

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

"THE EARTH'S" OBSERVATORY.

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

"Lady Blount wishes us to believe this earth of ours is 'an extended plane, on which men and sea are securely kept by great and permanent mountains of ice.' The Copernican theory has, however, lasted 400 years at least."—*Manchester Evening Chronicle.*

THE HELIACAL RISING OF SIRIUS.

In Reply to M.C. and others, in the "British Mechanic & World of Science."

One thousand four hundred and sixty Julian years are in excess of 1,460 true tropical years by 11 days; but 1,460 sidereal years are in excess of 1,460 true tropical years by nearly 20 days. Therefore, at the end of the Sothic period, Sirius would rise heliacally some 8 or 9 days late, if counted by the Julian year; but some 20 days late as reckoned by the actual seasons. The ninth part of 1,460 is 162. [Mr. Dimpleby may possibly have heard of these figures and thrown them into some confused statement.]

When we are dealing with ancient practices, the question is: not "what should we have done with our present knowledge?" Not even "what we might naturally expect them to have done?" But, "what, as a matter of actual fact, *they did do?*"

The heliacal rising of Sirius takes place for any given country once a year. But the year so given is not a solar tropical year, but a sidereal year; as compared with the tropical year it would throw the beginning of a year later by 1 day in about 70 years. It would not give a sidereal year exactly at any time, for the effect of precession would be to shift the declination of the star slowly, and so to alter the position of its rising point.

But this variation would correct itself in a precessional period of 25,880 years! at the end of which the heliacal rising of Sirius would take place on the same day of the tropical year as at the beginning of the period.

The Egyptians, however, used a year of 365 days— $\frac{1}{4}$ -day short of a Julian year; so that in 72 years, or thereabouts, the heliacal rising of Sirius would fall $18 + 1 = 19$ days later in the Egyptian common year.

The inundation of the Nile fell, of course, on the average, at the return of the same epoch in the solar tropical year.

The Egyptian common or "vague" year, retreated backwards through the tropical year, one day in 4 years, completing its revolution in 1460 Julian, or 1461 "vague" years.

The above information I regard as being absolutely reliable. It has been handed to me from one of the most reliable authorities in the world, and comes from Greenwich Observatory.

"LIVE FOR JESUS."

By an Invalid.

Live for Jesus—in thy youth,
Give to God thy life's best years,
It will save you many sorrows,
Many doubts, and many fears.

Live for Jesus—through the years,
As they meet you one by one,
You will need His grace and wisdom,
If you would life's race well run.

Live for Jesus—He who claims
All your service, all your love ;

For his glory let Him use you,
'Tis for thee He pleads above.

Live for Jesus—when the shades
Of the eventide appear,
Let His light shine o'er your pathway,
Let Him dry each falling tear.

Live for Jesus—for He paid
All our debt upon the cross,
Redeeming us with precious blood,
Not one soul need suffer loss.

WILLIAM J. YOUNG.
(*Bedridden*).

Composed during quiet moments.

Extract from page 3 of "CHEMISTRY IN DAILY LIFE :"
By Dr. Kassar-Cohn, Professor in the University of Königsberg ;
translated by M. M. Pattison Muir, M.A.,
Fellow of Gonville and Caius College, Cambridge.

"If we consider a little, we shall find many other well established facts in the domain of natural science which no one doubts, although these facts cannot be demonstrated directly. For instance, everyone admits that the shape of the earth is that of a sphere, although no proof of this has yet been found that can be grasped without much difficulty by lay minds."

In a further note he adds : "The fact that at sea the tops of the masts of an approaching vessel are the first parts of her to be seen, is often adduced as the simplest proof of the curvature of the earth's surface caused by the spherical form of the earth. Although the Greeks and Romans often observed the phenomenon in question, yet they did not draw the conclusion that the earth is spherical ; but among them were many clear-headed men. The alleged proof is quite inconclusive of itself, and it came to the front only after the spherical form of the earth had been established on the basis of strictly scientific investigations."

With deep gratitude I beg to express my sincere thanks to each one of my friends who have been so kind as to encourage me by sending letters of congratulation regarding my photograph of the Old Bedford Canal. I should be proud to publish them all, but it would be impossible to print more than the following few extracts.

Colve Stone, N.E. June 20th, 1904.

Dear Lady Blount,—You have indeed achieved a triumph with the photo, at the Old Bedford Canal. Proof positive is at all times acceptable to the unprejudiced mind—though the prejudiced will no doubt read the account of the experiment with a deep drawn sigh. Proof positive is the Truth, and that must in the end prevail. Your persistent efforts in this cause (now crowned with unexampled success) are worthy of a public reward ; and it also adds a further lustre to our ancient British motto : "Y Gwir yn erbyn y Byd" (The Truth before the world).

Yours faithfully, MAR THEOPHILUS.

(Mt. Rev. Dr. Stevens) Archbishop of Caerleon ; Caertria, etc.
and Chief Patriarch Free Prot. Ep. Ch. of Eng.

H. speaks of your photograph as "a notable piece of work," and I agree with him that it is an unparalleled achievement.—B.

What will the scientists say to your photograph? Will it not put them in a fix?—E. H.

York Mansions. 31 May.

Dear Lady Blount,—What a *splendid* number of *The Earth* (Nos 47 & 48). Very valuable. I should like one of the photos. You have performed a work which is of *national*, not to say world-wide value.—E. W. BULLINGER, D.D.

Dear Lady Blount,—Accept my thanks for your full explanation of the photos, both of which will (figuratively) be wrapped up in lavender for future reference. Such business satisfies me more than any food, raiment, or works of art. Just imagine what effect it would have had on Parallax, Hampden, Carpenter, and others of the *old brigade* to see such a demonstration. One thing we may be sure of is, that it would have given them intense satisfaction sooner than they *will* have it. *It is a glorious victory!*—GREVILLE.

Dr. Alabone is very pleased to hear you were so successful in taking the photo of Bedford Canal.

LETTERS.

Dear Madam,—I am much interested in your Bedford Canal experiments. The curvature of the earth, as you say, should be 24 feet. Now in Chambers' Mathematical Tables, under the heading "Height of apparent above true level," the *correction for refraction* is given for the distance of six miles as 23 ft. 11 in., which accounts for your observance of the light at a distance of six miles! Can you kindly explain this? And oblige

Yours very truly, PHILLIP P. BROWN.

[They should first prove that there is any refraction over a *level canal* before they talk of the amount of "correction" required for it. Nature does not need any correction from men.—Ed.]

Dear Lady Blount,—In your last issue of *The Earth*, and from your remarks to some of my friends, you evidently appear to think that Mr. Middleton's ideas respecting the positions of the continents of land is correct. Now may I ask you what authority you have for your belief. Have Mr. Middleton's plans been printed in any other paper or papers but *The Earth*, and if so, will you please give me the names and dates of such papers. Will you also kindly tell me if any geographical scientists have accepted Mr. Middleton's ideas as being possible? The Zetetics I have met say that distances increase south of the equator, —I refer to those who believe in your own theory, regarding which, by the way, I am, since your last lecture, at a loss what to think. I must own that I am shaken somewhat in my former belief in "the whirling globe"! In fact it never struck me that the globe theory could be wrong, before I knew you.

L. E. D.

From CALDWELL HARPER, to the Ed. of *The Earth*. June 9, 1904.

Dear Madam,—Thanks for *Earth* (Nos. 47-48). The diagram on p. 379, showing that “the true area of the sun may be found in the *area of vertical solar rays*,” is quite logical, but it presupposes that the earth is flat. Let us therefore test this presupposition by seeing what it logically leads to. The writer finds the sun is 32 miles, or 50 kilometres, across. Its apparent diameter is 32 min. There are 21,600 min. in a circle; 32 is one 375th of 21,600; that is, one 675th of a circle with spectator as centre, and radius reaching the sun is 50 km. Therefore the whole circle is 675 times 50 km., or 33,750 km. Therefore its radius is 5,370 km.; that is, the sun is 5,370 km. above the earth. Therefore as it is 23 degrees above the horizon of the Polar circle at noon, when it is vertical over the equator, as on 21st March, the distance from the Polar Circle to the equator is $5,373 \times \cotangent\ 23\ deg. = 5,370 \times 23\ deg. = 12,350$ km. But ordinary maps, tested by thousands of journeys, show it to be only about 7,500 km. Therefore the premises of the argument are wrong, and the earth is not a plane.

Also the sun's distance from an observer at the *polar circle* is

$$\sqrt{12,350^2 + 5,370^2} = \sqrt{152,500,000 + 28,800,000} = \sqrt{181,300,000} = 13,500\text{ km.}$$

$2\frac{1}{2}$ times its distance at the equator. Therefore its *apparent diameter* should be $2\frac{1}{2}$ times less, or 13 min. (The Zetetic theory that self-luminous bodies do not follow the laws of perspective is an assumption contradicted by ordinary observation of bonfires, lamp-flames, etc.) But it is 32 min. Therefore, again, the premises are wrong.

REPLY to the above from the Author of the pamphlet in question—see the “Mutual Relations of the Sun and Earth,” by Dr. ROBERTSON.

The writer of the above totally misapprehends the theory “that the actual size of the sun corresponds with the geographical area of vertical solar rays.” That theory has no direct relation or reference either to the figure of the earth or to the distance of the sun, but is based on two elementary axioms of Optics.—1st: that the rays of light given out by any self-luminous body proceed in straight lines in every direction, from every part of the luminous surface; and 2nd: that on any illuminated surface the shadow of any opaque object is always projected away from the light.

BEDFORD LEVEL EXPERIMENT.—“The outlines of the flags were plainly seen.” How could that be, if they were one behind another and all at the same height above a *level* canal. (a)

Some globularists should have been secured to witness the experiments. Was Mr. Clifton a globularist? (b)

CALDWELL HARPER.

(a) It would be possible to see all the flags along the Bedford Canal, although in a line and at the same height, if the telescope be placed a little at one side—just as you can see a long row of lamp posts on the opposite side of the street. If you want to prove the earth not a plane, you should prove that water is not level.

(b) Yes. See his letter in this issue.—Ed.

THE EARTH'S OBSERVATORY.

REPLY to L. E. D.—In reply to the above letter: I believe that Mr. Middleton is on the right track regarding the continents of the earth. And that they are situated upon the waters of the great deep differently to what is generally supposed and taught in our modern schools by professors, is a conclusion I have long come to. I do *not* believe that navigators err very much, if at all, in their knowledge of the distances they travel south of the equator; and I have no reason for thinking that they misrepresent distances. They seem to be accurate enough in northern latitudes, so why should we doubt their power to measure distances in southern seas? Certainly I do *not* think it possible that they can travel miles and miles further than they think they do. And it is equally impossible that hundreds of thousands of navigators wilfully and continually hold together to deceive us regarding distances south of the equator. Therefore, I came to the conclusion that the great continents of land must be differently situated upon the waters to account for southern latitudes from our standpoint.

Mr. E. E. Middleton came to this conclusion many years ago, and he published his own ideas in his own pamphlets. His plans have not appeared in any other paper, save *The Earth*. Nor has any scientist or non-scientist ever spoken to me about them. I have produced them entirely by the leadings of my own judgment, because I thought them a step in the right direction, and to say the least, *very* suggestive. I regard the one in this issue as superior to any previous production, because it gives longitudes and distances more satisfactorily. But longitude from Greenwich *only*, if it be proved a fact, would certainly be a veritable blow at the globe!

Mr. Maurice Graham writes: "Your notice was included in the album presented to H. R. H. the Prince of Wales, and graciously accepted by him. Believing that you would like to know this, I am writing to acquaint you with the fact."

I trust that you will not think it empty flattery when I say that I believe you have been *set apart* for this special work, and that the Lord WILL prosper it in your hands; my own experience has been among working men, but when you get an honest thinking workman he does not accept one half the modern scientists say, and with a few practical working points he soon begins to doubt the globe theory. With sincere Christian wishes for your safety and guidance,
I remain, yours sincerely, E.

I must congratulate you on your last Nos. (47 & 48), not only because of the excellence of your articles, but also on account of the great practical work which has been done by you and those who kindly assisted you at the Bedford Level. This is what we want. One ounce of fact is worth a ton of theory, and the experiments you have carried out with modern appliances cannot fail to impress the general public that the present teaching is all awry.
V. A. W.

Accounts of Lectures, &c., given by the Ed. at various places, are held over for a future issue.

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