path of whose motion is a vacuum or in a space filled with attenuated matter is only assumed or guessed at upon the strength of an hypothesis—that these bodies cannot have such a velocity of motion as to be able in twenty-four hours to circumscribe the earth—such an argument, to make us reject the possibility of the rotation of the celestial sphere, is certainly weak and futile.

But the contrary position, the one commonly accepted, also proves untenable when we look into it carefully.

It was found in the measurement of the earthy meridians that the globe is flattened towards the poles, and that in consequence of this, the equatorial diameter is greater than the line which passes through the axis of the earth from one pole to the other. Man, who endeavours to penetrate into all the mysteries of nature, tried to find the reason for such a flatness, and then comes Newton and explains it by the rotatory motion of the globe. In consequence of such a rotation all the component parts of the earth, and especially the bodies to be found upon its surface, receive an impulse to abandon the earth. Such an impulse is then named the centrifugal force.

At the poles, where the rapidity of motion is equal to 0, that force is also equal to 0 ; further from the poles to the equator that force increases in ratio with the increase of the parallels, so that the greater the parallel is, the more rapidly, as I have already said, must move each of its points. In consequence of this, they say, the greater part of the earth's mass is gravitating toward the equator ; and for the same reason, the centripetal force, acting on the equator with greater intensity, compels the concentration there of the greater portion of the mass. Hence it is finally concluded that the earth must forcibly rotate around its axis, because were there no such rotation there would be no centrifugal force, and without such a force there would exist no gravitation toward the equatorial diameter or zone.

We have laid before you now one of the existing evidences of the rotation of the earth. I do not accept such an argument, but reject it with many other scientists who have discarded it before myself. . . .

Therefore, gentlemen, until we have more weighty argument to explain satisfactorily the accumulation of the mass of the earthy matter on the warmer zones, I cannot undertake to accept as a reason for it a certain centrifugal force, appearing as a consequence of the motion of the earth around its axis, and I will not allow the hypothesis, were it

but because I know beforehand to what inexplicable contradictions this centrifugal force would bring us. Some of these I will point out presently.

We must now consider the fourth and last evidence of the rotatory movement of the terrestrial globe.

In 1867 M. Richer remarked that a clock of his, which kept good time in Paris, having been transferred to Cayenne, *i.e.* five degrees north of the equator, began to lose two and a half minutes daily. Richer had to shorten the rod of the pendulum one and a quarter lines to make the clock go right. It is well-known that the time of the vibration or rapidity of a pendulum increases with the diminution of its length, and is arrested proportionately with the elongation of the rod. Later it was ascertained that such a retardation happens also when the clock is carried on a high mountain. As the vibration of the pendulum is based on the laws of falling bodies, and the fall of the bodies itself depends on their weight, or otherwise, on the attraction of the earth (?) it was but natural to conclude that if the vibration of the pendulum is not the same everywhere, and the attraction of the earth varies, then this affords us conclusive evidence that the cause of the retardation of the vibrations of the pendulum is a certain centrifugal force, which develops with the motion of the earth around its axis, and that it is this force which arrests the swing of the pendulum by decreasing its weight. But such a conclusion is erroneous ; and we could far better admit the following conclusion, at which many of our physicists now have arrived—the attraction of the earth diminishes with the recession of the body from its centre, which serves at the same time as the centre for all the attractive force of the globe. (That is if it were a globe !—ED.)

And what if the cause of the retardation of the vibrations of the pendulum at the equator and on high mountains should prove quite different from what is now generally supposed ? What if the cause is not at all the decrease of the force of attraction (whether from the recession of the object from the centre of the earth or centrifugal force), but on the contrary, its increase, proceeding from the accumulation of bulk at the equator, in which case the force of attraction increasing, increases at the same time the weight of the body, and in the pendulum the weight of the ball ? There is one fact not known to all physicists, I believe, namely, that the rapidity of the vibrations of a pendulum depends not only on the length of its rod, but also on the weight of the ball itself. It might be even more correct to express it thus ; the velocity of the motion of the pendulum depends chiefly on the weight of its ball. When I elongate the rod of the pendulum I force the ball to move on a longer level, and increase thereby its own weight ; I can also, without elongating the rod, increase its weight by other means ; the result will be the same. Thus, for instance, every one is aware that

even people unacquainted with science, when their clocks are running too fast, and they wish to make the pendulum vibrate slower, attach to the ball either a stone or a small bit of iron, and thus attain their object. The physicists have made very exact experiments in this direction. They found that a pendulum having an uniform length of rod makes 20,000 vibrations—

With a ball attached to it weighing 2 k.g. in	1,977 seconds.
" " 4 " " "	2,010·55 "
" " 6 " " "	2,021·31 "
" " 8 " " "	2,027·04 "

Therefore the greater weight of the ball the slower the vibration of the pendulum. From these experiments, conducted with the greatest precautions and published in the "*Comptes Rendus de l'Académie Française*," tome xxi., p.p. 117-134, it appears: 1, That the laws of Galileo are not quite exact as to the vibrations of the pendulum; 2, That the explanation of the retardation of the pendulum on the equator by the decrease of the force of attraction of the earth is evidently false; 3, That even the universally accepted laws of the gravitation of bodies are not sufficiently exact; and 4, That, in general, the means employed toward discovering the laws of nature with the help of calculations is not only being proved unreliable, but it serves but the more to darken the truth.

You will have seen from the last two arguments, which have hitherto served as evidence of the rotation of the earth, that as the result of such a rotation was assumed a centrifugal force. Its presence was vainly sought for in the currents of the ocean, as well as in those of the air.

And, indeed, it is not easy to explain how or on what principle the air—this soft, yielding, incompressible body, agitated by various currents—could have remained unaffected by the rotation of the terrestrial globe. If the greatest physicists admit that hard bodies are influenced by such a rotation, then it appears, it will not be too bold on my part to maintain that the rotation of the earth around its axis should inevitably exert an influence on the air. This influence should be shown first of all in that, during the rotation of the earth from west to east, there would appear immediately an atmospheric current from east to west.

Indeed, if the earth, together with its atmosphere, rotates in a completely empty space, then in every case it might be possible to admit that the earth rotates without producing any influence on the atmospheric ocean. But against the theory of such a vacuum we have the very quality of the air.

The air, as much as we know of it, has such a great tendency toward expansion that all the hitherto worked out laws of gravitation have remained foreign to it. Were the most exterior, the most rarefied layer of air not to encounter on its way any obstacle toward its expansion in

the shape of a new planet, it would scatter itself throughout the whole universe, moving farther and farther into the infinite space; the particles of the air nearer to this layer would follow its example, and, finally, the seas and rivers of the terrestrial globe, all the water would take part in such a process of expansion, to disappear at last from the face of the earth. (We produce first just such a phenomenon with the help of an air pump). On the ground that such a thing does not exist in fact, we must suppose that there is some retaining cause, which according to custom, we will term Ether. Counteraction to the evaporation of the air consists in this, that it forces every upper layer to press upon the next lower, causing by such a progressive pressure the condensation of that layer of the atmospheric air which is next to us.

If such an ether exists in reality, then there must occur in the atmosphere those phenomena so familiar to us, which always take place in cases when the air encounters obstacles to its free motion. Let the earth rotate, then all the atmospheric space, on the ground of the attraction of the earth, will be compelled to participate in the movement, and the consequence will be that the upper layers of the air, finding a resistance in the ether, will either be retarded, or—which would be the same—assume a seeming current in a direction opposite to that of the earth's motion. Such a current of the upper stratum of the air would provoke a resistance in the next lower one, and this one, in its turn, receiving the impulse communicated to it by the upper one, would offer a resistance to its next lower neighbour, etc. Finally these two opposite currents, intermingling in their onward impulse, would form two streams—one from east to west, in which would participate, first, the whole atmospheric ocean world, and then the contents of all the watery basins; the other from west to east, into which would be drawn the very core of the terrestrial globe.

But let us make another supposition, and notwithstanding the impossibility, let us admit that there is *no* ether; that ether is no more nor less than the product of those endless hypotheses in which man has entangled himself from the first in his efforts to investigate nature; even in the latter case it will not be a difficult task to prove that the rotation of the earth must cause the current of the atmosphere to take an opposite direction. On what ground did our physicists base their suppositions when telling us that we don't feel the rotation of the earth? How do they explain the circumstance that objects on its surface are neither upset nor fall? They point to the laws of inertia. Very well! I agree with them! I agree only the better to vanquish my adversaries with their own weapons, as I have hitherto always done. You are probably aware that motion can be imparted to any substance, but that a fluid or gaseous body can be made to move only when it is imprisoned in a hard one. Air is a body which is more than any other disassociated as

to its component parts. Let us suppose that the earth has communicated its movement to the layer of air next to the surface, and thus dragged it after her. This layer, perfectly separate and distinct from the next upper one unattached to it, is unable to communicate its motion to the other and upper layers. Hence these upper layers remain unaffected by the motion of the lower one, or what comes to the same, begin to assume a *seeming* rush (or current) from east to west, with a rapidity equal to the earth's rotation. Every point of the equator during the diurnal rotation of the earth crosses in the same lapse of time 1,250 feet, but in the direction opposite to that of the earth's rotation. But such a rapidity of the atmospheric currents is nowhere to be seen, and it exceeds ten times the speed of the most terrible hurricanes.

I do not belong to those who accept their own conviction of an east and west atmospheric current for a real and already demonstrated fact. And yet all the modern physicists, scientifically convinced of the absolute necessity for the existence of such a current, have accepted it as a fact, resulting from the earth's rotation around its axis, although all their efforts to find it anywhere in nature have been in vain. Even the *passates*, explained for a certain time by the same rotatory motion of our globe, deprived at the present moment of their once famous periodicity, are now being accounted for a great deal more simply, to wit, by the different degree of heat in the upper envelope of the terrestrial globe.

We have but to represent to ourselves, in thought, all the various atmospheric currents, at one time weakening, at another increasing, and moving in every imaginable direction, called by us sometimes winds, sometimes tempests; we must imagine these winds running very often in direct opposition to each other's course, and then ask ourselves the question: Is there any possibility that such currents could exist when the air is at the same time forced to passively follow the simultaneous rotation of the earth around the sun and its own axis? Is it possible to admit that in case such currents existed in nature, our atmosphere would at the same time continue the constant and faithful satellite of our earth?

Therefore the circumstance that the rotation of the earth around its axis is not at all felt by us; that other circumstance, that this rotation has never been in any form or manner satisfactorily proved, and *cannot* be proved; the absence, finally, in nature, of those atmospheric currents which in all justice ought to be found as a consequence of the rotation—all this serves us as a refutation of the theory of the rotation of the earth around its axis, perfectly convincing, if it were only because we do not possess a single evident proof in favour of the rotation.

Is it not a cause of wonder that the *savants* of the whole civilized world, beginning with Copernicus and ending with Kepler, first of all

accept such a rotation of our planet, and then for three centuries and a half after that seek for it some proof? But, alas! they seek, and as was to be expected, find it not. All in vain; all unsuccessful! *From The Scientific American.*

(To be Continued).

[This very suggestive lecture proves unmistakably that the earth has none of the terrible motions attributed to it by the Astronomers. We should be surprised if Dr. Schœpfer did not afterwards find out that the earth could not possibly be a "globe" if it has none of the motions necessary to the globular theory. Ed. E.R.]

THE NEBULAR HYPOTHESIS.

BY LADY BLOUNT.

Hypothesis quoted,
 "All matter once floated
 In atoms wide roaming through space";
 When a power, perhaps "Nether,"?
 Pulled all down together,
 How it happened no mortal can trace!
 But, dear me! however
 Could there then be a "Nether" ?
 Or an upward or downward at all?
 With "atoms" dis-severed,
 Now gravity-tethered,
 And shooting through space like a ball.
 This power of such fame,
 "Gravitation" by name,
 Pounced down on the atoms while strewing;
 But further back gaze,
 O'er eternity's maze,
 What *before* was good gravity doing?
 The gravity theory,
 When started was clearly,
 A fancy which Newton had "run";
 Imagine the motion,
 This world, mostly ocean,
 Once a cinder shot out from the sun!
 Like Solar relation,
 Inherent rotation,
 Sent the "globe" whirling round, till full soon—
 Just picture the view—
 The sparks, how they flew!
 And a beauty so bright made the Moon!
 The Sun, the great "Master,"
 Sure ought to go faster,
 Than the sparks it sent backwards reviewing;
 Yet globe and Moon too,
 Keep old Sol well in view,
 And play all around while pursuing!
 The Globite avers,
 It took *Millions of Years*,
 For the earth to develop and cool, Sir,
 But he who will try
 To give God the lie,
 Shall yet prove himself but a "fool," Sir.

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 be prepaid, and addressed to

“ZETETES,”

Editor of THE EARTH (not-a-Globe) REVIEW,
Plutus House, St. Saviour's Road,
Leicester, England.

NOTES.

E. H. Seedley.—Thanks for *Millennial Dawn*, and other papers received. Do what you can to spread true views of Creation Truth, for if Bible Cosmogony is not believed to be true the Scriptural Hope of Eternal Life cannot logically or long survive.

H.H.S., Bayswater.—*Science Siftings* to hand. Too crowded to quote in this issue. As you say in marginal notes, some of its “Science” is “bosh.” It appears that even the “Siftings” of “Science” need further sifting. Thanks for your encouraging words *re* No. 6. *Earth Review*. We try to make each number “22 Carat.”

H.V., Santa Cruz.—(1). Thanks for *Scientific American*, and other literature duly received. You will see that we are making good use of the former. (2). No! The Christmas No. of *The Muses* did not “contain anything of importance *re* the Plane Earth.” But we will, if possible, print the Editor's letter promising it would, so that our readers may see we were justified in expecting something. (3). Yes. We have asked our friends in southern latitudes to collect facts for the *E.R.* respecting the sun and stars.

C.H., London.—Cutting to hand from the *Pall Mall Gazette*. But it misrepresents *Zeteticism*. We have already shewn that “the apparent rotation (revolution?) of the stars round a south pole” (magnetic star centre?) is no proof of the shape of the earth. And we are prepared to shew the same even if you could prove that the sun, in our winter, “appeared” to revolve around a southern celestial “pole” or star centre. You must come down and study the *Earth* itself if you wish to find out its shape.

J.A., Belfast.—Thanks for various cuttings, as also for 2/6 for “free literature” to be sent to our earnest missionary friend in Ceylon. We have sent various parcels of papers and pamphlets from time to time, but we sent him a special parcel out on receipt of the above.

F.W.J., Ceylon.—Kindly distribute literature sent as above where you think it will produce good fruit. Have had no spare “space” yet to print the long correspondence with Mr. T. C. Hillard. The work accumulates, but our strength does not. We fear we shall ere long have to devote what is left more exclusively to meeting the increasing responsibilities of a large family. But if so, the *E.R.* will still go on.

G. Revell, N.Z.—What you kindly sent has been forwarded to the Secretary of the U.Z.S. Thanks for “the balance.” You are one of the few (very

few) who remember that an editor cannot live entirely on air while giving his time, energy, and skill to the truth, however much he may love that truth.

J.S., Bootle.—The letter and poem of Mr. Brown is a bombastic piece of self-sufficiency. He seems to be a pantheistic globularist. You should ask him the ancient question, “Canst thou by searching find out God?”

G. T. Bolt, Portsmouth.—Poem approved, but must stand over for the present.

A. E. Skellam, Wandsworth.—Thanks for useful Extracts from Glaiser. Shall be used as opportunity occurs.

H.C., Belfast.—Mr. Gillispie's book, notwithstanding all his boasting, has one serious defect. It *assumes* the earth is a “globe”; and he neither attempts to prove this assumption nor to deal with the fact that the surface of standing water is absolutely level.

J. Smith, Halifax.—Let us know how the Challenge progresses. Be very careful how its terms are drawn up. But even if the opposite party fails to proceed, cannot *Zetetics* themselves get up some special experiments, and then publish results?

W.B., Toronto.—Paper *re* Joshua's Sun received. Cannot print at present.

T. Whittle, Croyden.—Letter and diagram received. Thanks. We have given a report of the Portsmouth Lecture as several besides yourself have expressed a wish for it.

Letters to the Editor.

ADULTERATED GEOGRAPHY.

Sir,—Some years ago it was reported that “Dr. Livingstone refused to entrust his dispatches to the Royal Geographers because they were in the habit of altering them to suit their own views.” It appears evident from the following extract that “the habit” is kept up now, and by consequence the people do not know what the actual result obtained from any observation is. Truly we live in an age of adulteration, fraud and shams.

“Sir Benjamin Stone excused himself from giving further details of the eclipse, on the ground that the official report had not been published.”

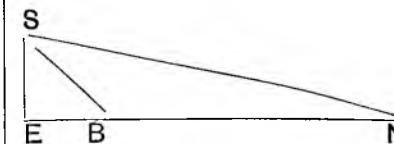
Could you kindly inform me if the “official report” will be published on the first day of April or on the fifth of November? BALAAM'S ASS.

A MATHEMATICAL COBWEB FOR SILLY FLIES.

Dear Sir,—A Newtonian (with the initials C.H.) has just added another to the many mathematical frauds found in books on popular Astronomy. Airy has “proved” that a degree of latitude or longitude consists of 69 miles so that the circumference of his pagan globe may be 24,840 miles, but

Herschel makes the degree 70 miles, so that the entire circumference may be 25,200. Landner by mathematics finds the sun's distance to be 100 million miles. Herschel 95 millions; Airy 92½ millions, &c., all by Mathematics! Again, Brewster and Herschel differ in their calculations of the nearest fixed star's distance by such a trifle as eight hundred thousand million miles! Despite their “infallible mathematics,” the difficulty is in finding out one point about which these Astronomers agree.

The globularist, C. Harpur, in a leaflet gives the following figure, calling S the sun, E the equator, N the north pole, and B Bordeaux.



At the very outset he craftily begs the whole question by assuming without proof a north-pole and an equator so essential to the sea-earth globe. He next adds another supposition that at noon on March 20th, the sun as seen from the north pole is just on the hori-

zon, whilst at Bordeaux its altitude is 45° . But since, with the altitude of 0° , he could not form his triangle $SE N$, he supposes himself about a mile south of the imaginary pole so that he may suppose the sun with the altitude of one minute, the altitude at Bordeaux still being 45° , whilst the sun is perpendicular at the equator. Having thus arranged, he informs us that an angle of one minute such as at N must have "the line subtending it 3,450 times its own length off," so that EN is 3,450 times ES . But the angle ESB being 45° and the angle E 90° the angle ESB is 45° ; therefore the line SE equals EB , and EN is 3,450 times EB , that is, Bordeaux ought to be only 2 miles or so from the equator. Now, if we grant C.H.'s suppositions as to altitude and that this is a mere question of plane triangles something like the result he mentions must follow. But Zetetics reject mere supposition, and demand facts established by actual observation of altitude at the places named, with the exclusion of all mathematical jugglery. Then since the sun's altitude is reckoned on the vault of heaven, independently of terrestrial globularity, and since Bordeaux is 45° north of the "equator," with an assumed altitude of 45° , the whole distance between the equator and north-pole being 90° , Bordeaux ought rather to be precisely midway between these two points so as to brush away C.H.'S cobweb. Moreover, the established facts that the surface of water is level and that there is no terrestrial curvature, railways and canals being cut without any allowance for convexity, the line EN in the figure must be straight, and granting this to be a question only of plane triangles, EB being equal to ES , the height of the sun ought accordingly to equal the distance between Bordeaux and the equator. . . . The crafty Newtonians would have us for the nonce forget their assumptions of immense distances and sizes, and in measuring altitudes of sun and stars they virtually reject their atheistic supposition of infinite space and confess the fact of an arched or vaulted blue sky overhead, which is as manifest to our eyesight as the ceiling of a bedroom. However, they cunningly call it a "celestial globe," making it a kind of envelope for the "terrestrial" one. . . . Further, it is rather remarkable that Snowball in his "Trigonometry (p. 65)

gives the very same figure as C.H., but with a semi-circle described on EN , as the author considers this a question not of plane but spherical triangulation. . . . As regards C.H.'s second figure, it is a fraud similar to the first, and his remarks on Refraction are not worth answering.

A. McINNES,
25th. Feb., 204, Dumbarton-road,
1894. Glasgow.

Dear "Zetetes,"—Having formed one of the enthusiastic audience at your late lecture, while on a visit to Portsmouth, must be my excuse for taking the liberty of addressing you. I have reached over half the years allotted to man, firmly believing the Earth to be a Globe rotating on its axis, and revolving through space, and I never heard this to be other than an acknowledged fact until you raised the question.

Although you handled the subject from your point of view in a masterly manner, striking at the root of the Globular theory, and have somewhat weakened my belief in it, still I must beg you to bear with me as one not yet fully persuaded. Although I have some scholarly claims (having letters to my name) I own I cannot myself give you what you asked for, namely, an absolute proof that the earth is a whirling globe. At the same time I must own, Sir, that I cannot yet prove it is not. I confess that there was a striking contrast evinced at the lecture between your cool and telling replies and your atheistical opponents blustering oration, which self-possession excited admiration in the breasts of the appreciative and candid, and something like awe in the agitators of the popular theory.

The lecture on the whole was impressive and at times thrillingly interesting. But if you will offer no objection I will look up my Astronomy and ask you to answer a few questions as to those matters which I think require settling. I enclose what I confess is a beggarly report from the *Evening News*; also one from the *Evening Mail* which latter, I suppose, is as good as you can expect under the circumstances.

Yours respectfully,
R. I. P.

Tuakau, Auckland, N.Z.

Dear Sir,—I received your parcel of *Reviews* all right for January, 1894,

Birmingham.

Sir,—I remember some years ago when "Parallax" was lecturing in this district that one or two questions were asked by him on my account after some of his lectures to which no reply was attempted. Perhaps some of your opponents can answer them, and so help to settle the merits of the "plane" or "globular" question.

1.—*Axiom*. Parallel lines never meet. Yet, take the parallel lines of a railway which in many instances run for a considerable distance in quite straight lines. Look at them from a given standpoint. They will appear to approach closer and closer to each other till they meet apparently. Look till a locomotive appears at the end of your view. What part of the locomotive do see first? Not the wheels. It is the same, applied similarly to a ship at sea. Is it so or no?

I have stood on Dover Cliffs and seen the White Cliffs of France over 20 miles distant. How could I, if the earth was globular? Will any opponent answer this, and give the correct allowance for the continuous dip of the curve in over 20 miles?

I quote a slip from "The Sheffield Weekly Telegraph" which says—

"The bottom of the Pacific between Hawaii and California is said to be so level that a railroad could be laid for 100 miles without altering the grade anywhere. This fact was discovered by the United States surveying vessel engaged in making soundings with a view of laying a cable."

Will anyone explain to us, whether, on the globular hypothesis, the bottom of the sea is also globular? and if so, how the Pacific can be so level that it runs for 100 miles without altering the grade? Does grading make any allowance for curvature? These queries are for enlightenment.

To finish: I knew "Parallax," and have heard him put to shame many shrewd and clever men.

I am yours, obediently,
H. BRITTAİN.

Belfast, 7 p.m.

Saturday, 24th March, 1894.

Dear Friend,—The sun rose this morning at 5.55 a little to the South of East and set at 6.18 a little North of

also a biggish parcel of some literature from Mr. Squire by same mail, which I have distributed right and left. I think it is a capital number, and augurs well for the coming year. My letter seems to have caused a little commotion. The facts I mentioned are patent to anyone who watches the sky in N.Z. and cannot be contradicted. When the Southern Cross is at its lowest altitude it is of course reversed in position, the foot star of the Cross being uppermost. It also appears half as large again, as when at its highest altitude. It takes twelve months to reach the same position in the sky that it occupied on a certain night and hour twelve months previous. I only wish I had the means and opportunities to test sheets of water here, as I feel positive they would prove the same result as the Bedford Canal gave.

A friend of mine has a brother here who graduated in the N.Z. University with distinction, and a B.A., and he confessed to my friend that there is really *no absolute proof* of the globular shape of the Earth. In reading your Correspondence Notes I was glad to see you acknowledge receipt of two pamphlets on the Higher Criticism.

You see that our Churches out here are honey-combed with doubt and unbelief. The Presbyterians are busy just now with a so-called "Heresy Hunt" against one of their ministers near Auckland, for giving the right hand of fellowship to the Theosophist Society formed here, and committing himself to some of their tenets. I have got you one subscriber to the E.R. for 1894.

Your article on Star Motions I think strikes at the root of the matter. I am told that Navigators in S. Latitudes rely entirely on the Sun for their position in making land, and not by the distance run at all; and that the log and chronometer never agree. I am pleased to see the little E.R. published every two months, contending so earnestly for the faith of the Holy Scriptures which is assailed now from many sides, and even by professed christians as well. It behoves us to be constantly on our guard against all forms of unbelief and error. I wish you and your co-workers much success, and pray that your hands may be strengthened, and the financial part prove prosperous. Yours faithfully,
Feb. 22, 1894. GEO. REVELL.

West, Belfast time, which is 23 minutes and 40 seconds behind Greenwich.

Lat. 54° 36' North.

Long. 5° 56' West.

In haste, yours,
J. ATKINSON.

Dear Sir,—Would not a circular chart of the world be the most accurate in principle, the lines of latitude, parallel circles proportionately related, 60 miles to a degree at the equator, and gradually lessening toward the north-centre, so that at 45 S. the distance of a degree would be 30 miles; and increasing toward the antarctic regions so that at 45 S. the distance of a degree would be three times as great, viz., 90 miles, and still increasingly proportionately southward.

The meridian lines of longitude, straight, diverging from the north-centre, 24 in number to represent the 24 hours of the day and night; 15 degrees of the circle to an hour.

Now on a school globe it is known

that every direction of latitude and longitude is a *curved* line, while on a chart of the world according to that designed by Mercator, which is still used, *all* the lines of latitude and longitude are *straight*, the degrees of longitude are the same length (all the lines are drawn at right angles) at the different degrees of latitude both northward and southward of the equator.

The map of the world designed by Mr. J. Steer Christopher, of Morden College, Blackheath, near Greenwich, seems to me scientifically correct, and well worthy to be studied by Navigators, Captains, and others.

One of the last letters written by the late Lady Brassey, was from on board the "Sunbeam," in which she expressed her thanks for the copy she had received, and her belief that the study of Geography would be much simplified by its general adoption.

Yours, &c.

Croyden.

THOMAS WHITTLE

THE PORTSMOUTH LECTURE.

On Monday evening March 19th, the editor gave a Lecture at Portsmouth entitled, "Is the Earth a Whirling Globe?" Large handbills and larger posters had well advertised the lecture all over the town, and the hall which is reckoned to hold six hundred people, was nearly full. Great interest was manifested in the lecture by high and low; and on the part of some of the lower orders great excitement and a spirit of opposition. This, to some extent, was said to be due to previous lectures given in the town by a zealous but not over prudent advocate of the Plane truth; but nothing could justify the boorish behaviour of a few in the cheap seats who had come, as one confessed, for "amusement" and not for instruction. The lecture was listened to with marked attention, but when the questions began, had it not been for a restraining Power, general respect for the Chairman, the firmness and self-possession of the Lecturer, and the presence of the officers of the law, the boorish element present would have got the upper hand, as on a former occasion. But as the bears could not bite, they wanted to growl all the more; and, at the close of the meeting, they doubtless went back to their dens somewhat disappointed. They were the only ones who were so disappointed; the friends of truth and fair play were delighted with the lecture. Several who would not yet avow themselves as Zetetics came up to the platform afterwards to thank the lecturer, and to express their regret at the unfairness of the Globularists.

As discussion had been publicly invited, the following rules of debate were read out by the Chairman before the lecture began.

RULES OF DEBATE.

After the address an opportunity will be given to anyone either to ask relevant questions, or to debate the subject with the lecturer, if any gentleman come forward for this purpose. If more than one offer to debate, the meeting shall decide which one.

The Subject to be, "*Is the Earth a Whirling Globe?*"

The opponent affirming, and the lecturer denying. Each speaker to occupy not more than ten minutes, and then to be subject to five minutes questioning by the opposite side. Short and categorical answers to be given; and the questions to be confined to the subject and syllabus of the lecture.

The ruling of the chairman as to time or relevancy to be decisive. The discussion to close at ten o'clock.

These rules, if followed, were calculated to give each side a fair chance, and to bring out what could be said on both sides for or against the globular theory. But at the close of the address, which lasted nearly an hour, on the question being put by the chairman whether the meeting would have Questions, or Debate? the globites vociferously demanded, "Both." As no one then offered himself for debate, a great many questions were asked, and answered; some of the questions being relevant and courteous, and others utterly irrelevant and purposely discourteous.

After about forty minutes questioning, a well-known local gentleman was prevailed upon to come on the platform to "debate" the question. The lecturer shook hands with him as he came up and gave him an encouraging welcome. This champion of the globular theory spoke for about ten minutes in a loud, excited and desultory manner, avowing his belief in the nebular hypothesis as accounting for the origin of the "globe," and in the evolutionary theories of Darwin as applied to the origin of man and species. This proves our contention that "Scientific" Infidelity is ranged on one side of this question, and Zeteticism and Bible Christianity on the other. Only let these forces grapple under fair and orderly conditions, and Truth must prevail. The lecturer replied in a quiet and confident manner that no one in the audience was any better able to prove the earth a globe after the excited speech just listened to than he was before it. That no proof had been given of globularity, or whirling motion; and in fact, *none attempted*, unless mere assertion were proof. We had been assured, on the authority of our evolutionary friend, that the earth *did* move; that it carried the atmosphere round with it, and so prevented anyone either feeling or seeing the motion (then how are they to know of it?); that the moon "pulled" the ocean away from the earth and so caused one tide, while it "pulled" the earth away from the water and so caused the opposite

tide (yet we got no nearer the moon !); that the sun rotated upon its axis, and that *therefore* the earth rotates upon *its* axis ("Imaginary" of course !); that as Mars was "cooling down" so also "our planet" had cooled down (although some of the people on it were still quite in a great heat !); and that the Manchester ship canal had a hill of water on it, in the middle, "owing to the convexity of the globe," although proof had been given that the Engineer had made no allowance for curvature, and was practically forbidden to do so by the Standing Orders of the House of Commons, which were read. The lecturer having occupied ten minutes in analysing the previous speech, our Darwinian friend was again invited to speak, although it was past the time for concluding; but he had had enough of it; and he descended from the platform in a much quieter manner than he had ascended it. In fact, like Mars, he had "cooled down" considerably in the meantime. Let us hope therefore that he was a wiser man for his temerity. But if globularism cannot be supported by more courteous methods and better "arguments" than those adopted at Portsmouth, then wise and reflecting people will draw their own conclusions. Even the reporters have shewn on this as on former occasions a lack of candour and impartiality, and they seemed more inclined to pander to the lower tastes and prejudices of their readers, than to try to educate and elevate them. We should have thought that the press had a higher and a nobler mission than this. However we give two extracts below from the reports sent us. As the cuttings were neither dated nor named, we cannot give the titles of the papers. Our friends should always label and date their cuttings with pen and ink in the margin or on the back, so that extracts may be verified.

ANOTHER ATTEMPT AT EARTH FLATTENING.

Yet another person—from Leicester on this occasion—has come amongst us to advocate and advance the flat earth theory. Portsmouth produced a zealous exponent of this theory in the person of Mr. Ebenezer Breach, but since the evening when he beat a precipitate retreat from the platform of the Albert Hall, notwithstanding a promise to speak again, he has remained *perdu*. Whether this is owing to Mr. Breach failing to bring his courage to the sticking point, or that a lengthened period was necessary to renovate his models, we are not aware. His mantle was donned last night by Mr. Albert Smith, of Leicester, an advocate of what is termed the modern Zetetic School of Philosophy, who addressed a large audience at the Speedwell Hall on "Is the earth a whirling globe." The chair was again taken by Mr. G. J. Merritt, T.C.—Mr. Smith maintained it was not. The globular theory was a popular one, and a man was looked upon as somewhat deficient in his mental powers if he had the temerity to question it. The belief that the earth was a whirling globe was an assumption, an hypothesis, a conjecture. The evidence of the senses was opposed to it. Its globularity was not seen or its motion felt. If it were a globe its curvature would be seen, and its fearful velocity would give them some tremendous sensation of its motion. Let them fancy a mass like the earth attached to spokes 25,000

miles high going round at the rate of 1,000 miles per minute. Would they not be susceptible to such a fearful motion?—A voice: "No."—The Chairman (Mr. Merritt), addressing the person who interrupted, "You annoyed us last time."—Mr. Smith: I shall throw myself on the good sense of the audience. We have offered fair conditions; if they are complied with I proceed, but I shall not without order. (Applause.) I did not come here to shout any man down (interruption), and I shall not allow any man to shout me down. (Cries of "Go on," and uproar.) Continuing, Mr. Smith remarked that nature did not play its students false, and the testimony of nature was that the earth was not a globe; in fact aeronauts had asserted that no dipping curvature was noticed at any altitude, but that the earth looked like one vast plain. With regard to the theory of gravitation, he contended that it was invented to support the other theory that the earth was a globe. If the universe was a sphere moving in space, there was something wanting to keep it in position, and the theory of gravitation was invented to support the previous hypothesis. The fact that bodies returned to the earth was no proof of gravitation. What was the connecting link between the sun and the moon? What was the kind of matter they conjured with called "gravitation?"

From another paper;—

IS THE EARTH A GLOBE?

At the Speedwell Hall, on Monday evening, there was a numerous company to hear a lecture by Mr. Albert Smith (Zetetes), of Leicester, in support of the theory that the earth is flat. The exact title of the address was: "Is the Earth a Whirling Globe?" and the significant title "Truth *versus* Fiction" headed the bill announcing the lecture. It was under the patronage of Lady Blount, Count Antonie Amerina, Mr. T. Shaw Phillips, J.P., and Mrs. Phillips, and Colonel St. Vincent. The Chairman was Mr. Councillor G. J. Merritt. Mr. Smith traversed the beaten track followed by the believers in the plane theory, and dealt with the arguments advanced in favour of the world being a globe. He examined the "proofs" of those opposed to him, touched on the disappearance from sight of ships at sea; gave an illustration of perspective as opposed to the globularists; alluded to the altitude of the fixed stars; and discussed the "supposed" terrific motion of the globe, the law of gravitation, water level, &c. The lecture was illustrated by means of diagrams; and at the conclusion questions were invited. On the whole the Lecturer had a very fair hearing, though many of his remarks were received with ridicule and irony; and the majority of the audience were not in sympathy with his views. Several questions were asked. One was how it was that a vessel sailing due west would come round again to the same place?—The Lecturer replied that many people believed that due east or west were straight lines; but these were impossible on a globe. The mariner's compass always pointed to the north; and he maintained that with a vessel moving round a plane, the instrument would still point in the same direction (and lie horizontal). . . . After further questions, Mr. Sweeney mounted the platform to debate with the Lecturer; and in a 10 minutes' speech of great volubility, he asked, if the earth were not a globe, would the Lecturer explain on what this mass of matter rested? Everything (he urged) was in favour of the globe being a body rotating on its own axis. Mars was a body that had cooled as the earth had cooled; and it had been proved to demonstration

that it was a rotating body. Universal gravitation was accepted by all scientists. . . . The Lecturer said the globe theory was connected with the nebular theory. He asked what was gravitation doing (originally) to let these atoms be flying about in the manner as accepted? Astronomers built assumption on assumption, and could prove but little. It was affirmed that the earth whirling along carried the atmosphere with it; but this theory had not been proved. He pointed out that a balloon filled with hydrogen could ascend, and all the atoms (in the "globe") could not pull it down. ("No, no.")—The Lecturer: Well, have it so, my friends. (Laughter.)—The Chairman said that as it was 10 o'clock, the meeting must close.

We court the most learned opposition of reasonable men, but when a stupid and ignorant spirit of opposition manifests itself, we should advise our Portsmouth friends to go to work privately and quietly. Why not start a class for mutual instruction and discussion, and then form a branch of the U.Z.S.?

THE OLD BEDFORD LEVEL.

In the year 1870, the "Old Bedford" Canal, Near Downham Market, Norfolk, was flat—level—horizontal. It was proven to be so by Alfred Russel Wallace, Esq., F.R.G.S., &c. The one witness is the writer. He was with Mr. Wallace the whole week of preparation for the final experiment—differing from those first contemplated—on the fifth day of March, 1870. The supposed winner of the £500, staked by Mr. Hampden knows he won the money, but *not* the wager! He would not permit his referee, Dr. Coulcher, to argue the matter with Mr. Hampden's referee, the writer; and the meeting of the two referees, who, by the terms of the engagement, had to come to an agreement concerning the *result* of the experiment, was brought to a close by the writer being pushed out of Dr. Coulcher's house by a policeman who had been called in by the doctor (an astronomer), with the words "Go, or I'll take you!" No argument could be used—no decision arrived at.

In London, the evidence was referred to Mr. Solomon, optician; but this gentleman had nothing to do with it: he entrusted it to his assistant! This assistant, when appealed to by the writer, informed him that he had had the papers "for an hour or two"; that he didn't sit up all night over them; and that, "taking into consideration the theory of the earth's rotundity, he certainly did give it as his opinion that, if anything had been proved, it was that the water was curved." But this gentleman was soon convinced that he had made a mistake. He went to Mr. Walsh, the umpire, and begged him to defer the printing of his decision in his paper, *The Field*, until he gave a better report. But the editor would not! The decision was published; and a more glaringly inaccurate statement it is hard to conceive possible for an

editor to make. The very locality of the experiment was stated as a place six miles away from the scene of action! The money staked—£500 aside—was handed over to Mr. Wallace on the 1st of April, 1870. And justice was outraged! Can Mr. Wallace deny this? Is the Bedford Canal curved up in the middle of six miles to the extent of 5 ft. to-day. If not to-day, then not in 1870!

It was the night before the final experiment that Mr. Wallace, at the Crown Hotel, Downham Market, produced a paper he had had for several days—a diagram of the proposed undertaking on his part, to prove the curvature! And it was handed to the writer and has been in his possession ever since. And he wrote upon it these words:—"Friday, March 4th, 1870. Mr. Wallace's diagram in the presence of Mr. Coulcher, Mr. Hampden and self." There are the seven six-foot posts (signals) one mile apart, the centre-one being above the others as they are arranged around a section of the earth's curve! And to the extent of 5 ft. too! What a blunder! To fancy *the earth* so small a thing that its rotundity could be made visible in six miles! It is impossible that a thinking man can be found to-day, to believe this? And that, looking through a telescope, the water appeared *to rise and to fall* to the other end of the six miles—the view taken in both ways? Why, the spectator must have been three miles from the very summit of his little globe! The thing is too preposterous for calm discussion! If men really *believe* such nonsense as this, we can only say, God help such men and make thinkers of them! The view appearing exactly the same from each end was proof enough for Mr. Wallace that the canal was level! See him at the Crown Hotel, on the Sunday—the day after the experiment—He says:—"I can't think what this ticking is; I've heard it all day long—just like a death-watch! there; don't you hear it?—at perfectly regular intervals—*tick, tick, tick!*" And then we all heard it.—Mr. Coulcher, Mr. Hampden, Mr. Wallace and the writer—"Tick, tick, tick, tick!" "It's the stove cracking!" says Mr. Coulcher. What does Mr. Wallace, the spiritualist, think about the *cracking stove* by this time? How could a winner of £500 sit all day brooding over his loss!

The reports of the experiment—made with two signals and the cross-hair of the telescope as a third—were accompanied with drawings of the views, by Mr. Carpenter and Dr. Coulcher, strange that the *un-attested* drawings of the doctor should have been fixed upon by the author of "Zetetic Astronomy," as suitable for the pages of his grand work, while those of his old pupil were ignored!

But a volume could be written showing by incontestible evidence, that the three signals were in a straight line, and that a curved surface

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

WILLIAM CARPENTER,
Baltimore, Maryland, U.S.A.,
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