

THE ZETETIC

A Monthly Journal of Cosmographical Science.

EDITED BY B. CHAS. BROUGH.

"HE WHO RESOLVES TO BE JUST AND YET WILL HEAR ONLY ONE SIDE, WILL BE UNJUST IN SPITE OF HIS RESOLUTION."—LOCKE.

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ONE HALFPENNY.

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ADDRESS TO THE READER.

IF any explanation were necessary for the appearance of *The Zetetic* in the ranks of journalism, it might be found in the fact that while almost every phase of scientific, political, and social problems has its own particular organ, and medium of communication, those who have been led to believe in the principles of Zeteticism have been hitherto totally unrepresented; and, owing to the partiality and intolerance of the press, frequently misrepresented.

But the growing interest with which this all-important question of the shape and mobility of Earth is being regarded, and the numbers that are daily espousing the cause which we advocate, seem, in themselves, a sufficient guarantee for the belief that the time cannot be far distant when public opinion will unanimously demand its speedy and final settlement. No one, who has, for a single moment, directed his attention to the subject, can fail to see its importance. Astronomy, Geology, Navigation, and all the arts and sciences which follow in their train, essentially depend upon a knowledge of the true figure and condition of our world. Zeteticism affirms that it is *not a Globe but a Plane—vast, irregular, and immoveable, "founded on*

the seas, and established in the floods;" that the celestial bodies are not worlds and mighty globes, but lights subordinate to, and created for the service of Earth; that there is but one material world in the universe—the one on which we live and have our being; that there is an inseparable connection between Theology and Science; and that order and simplicity are the chief characteristics of the works of God.

On the contrary, Newtonian Astronomy divests the Earth of its attribute of fixity, and conceives it as a rapidly-moving globe—possessing three separate and distinct motions, and influenced by other disturbing causes—a mere speck or atom amidst the endless congeries of suns, systems, and revolving worlds, which, from their very nature, become "ghostly from infinite." The following representation, given by a German philosophical poet, of the path of a mortal called by God (*who could not exist if this Newtonian theory were true*) to view the dimensions of his realms, fully describes this hypothetical doctrine:—"Without measures were the architraves, past number were the archways, beyond memory the gates. Within were stairs that scaled the eternities below; above was below—below was above, to the man stripped of gravitating body: depth was swallowed up in height insurmountable, height was swallowed up in depth unfathomable. Suddenly, as thus they rode from infinitude to infinitude—suddenly, as thus they tilted over abysmal worlds, a mighty cry arose,—that systems more mysterious, that worlds more billowy



—other heights and other depths—were coming, were nearing, were at hand—for end there is none, to the universe, and lo! also there is no beginning.” We read that the man sighed, and stopped, shuddered, and wept; that his spirit ached with this infinity. So we have universe after universe, system after system, in countless throngs, for ever succeeding one another in the endless realms of space. Grandeur, but without order; complication, mystery, and confusion! Reader! this is Newtonian Astronomy. Who but the most infatuated dreamer, who but the most bewildered enthusiast, could credit a theory like this? In ages past, various speculations were raised. Bubble after bubble was created, existed for a moment, and burst. Some sought for the philosopher’s stone, others for the charm that would drive away death and all the ills of life. Superstition produced many fancies, but never was dream so mad, so foolish, so self-arrogant as this! The persecutive spirit with which it was originally met, the mysteries attached by the ignorant to its founders in those dark epochs of the world’s history, served only to attract for it an attention, which otherwise it would never have gained. Infidelity eager for support took it up; men of ability, who found it close at hand, adopted it unquestioned. To-day it is the modern Diana which its votaries abjectly venerate. But, be it as it may, it will be our endeavour, to the best of our humble ability, to resist it.

In conclusion, we would ask our readers to consider the question well; to study, examine, and to test for themselves. It is not a problem of little importance—a problem to be left “for others to solve.” It is one which demands immediate and careful inquiry. It concerns equally the atheist, Christian, and man of science. And we would bid those who are preparing to take a part in the struggle to disregard the ridicule and abuse of the world. You have to stem the tide of prejudice and error; to check the progress of that torrent of infidelity which is now flooding the length and breadth of the land. Of this you may rest assured, that the time is rapidly approaching when your efforts will be

crowned with success, and when your labours, now disregarded, will receive their reward.

“Truth crush’d to earth, shall rise again,—
The eternal years of God’s are hers;
But Error, vanquished, writhes in pain,
And dies amid her worshippers.”

A FEW WORDS ABOUT THE SCIENTIFIC WAGER.*

In the month of January, 1870, the following challenge was published by Mr. J. Hampden:—“The undersigned is willing to deposit from £50 to £500, and defies all the philosophers, divines, and scientific professors in the United Kingdom to prove the rotundity and revolution of the world from Scripture, from reason, or from fact. He will acknowledge that he has forfeited his deposit if his opponent can exhibit, to the satisfaction of any intelligent referee, a convex railway, river, canal, or lake.—JOHN HAMPDEN.”

After some little delay, Mr. Alfred R. Wallace, a Fellow of the Royal Geographical Society, offered to comply with the requisite conditions, and to prove by ocular demonstration the convexity of a length (six miles) of inland water. An agreement was entered into by both parties; Mr. J. H. Walsh, editor of the *Field*, was chosen as referee for Mr. Wallace, and Mr. W. Carpenter for Mr. Hampden. At the suggestion of Mr. Wallace, that portion of the “Old Bedford,”† between Old Bedford Bridge and Welney Bridge—a distance of six miles—was selected as the place for observation. On the 16th February Mr. Wallace proposed the following experiment which was at once assented to by his opponent, who expressed his satisfaction with it, and his belief that “it could not fail to be thoroughly convincing one way or the other:”—

“The test I am going to use is very simple and conclusive. I have prepared half-a-dozen signal posts, each 6 feet long, and with red and black circles attached to them, so as to be distinctly seen at a long distance. I shall set these up a mile apart on the *water’s edge* and then look along them with a powerful telescope. If the water-line is straight and flat, the top of these poles will of course be straight and flat too; but if the earth and water has a curvature of 4000 *miles radius*, then the tops of the poles will be equally convex, and they will be seen *rising higher and higher to the middle point, and then sinking lower and lower to the furthest one.*”

On Monday, February 28th, Messrs. Wallace and Carpenter set out for the Bedford Canal, and on the following day the signal posts were duly set up. Subsequently they were found inconvenient, and Mr. Wallace expressed his opinion that “a good

* The above carefully prepared statement of facts is not intended to prejudice the minds of our readers, but simply to explain the criticisms, which may, at any future time, be made upon the experiments to which they refer.—Ed. *Zetetic*

† The “Old Bedford” is an artificial river or canal, some 20 miles in length, which passes in a straight line through that part of the Fens called the “Bedford Level.”

signal at each end, and one the same height in the centre, would answer every purpose." Accordingly "an oblong signal, 6ft. by 3ft. was placed on Old Bedford Bridge, its centre being 13ft. 4in. above the water. At three miles distance along the canal a staff was erected, having a red disc of wood 1ft. in diameter affixed thereto, the centre of which was also 13ft. 4in. above the water; and on Welney bridge, three miles further, a third signal was placed, reaching the top of the bridge, 13ft. 4in. likewise above the water. "But although three signals were erected, it must nevertheless be remembered that the telescope, being placed *above* the first, only exhibited the apparent position of *two*! On the centre signal staff there was a red disc already attached, which was allowed to remain 9ft. 4in. above the water, or 4ft. lower than the other. The observations were made by means of a large telescope (4 in. object glass), and also to and fro, according to agreement, by means of a level, by Stanley, Holborn, and were carried out from bridge to bridge the full six miles." Commenting upon the arrangements, the editor of the *Field* (March 5th, 1870) says:—

"The experiment, which is now in course of trial on the Bedford Level in Norfolk, is carried out by fixing three discs at equal distances (12 feet) from the surface of this level, one being at each end, and the third in the middle. According to the received theory, the middle disc ought to range 5 feet (in round numbers) above the level of the terminal discs; while Mr. Hampden risks his £500 on the assumption that the three will range in a straight line. We have satisfied ourselves by ocular inspection that the instruments and the locality are sufficiently well adapted to bring out a true issue; and we hope next week to lay before our readers the decision of the referees."

Previous to this, and while the experiments were being conducted, Mr. Walsh was compelled to return to London, and Mr. M. W. B. Coulcher, a local surgeon, was appointed in his stead. After the experimentation was concluded, this gentleman declared "on oath" that Mr. Wallace had demonstrated the convexity of the water, but as his co-referee, Mr. Carpenter, was of the opposite opinion, Mr. Walsh was appointed umpire, and on the 18th of March he decided that, "taking into consideration the theory of the earth's rotundity," Mr. Wallace was entitled to the stakes, which were duly handed over to that gentleman on the 1st of April, 1870.

THE "BEDFORD LEVEL" EXPERIMENTS.

To Alfred Russell Wallace, Esq., Fellow of the Royal Geographical Society, &c.

SIR—Although some two years have now elapsed since your celebrated experimentation on the "Old Bedford" Canal attracted so much attention in the scientific world; although Mr. WALSH as an intelligent "referee" awarded you, on the 1st of April,

1870, the sum of £1000 for having proved to his satisfaction "the curvature to and fro" of the "Bedford Level River," between *Welney Bridge and Welche's Dam, in Cambridge*, and Dr. Coulcher as an "umpire" declared "on oath" that by the same experiment, the convexity of water between *Welney Bridge and the "Old Bedford" Bridge, in Norfolk*, had been proved entirely to his satisfaction; although Mr. Westlake, in his endeavours to justify the award, mathematically demonstrated that Euclid was a blunderer; yet, strange to say, Zeteticism progresses. The *ipse dixit* of an umpire is after all merely the expression of an individual opinion; and it is only by a careful and dispassionate review of the experiments themselves, and of the appearances they presented, that their true bearing on the question of the shape of standing water—and therefore of the earth—can be ascertained. The importance of this question, and the courage you have invariably exhibited in your efforts to prevent the progress of Zetetic opinions, induce me to express a hope that you will not reject an opportunity of discussing it, and therefore of dispelling the cloud which has hitherto rested over your experimentation. The questions to be decided might thus be expressed:—What were the appearances presented? Were they consistent with a horizontal, or inconsistent with a convex, surface of the water? or *vice versa*.

I say, "consistent with a horizontal surface of the water;" because, although if it can be shown that they were inconsistent with the opposite supposition, it follows that the decision was faulty, and the question still undecided, yet it is necessary, from the position I take, that I should be prepared to demonstrate the former proposition; and this I will endeavour to do.

If we erect on a horizontal surface, three or more signals, of equal lengths, and at equal distances apart, and place a telescope, accurately levelled, near to the first, we shall find the tops of the three to range in a perfectly straight line. So in the "Old Bedford" experiments; if the conditions, *previously* agreed on, had been carried out, and the surface of the water was flat, "the tops of the poles would have been level and flat also." Of this there can be no doubt. But this was not done. The signal which should have been placed near the telescope was *omitted*. Hence the appearances presented were necessarily changed; the telescopic view was altered; and we have the signals appearing lower and lower, the nearer apparently higher than the one more remote. But methinks I hear you say, "place three objects at equal distances apart in a true straight line (three oranges on the parapet of Waterloo Bridge, for instance), and then with the telescope at either end, in place of one object, make the *centre* object considerably raised above the distant one." Probably you may not do

so, for the simple reason that the distance referred to is inappreciable, and that they rest immediately upon a continuous surface. Make the conditions analagous, and the appearances referred to are presented. Hence, then, I fail to see the slightest objection to the belief that the surface of standing water is perfectly horizontal.

And here I am constrained to conclude without alluding as I intended to the inconsistency between the appearance referred to and the supposition that the surface of the Bedford Canal is an arc of a circle of the accredited dimensions.

B. CHAS. BROUGH.

PROOFS THAT EARTH IS A PLANE.

No. 1.

The marine horizon, from whatever position it is viewed, always appears to be, and is, in fact, a perfectly level line, and since this appearance is the same in all parts of the world, its surface must be level; and therefore the Earth is a Plane.

This may be proved to be the case, by erecting at a suitable elevation on the sea shore, a duly-levelled board, or a string—at right angles to a plumb-line—tightly stretched between two vertical poles. On looking towards the sea, the horizontal line for a distance of 20 miles may be easily observed, and throughout its entire length it will be found to coincide with the straight-edge, or string: but if the earth were a globe, the horizontal line would form an arc of twenty miles in length, curvating both ways from the centre, at the rate of eight inches, multiplied by the square of the distance. Hence the horizontal line at either end of the distance ought to be depressed some 66 feet below the horizon in the centre. But as no such appearance is ever presented, it necessarily follows that the earth cannot be a globe, or other than a plane. In our next we propose to examine the objections urged against the above argument.

THE THEORIES OF NEWTON.

When the claims of any man to infallibility are set up and the *prestige* of his name constantly made use of by those who have adopted his views, it is not inappropriate to enquire whether the whole of his scientific opinions have been accepted. Newton founded his philosophy on definitions, most, if not all, of which have been disputed by those who hold the same general notions as himself. He asserted that each ray of light consists of seven primary colours, but it has since been demonstrated that it consists of two only, and "scientific" men are sceptical as to the existence of two. His knowledge of the sun's distance was of the most hazy description; "it didn't matter whether it was 28

or 54 millions of miles, for either would do well!" "it wasn't worth while to alter his figures." His opinion of the *exact* shape of the earth is different from that of his followers of the present day. He believed that comets existed for the purpose of supplying the sun with heat, and this belief he persistently clung to; but what Newtonian astronomer believes it now? He predicted that the comet of 1680 would fall into the sun and render its heat so great that the earth would inevitably be consumed. He attempted to account for the orbital motion of the earth on the supposition that "the Creator threw the planets into space, and that they would have moved on for ever by such propulsion, in a straight line, but for the attraction of the sun, which force, acting in another direction, prevented the planet from moving in either, and so produced a curvilinear path." Do astronomers believe this now-a-days? He invented a chronological system which is opposed to that of everyone else. His opinion of the Divine authority was of the most irreverent nature. He openly disavowed his belief in the epistles of St. John and St. Paul, and in other parts of the Bible. As regards the former, he suggested that verses had been cut out, others mutilated or changed, and many added thereto. At his death, many of his MSS. were found to be of such an infidel description, that they were suppressed as being unfit for publication. Their names are the following:—*Church History—Prophetic Style—Temple of Solomon—The Sanctuary—Corruptions of Scripture—Paradoxical questions concerning Athanasius—Working of the Mystery of Iniquity—Theology of the Heathen—Account of the Contest between the Hosts of Heaven and the Transgressors of the Covenant—History of the Prophecies.* D'Holbach, the atheist, speaks of the "childishness" of some of his theological views, but openly praises him for others. In an early portion of his life he was deranged for a year, and frequently issued the most absurd orders, such as asking his servants to carry out a *red-hot stove*! His biographer, M. Biot, states, that a misfortune at the age of forty-five brought on madness, from which he never recovered. The misfortune consisted of the destruction of a number of his papers by his dog Diamond, which knocked down a lighted candle amongst them. This dog could scarcely have been a "diamond of the first water," or instead of putting fire into Newtonian philosophy, he would have attempted to extinguish it. But it would be an endless task to adduce all his scientific failings; and we conclude with this remark, that the conduct of his followers in relying on his name is essentially short-sighted. His claims to *TRUE* greatness depend upon the correctness of his views; and the putting him forward as an infallible being is simply a species of begging the question. Every

system has its own followers. Alchemy can display a long roll of great names, and amongst them stands that of Newton himself. Atheism can point to men of undoubted ability and erudition; and so can every speculative opinion. That the founder of the Newtonian philosophy was a great man, in the ordinary sense of the word, is admitted on all hands; but in many of his views he was mistaken, and if in some, why not in others? Let us accord him the praise which belongs to him: but it should be remembered, that but for him Atheism would probably have become a thing of the past. He should not be disfigured by pretensions to which no man can aspire. His epitaph would best describe him as

"A vision throned as a solemn mark
Of the frailty of HUMAN greatness."

THE ZETETIC.

JULY, 1872.

The Office of THE ZETETIC is at Castle Terrace, Stafford, where all Communications should be addressed.

TO READERS AND CORRESPONDENTS.

In our next issue will be commenced a series of articles on "Zetetic Astronomy—Its Origin and Progress," by its founder "Parallax."

C.D., A WELL-WISHER, and others, are of opinion that THE ZETETIC should be issued fortnightly, instead of, as at present, on the first of each month.

JOHN TAYLOR, F.M.S. (Shrewsbury)—We have been favoured with a courteous communication from this gentleman, who is good enough to inform us that we are "a rank and vile impostor," "foul ignoramus," "an arrant and boasting swaggerer," "a sneering upstart," and "a candidate for the Old Bailey," &c., &c. These polite expressions are followed by a somewhat vague threat of personal violence, and a statement to "root" us out, "tooth and branch." We thank this *soi-disant* gentleman by birth, education, and position, for his complimentary letter, and beg of him to be merciful towards us. We cannot call Mr. Taylor an "upstart," because he is so low as to render any other idea than that of his having journeyed backwards quite inappropriate. But as he is said to be thoroughly well versed in "impudence," and "boasting," &c., we cannot express our alarm at the rest of his *ex cathedra* denunciation. The only favour we would ask of Mr. T. is, that he will express his future epistles (if he will compel us to receive them, by sending from various localities, and addressed in handwriting other than his own) in a more grammatical and intelligible form, and that when next he attempts the production of an ugly picture he will stand in some other position than in front of his Venetian mirror.

EPITOME OF NEWS.

Barnum is after the earth's rotundity! We hope he may get it.

A drunken man, on being told the world was round, said that it was probably the cause of his rolling so.

The elevation of the Astronomer-Royal to the dignity of K.C.B. is officially notified in the *London Gazette*.

It now appears certain that the information received relative to the safety of Dr. Livingstone, the great African explorer, is tolerably authentic.

The *Wellington Journal* has the following:—"Our Shropshire savans are getting exercised in their minds as to the rotundity of the earth. Too much importance, we fear, has been attached to the arguments adduced by the non-revolving planist, Mr. Brough, of Stafford."

Three "new" planets have been recently discovered. They belong to the Asteroids, a group which contains some 116 of these "miniature bodies." These are the "broken bits" of a world that is said to have "burst." Our astronomical friends will probably forgive us when we say that it must have been a tolerably large one.

In reply to certain wicked persons who object to the "nothings" which "disinterested" astronomers obtain, the three following resolutions have been passed by the occupants of Flamstead House:—1. Resolved that the earth is the Lord's and the fullness thereof. 2. Resolved that the Lord has given His inheritance unto the saints. 3. Resolved, that we are the saints.

Eddowes's Shrewsbury and Salopian Journal, in a favourable report of a recent debate, informs its readers that we are an "attorney's clerk." We are indebted to our contemporary for the compliment it pays us although it is quite undeserved. The statement would create some surprise in our mind did we not know that it was made at the suggestion, and on the inspiration, of a *ci-devant* school-usher, whose statements are always as destitute of truth as they are of even the commonest politeness.

Letters to the Editor.

WHAT IS THE FORM OF THE EARTH?

SIR,—In this enlightened nineteenth century, such a question as "What is the form of the Earth?" may well arrest the attention of every one; not only of the learned but also of the illiterate man, who depends upon his more educated brother for the solution of problems which are too difficult for his untutored mind. But what if the former be deceived? What if owing to the false representations of "those who know best" (!) he is led to believe that which is untrue? And what if the point upon which he is misled be one of vital importance for him to know? Space would forbid me here to enlarge upon the duty which every man owes to himself to be fully determined in his own mind as to the above question.

Ninety-nine people out of a hundred would give the same answer to the interrogation; and that same answer would be to the effect that "the earth is a globe which revolves round the sun." The ninety-nine who makes this reply would do it because they "KNOW it is the case." (!!!) "How do they know it?" Let this question be put to them, and they will bestow upon you a withering smile of pity at what they conceive to be an imbecility of mind on your part, and answer you in something like the following style: "It always has been so. We learnt it at school. Clever men say so; and look how astronomers can foretell eclipses;" and then lose their temper at "the very idea" of the globular theory being incorrect, and a haughty "there can't be a doubt about it," will close all they have to say on the subject. Now, if the ears of these ninety-nine could only be gained, they would be shewn in an irresistible manner that the philosophy which would speak of a round and revolving world was a false philosophy. For the planar system is fast gaining ground. Men begin to turn again to the old theory which was taught before the time of Copernicus, when astronomers' calculations were as correct as at the present day; thus proving clearly that astronomy does not depend upon any theory of the shape of the earth.

With false suppositions to start with, what fanciful ideas suggest themselves to the mind! Alas! for the plurality of worlds! Alas! for many other "learned" ideas in relation to the works of God which doubtless were "foolishness with Him." The Zetetic school would fain check the infidel tendencies of science if improperly applied to the

works of the Almighty. It is doing this, and from the many publications anyone may gather the true philosophy respecting the form of the Earth. The latter is shown to be a plane, and that it "shall never be moved;" that it is "stretched out upon the waters;" that it is "standing in and out of the waters;" that the centre of this vast plane is the magnetic or North Pole, towards which the magnetic needle always points *in a straight line*; and that it is surrounded by a barrier of ice which no navigator has hitherto been able to approach.

But the system will be fully explained in your paper, and I trust that many will flock to the standard of the planists. For my own part, it has ever been my desire, during the past eighteen months, in all my writings on the subject, not only to bring the public to *think* on the matter, but to induce the philosophical societies to crush (if it be possible) this flagrant scandal on their most treasured science.

Yours, &c.,

EDWARD H. RICHES, LL.D., F.R.A.S.

EXPERIMENT *versus* THEORY.

DEAR SIR,—It is needless for me to assure you of the intense interest and satisfaction with which I regard your determination more openly to take up the work I was compelled to abandon two years ago. It is nothing else than a religious duty for every truly Christian man to uphold you in the strife in which you are engaged. I do not think you will meet with the disgraceful opposition which attended my efforts when first I attempted to establish a monthly periodical in refutation of the Newtonian theory. But, of course, you are prepared to receive your full share of ridicule and abuse for daring to maintain the teachings of Scripture against man's poor puny reason. Yet it is a glorious work, and one on which we can ask God's especial favour, which our opponents dare not do! I will not now intrude on your space further than by saying to those who would gladly see you retire at the end of the first three months, that they may most effectually accomplish their purpose, and cover us all with the most insupportable confusion, by succeeding in demonstrating to us, or any honest men they choose to select, a portion of water having the prescribed curvature of eight inches per mile multiplied by the square of the distance. The entire Newtonian theory depends upon this. A five-pound note will pay for it, and six hours suffice to place this question beyond dispute. This is the one single experiment on which hangs the whole of their boasted theory. Let them understand clearly what they have to do—To choose any ten, twenty, or fifty miles of water, and from the centre to show a continuous incline and decline such as can be shown on every globular body. When they can do this to the satisfaction of any honest man, I, for one, will certainly promise never to put a hat on my head, or shoes on my feet, again, as long as I live.—Yours, &c.,

JOHN HAMPDEN.

ASTRONOMY OR THE BIBLE?

SIR,—If error is opposed to truth, if darkness is opposed to light, then I will show that, in spirit and in letter, modern astronomy and the Bible are opposed to each other. The infidel knows this as a fact, and plumes himself upon

it. But it is logically maintained that the truths of science, if pursued upon purely zetetic principles, and the truths of the Bible do not controvert each other, but, side by side, like telegraph wires, they run in parallel lines. But it is asked by some, "What has astronomy to do with the Bible?" This extraordinary question is answered thus: Inasmuch as astronomy treats of God's creation, by so much the Bible claims the right to criticise astronomical teaching. The Book of Genesis states that the earth was created in the "deep." Psalm xxiv says, that it was "founded upon the seas and established upon the floods." Psalm civ. declares that it "should not be removed for ever." And the second epistle of Peter, c. iii., v. 5. speaks of it as "standing out of the water and in the water." On the contrary, Newtonian astronomy conceives the earth a globe, and hurls it out into infinite space, there to travel round the sun at a rate of over a thousand miles a minute! Now, since these two classes of ideas are contradictory of each other, it is evident they cannot both be true. And Satan uses these conflicting statements to damage simple souls; to agitate their minds; to diminish their comfort, and to shake if not destroy, their accustomed confidence in the Word of God. And here I cannot help deeply regretting and expressing surprise that really pious and intelligent Christians should be so mistaken as to countenance a theory—a declared ignorance of which is made the subject of attack upon the personal divinity of their Lord himself. To show that this is so, I give a quotation, from a lecture delivered in the Masonic Hall, Birmingham (and reported in the *Daily Gazette*, May 2nd, 1871). The lecturer says:—"A being so necessarily unacquainted with the laws of Nature as Christ was, could not have been the Lord of Nature; and one that did not even know that the earth was a globe could scarcely have been its Omnipotent Creator." Such sentiments as these, to say the least of them, shock the sensibilities of that divine nature which every true Christian possesses, Psalm cxxxvi., v. 6, declares that, "the Lord stretched out the earth above the waters." And this language is inconsistent with the notion of the earth being a revolving globe, but it is quite consistent with the idea of it being a motionless plane. Which then, gentle reader, will you decide for—Astronomy or the Bible?—Yours, &c.

June 10th, 1872.

E. P.

A VOICE FROM THE PAST!

SIR,—Understanding from one of our principal spiritual intelligences or "mediums," commissioned to report mundane proceedings to departed spirits, that it is your intention to promulgate the theory of a motionless and planar earth,—of which earth, be it observed, I am no longer a denizen—in a new monthly periodical, under the above title, I should like to know upon what tack you intend steering to arrive safely at the port for which you have taken your departure.

Since going to Davy Jones's Locker there appears to have been such a precious rumpus kicking up on earth, that it brings to my ghostly recollection the racket on deck of a squally night, caused by all hands being piped up to shorten

sail, or close-reef topsails, so that I cannot rest quietly in the hammock in which my mortal remains were committed to the deep.

You must know, by way of premise, that I served his Majesty, King William the Fourth, of glorious and pious memory, for a period of more than 35 years, in all parts of the world, in the capacity of Navigation Master of the Royal Navy, on board the *Sevanis*, *Racehorse*, *Echo*, *Express*, *Curacao*, and *Sea-Gull*, and other craft, a post for which I could not have been qualified unless thoroughly versed in the science of nautical astronomy, as well as in practical navigation and seamanship; and therefore, during my long period of service, it was inevitable that I should acquire a vast amount of experience in every branch connected with my profession, as also a knowledge of the causes of various terrestrial and celestial phenomena—such as tides, moon's changes, evolutions of heavenly bodies, &c., &c., &c. At first I never for a moment entertained a doubt of the motion of the earth, for the simple reason of its being taken for granted without any critical examination; but as I became acquainted with many things that an orbital revolution round the sun could not possibly account for, I became so sceptical as to the truth of the Copernican theory, that at last I arrived at the conclusion, from which there was no escape, that the said orbital revolution was a complete myth, which I shall illustrate in a future paper, and that the earth, whether a sphere or a plane, was the largest body in creation; that the sun, moon, and stars were all subservient to its existence, created exclusively for the service of the earth by the great Architect of the Universe; that the sun, instead of being 95 millions of miles distant, was not many thousand miles from us; and that, in short, the Newtonian theory was utterly false and untenable, as I shall endeavour to prove in the sequel.

It would be quite useless for me to endeavour to give you any idea of my *present* impressions of modern scientific subjects, since it is not permitted to disembodied spirits to unfold any mysteries to mortals, the knowledge of which, as spirits, they may have become possessed since their departure from earth. But it is not prohibited to state the impressions which were produced when in the body; and I therefore purpose, occasionally, to give you a few of my nautical experiences, as they occurred in my earthly career as a Master of the Royal Navy of Great Britain. But as the "watch" is now being summoned for duties which can neither be divulged to mortals, nor postponed, I am compelled to close this preliminary yarn, and to sign myself

THE GHOST OF TOM HEDGECOCK,

Hades.

Late Master R.N.

HISTORY OF COSMOGRAPHY.

The subject of Cosmography, for obvious reasons, is one that has naturally attracted the attention of man from the earliest ages, and it may possibly interest some of our readers to trace out a few of the speculations which have arisen as to the shape and mobility of Earth.

The ancients, it may be asserted with no degree of inaccuracy, universally adopted the planar system. In the Scriptural writings, whenever and wherever allusion is made to the earth, it is always spoken of as a perfectly motionless plane, and this remark applies equally to the New, as well as the Old, Testament. The Mosaic cosmogrophy is correct only on such a supposition; and the numerous instances of miraculous interference with the laws of nature are entirely dependent upon the planar system. Josephus ascribes to Seth and his posterity a considerable degree of cosmographical and astronomical knowledge. And it is evident that the great length of life before the flood was eminently conducive to the progress of cosmography; for which purpose, says the Jewish historian, that longevity was bestowed upon them. The inspired David, Solomon—the wisest of men, the Apostles, and the majority of the Christian Fathers such as Lactantius, St. Augustine, &c., together with such men as Homer and Herodotus, adopted the idea of a planar earth. Pythagoras, a Greek philosopher was the first to start, some 500 years before the birth of Christ, in a crude form, the globular theory. Aristarchus of Samos, Plato, Archimedes, and Philolaus are said to have adopted and improved upon it; but other notions were started in opposition and it soon became disregarded. The idea of a cylinder was suggested, and espoused by Anaximander, Leucippus, and others. Ptolemy originated the idea of a fixed globular body. He made the heavenly bodies revolve round the earth, and his system was adhered to until the time of Copernicus, who boldly asserted that the earth is one of the planets which revolve round the sun. He was followed by Tycho Brahé, a Danish nobleman, who to a certain extent revived the Ptolemaic system, but conceived the sun, which itself moved round the earth, as the centre of the planetary system. Galileo, Kepler, Laplace, Newton, and others, improved the Copernican theory. At the commencement of the eighteenth century, the Cassini attempted to prove that the earth was oblong. Bernouilli and De Mairan adopted similar views. These supported their opinions by geometrical demonstrations, and several measurements of degrees made both at the time and since, have favoured them. The Tychonean system has again been set up, but has received but little attention. The Copernican theory is fast tottering to the ground, and the old planar system, which, during the six thousand years of the world's history has never been discarded, is again being considered, and bids fair to become the accepted theory.

NEWTONIAN ASTRONOMY.

MODE OF COMPUTATION.

(From *Modern Science and the Bible*, published by R. Banks.)

By a true knowledge of the sun's distance from the earth, we might acquire the supposed dimensions of the solar system. But who can remain satisfied with the mode by which this angle of parallax is obtained. The ease with which such measurements are received by different astronomers shows the credulity of the human mind upon those things which are agreeable to preconceived hypothesis. I have given this subject much consideration, and among the most eminent authorities can find nothing like satisfaction. If you will give yourself the trouble to make a fair examination of the case, I think your doubts will increase in exact proportion to the extent or depth of your inquiries. The mode of obtaining the angle of parallax must be liable to continual variations from known and unknown causes; and this is agreeable to fact and experiment. The process will not bear a strict examination. It is exposed to every puff of wind, and to every change in the atmosphere, and sometimes made dependant upon the distance of the eye from the glass of the telescope. You will please to observe that the measurement of this angle requires great delicacy, and very few persons can or will undertake it. A single second makes a difference of about twelve million miles. You will observe likewise the twofold motion of the earth, and according to Dr. Chalmers, it is moving at the inconceivable velocity of a million and a half miles a day. You recollect also that the body upon which the angle of parallax terminates is exposed to a similar motion. Add to these difficulties the changes in the atmosphere, of light and heat, and refraction and aberration, and then endeavour to persuade yourself, if possible, that such an angle can be taken with anything like tolerable accuracy. If we, however, appeal to fact and experiment, the cause is at once decided. Instead of being demonstrated as certain and infallible, it is ever changing, according to the caprice or skill of different astronomers. Such as been the state of the sun's paral-

lax—from 9 seconds to 32, or from 26 millions of miles to 95. From such opposite extremes the general result is found. We have no means by which we can rectify these mistakes; and they all tend to confute the random assertions that these great calculations are demonstrable by the powers of a most rigid and infallible geometry.

(To be continued in our next.)

THE ACCREDITED RATE OF CURVATURE.

"If a line which crosses the plumb-line at right angles be continued for any considerable length it will rise above the earth's surface (the earth being globular), and this rising will be as the square of the distance to which the said right line is produced; that is to say, it is raised 8 inches, very nearly, above the earth's surface at 1 mile distance; four times as much, or 32 inches, at the distance of 2 miles; nine times as much, or 72 inches, at the distance of 3 miles, &c., &c."

"The preceding remarks suppose the visual ray to be a straight line, whereas on account of the unequal densities of the air at different distances from the earth, the rays of light are incurvated by refraction. The effect of this is to lessen the difference between the true and apparent levels, but in such an extremely variable and uncertain manner that if any constant or fixed allowance is made for it in formula or tables, it will often lead to a greater error than what it was intended to obviate. For though the refraction may at a mean compensate for about a seventh of the curvature of the earth, it sometimes exceeds a fifth, and at other times does not amount to a fifteenth. We have therefore made no allowance for refraction in the foregoing formulae."—*Encyclopædia Britannica*, article, "Levelling;" see also "*Encyclopædia Londinensis*" p. 695, vol. 12; and "*Chambers' Mathematical Tables*," p. 36; &c., &c.

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