

From O. Heaviside WORM.
To Prof. Bjerknes, Bergen.

Homefield, Torquay, England.
Private. 8/3/20.

Dear Bjerknes, I am not dead yet, tho I have been through many dangers since
I saw you, (I got your letter); and have suffered much from gout and various other
complaints. At present it is frosty again, and I am almost ~~always~~ ^{always} in bed, for
that is the best thing I can do. ... You heard the first few drops. After that
nothing more is done to catch the water. The red lead having one

I don't find Einstein's Relativity agree with me. It is the most
unnatural & difficult to understand way of representing facts that
could be thought of. His distorted space is chaos. Moreover, it is
no new discovery that the state of things at a point depends upon the
state of things ^{at a previous moment} at a sphere surrounding the point. Poisson did that a
long time ago. ... The Einstein enthusiasts are very patronizing about
the "classical" electromagnetics & its ether ^{which they have abolished}. But they will come back
to it by and by. Though it leaves gravity out in the cold, as I remarked
about 1901 (I think), gravity may be brought in by changes in the
circular laws, of practically no significance save in some very minute effects.

3.

of doubtful interpretation (so far), But you must work fairly, with
the Ether, and Forces, & Momentum etc. They are the realities, without
Einstein distorted no others. What is the value of the ratios Newton's Space
Einstein's Space, Is it 0 or ∞ ? And I really think that Einstein is a
practical joker, pulling the legs of his enthusiastic followers, more Einsteinisch
than he. He know the weaknesses of his 2nd Theory. He only does it to annoy,

not know more
sent the creature to the 4th division
I can't get away from Einstein the Joker. His followers admit the great

I can't get away from Einstein the Joker. His followers admit the great
difficulty in scratching people understand the property of equal speed in all
directions when done in terms of Einstein, by means of glockes and yard
sticks. Poisson would point at them, and say "Whether a receiver in

at rest or moving, the light it receives comes from a sphere centred on the ^{receiving} point, reckoned at a previous time. Isn't my theorem plain enough? It has nothing to do with different reckonings of time, or with a fourth (imaginary) dimension, or metaphysics, or clocks going differently, or yard measures contracting or expanding.

But how is it that electromagnetism is supposed to be in it, interpreted in an incomprehensible way? Well, it is not in it necessarily at all. But as I have insisted with emphasis, Maxwell's electromagnetism is dynamical all the way through, on Newton's x, y, z , and t . So it being involved in light, makes no difference to Poisson.

It is just possible that the circuital equations may need no revision at all, to include gravity on x, y, z, t principles. But we must have a better knowledge of the ether, and of + and - electrification first, I think. ... Did even a clever man as Einstein not see the significance of Poisson's theorem? It is said that it was by noticing some of H.A. Lorentz's formulae, and those of Minkowski, led him to the result. Well, we must believe it, if he says so, and, like the silent parrot, think the more.

Federic Harrison, the Commissit has just given the Tues. 11: 6 p.m.

Yours sincerely, Oliver Meunier

Homefield, Torquay.

3.1.21.

Dear Bjerknes, I have rec'd your paper and letter of Dec. 25. with pleasure -
I understand now the meaning of a quotation from thy letter ^{to you} I saw in The Times
some time ago, referring to Einstein's great joke. He is an international Bolshevik,
and a few, I was informed by a follower of his doctrine. I never see, any
of the scientific journals now. ... I don't think you quite hit the mark in your
Relativity remarks. It is not a question of logic, I believe, but of physical
reality. That 4th dim. is useless. The trouble is, and always has been, not
with Space, but with time. Even the great Thomson & Tait, who brought out
the proper meaning of Newton's laws of Motion, muddled themselves a little
over the measure of time. Mathematicians can ^{or think they imagine} conceive all sorts of spaces
to fill up the natural space, real or imaginary, and make the most graceful
transformations. They may be useful sometimes, ~~but~~ to pure mathematicians
and if they take account of the finite speed of light, there is the opportunity
for Einstein & his followers, but the delight of metaphysicians also don't
know anything about ~~that~~ physics. The way the old boys at the Roy. Soc.
abused themselves before the "Revolution in Physical Ideas", and "Newton
overturned", etc. etc. was rather comical. I may have said this in
my last letter. As for logic, Lord Rayleigh (late) quite agreed with me
that "logic ~~is~~ the very last thing". So if Oscar's criticism is only logical,
it might not go very far. As far as I know, experiment has not gone
^{deep} enough yet to determine the electromagnetic meaning of gravitation,
introducing a very small correction to Newbar's calculations. That's
enough about Relativity at present. ...

Yours most sympathetically & sincerely
John H. Brown

The latest news (not yet confirmed) is that the Pioneers of Central Africa
have applied for admission to the I. of d-N. They offer to accept our conditions.

Private

Home Field, Torquay.

12.2.23.

Dear Valdemar Bjerknes,

I duly received a paper from you lately about your & your helpers labours. I must congratulate you on your success in boring your tunnel right through & seeing daylight again.

In connexion therewith, I may add for your edification that when ~~the~~ Seale Swift were here at Xmas last, I tried to explain to him that the Great Worm inside the earth was the real cause of the magnetic storms, earthquakes, violent gales that have been observed of late years, by boring tunnels through it, and that he was coming out somewhere in the S. Pacific. And it happened so; I then told him that he had turned round & was now boring his way another way, to New Zealand I thought.

But it appears that I was wrong, for the latest reports I have seen in The Times indicate that the tremendous last earthquake originated up in Alaska or that neighbourhood, producing a great tidal wave in the Pacific.

But S. has no faith in worms, little or big, nor in the Great Worm either, I am sorry to say.

I see that the Cyclones are still worrying you badly when they meet the Anti's. I hope that you are in better health now.

Yours most warmly,

Oliver Heaviside, W. D. R. M.

Prof. V. Bjerknes
Bergen.