

Re: LET is on shaky ground – continued

Source: <http://sci.tech–archive.net/Archive/sci.physics.relativity/2004–07/2803.html>

From: Trevor Morris (tedd90_at_XXXfreeuk.com)

Date: 07/15/04

Date: Thu, 15 Jul 2004 09:56:14 +0100

"Martin Hogbin" <goatNOSPAM1@hogbin.org> wrote in message
news:cc8h2n\$b47\$1@hercules.btinternet.com...

>

> "Trevor Morris" <tedd90@XXXfreeuk.com> wrote in message
news:1088638350.26499.0@nnrp–t71–02.news.uk.clara.net...

(Apologies for the delay again!)

> > ----- Original Message -----

> > From: "Martin Hogbin" <goatNOSPAM1@hogbin.org>

> > Newsgroups: sci.physics.relativity

> > Sent: Wednesday, June 30, 2004 6:35 PM

> > Subject: Re: LET is on shaky ground – continued

> >

> > > "Trevor Morris" <tedd90@XXXfreeuk.com> wrote in message

> > news:1088290492.627.0@dyke.uk.clara.net...

> > > "Martin Hogbin" <goatNOSPAM1@hogbin.org> wrote in message

> > > news:cb3i8m\$6gu\$1@hercules.btinternet.com...

> > > >

> > > > "Trevor Morris" <tedd90@freeuk.com> wrote in message

> > > news:a98f5d4d.0406180406.427c3a16@posting.google.com...

> > > > "Martin Hogbin" <goatNOSPAM1@hogbin.org> wrote in message

> > > news:<[c8lq18\\$kdq\\$1@hercules.btinternet.com](mailto:c8lq18kdq1@hercules.btinternet.com)>...

> > > > > "Trevor Morris" <tedd90@freeuk.com> wrote in message

> > > news:a98f5d4d.0405200710.1a818287@posting.google.com...

> > > > > [Sorry for the delay – picking it up via Google]

> > > > >

> > > > > >

> > > > > > "Martin Hogbin" <goatNOSPAM1@hogbin.org> wrote in message

> > > news:<[c72eq9\\$ivk\\$1@hercules.btinternet.com](mailto:c72eq9ivk1@hercules.btinternet.com)>...

> > > >

> > > OK, we can give up if you like, but surely you can see that LET
leads to

> > > (i.e. "explains") Einstein's postulates. Conversely, while
Einstein's

> > > postulates do not preclude LET, they certainly do not "explain"
them.

> > > >
> > > *No, either can be used to 'explain' the other.*
> >
> > *Look, just suspend your disbelief*
>
> > *OK, but in return I will ask you at the end to free your mind of*
> > *self-imposed limitations.*
>
> > *and imagine for a moment that space really*
> > *is a kind of universal medium for all radiative energy propagation, and*
> > *that*
> > *nothing can go faster than a certain speed limit relative to that unique*
> > *medium. What would be the results of such a scenario? The results*
> > *would*
> > *clearly be that inertial observers would find that the laws of physics*
> > *were*
> > *independent of their unaccelerated motion, and they would find that they*
> > *all*
> > *agreed on the measured value of the speed limit, using certain agreed*
> > *procedures.*
>
> > *Yes I have always agreed this.*

Excellent!

> > *Those latter *results on their own* are *consistent* with that*
> > *given scenario, but in no way *explain* it. There is a definite logical*
> > *asymmetry between the LET and SR approaches, with LET => SR as a result*
> > *,*
> > *but SR not necessarily => LET as a reason, though not precluding it*
> > *either,*
> > *in spite of declaring it superfluous. In fact SR as normally*
> > *promulgated*
> > *studiously avoids making *any* logical implication as to what might*
> > *underlie*
> > *its postulates – and most see that as a great virtue.*
>
> > *This is where we fundamentally disagree. I will talk about it at the end.*
>
> > > > *OK, but some choices are more logical than others. LET => SR is*
> > > > *logical*
> > > > *and inevitable.*
> > >
> > > *Yes, but not in the sense you mean it. Once you see that in LET*
> > > *the aether becomes redundant it is logical to dispense with it.*
> >
> > *No again: it is in SR that the ether is declared redundant*
> > *(unjustifiably*
> > *imho), not in LET.*
> >
> > > > *The other way, all we can say is that SR does not preclude LET,*

> > > > *which is much weaker, imo.*
> > >
> > > *Agreed also, but not the way you mean it.*
>
>
> > > > *Your suggestion was presciently adopted*
> > > > *by S J Prokhovnik in 1967: "The Logic of Special Relativity" (pub.*
CUP),
> > > > *and I doubt that I could do much better.*
> > >
> > > *I have not seen this book but from the title and what I can find out*
> > > *about it in the web it does not seem to me to be a book that*
> > > *is mainly about presenting LET as a usable theory.*
> >
> > *I would say it is about how all the ambiguities and difficulties of*
> > *interpretation of SR vanish if you start from the LET model and show how*
> > *that leads to SR.*
>
> *I will take you word for that as I have not seen the book. But that is*
still
> *not quite what I meant. I meant a book entitled something like, 'An*
> *introduction to Lorentz Ether Theory'. The book would derive all the*
> *standard SR/LET results, starting of course with the Lorentz*
> *transformations, and including the (apparent) equivalence of mass and*
> *energy, all strictly from the viewpoint of a Lorentz aether. Showing that*
> *LET is equivalent to SR and then using the techniques and philosophy*
> *of SR will not do. If you want the aether then you must keep it.*
>
> *Most equations would include an unknown vector representing*
> *motion through the aether. This would always drop out as the*
> *calculations continued.*

All this was of course done by Lorentz, but so much was implicit and now so archaic in approach that you are right: a modern exposition is sorely needed. However, who would publish it other than what are regarded as crank outfits, thereby damning it from birth? And I am certainly not egotistical enough to imagine that my authorship would give it any status. Yes, any motion through the ether would always drop out, and could for all practical purposes be ignored, with calculations done exactly as in standard SR, for convenience & simplicity. Just as we don't bother with Band Theory and electron drift velocities when happily using Ohm's Law in d.c. circuits. However, it certainly becomes useful to know about at least some of the underlying mechanisms when a.c. and r.f. calculations have to be done!

> > > *How do you*
> > > *account for the fact that all the world physicists (with very few*
> > > *exceptions indeed) prefer Einstein's theory of relativity to LET?*
> >
> > *That is a good question. You are alluding to the common delusion of*
nutters
> > *that they are right and everybody else is wrong. If you focus in on the*

> > *question a bit, though, you can begin to see that its main assumption may*
> > *not be very robust. For a start, how many qualified physicists would you*
> > *say do any more than I did re. SR: i.e. learn the standard derivations and*
> > *reproduce them in an Hons. Physics exam (one of a series of seven, iirc),*
> > *applying them maybe to a little problem re. muons, and then find a job in*
> > *the real world in which detailed consideration of the origins of SR is quite*
> > *a rare necessity?*
>
> *Very few.*
>
> > *Certainly, I worked and dealt with many professional*
> > *scientists over 30–odd years, but I can recall finding only two or three who*
> > *were capable of carrying out a serious, informed discussion on the*
> > *background of SR, one of whom was Prof. Simon Prokhovnik, as a result of my*
> > *reading his book and writing to him.*
> >
> > *I found some of my final exam question papers the other day, and I had*
> > *actually chosen to answer the question on SR (I had forgotten that!), even*
> > *though we had only to do 4 out of 10 questions given. So you see I was*
> > *pretty keen to demonstrate my prowess in SR, back then, and I had to use its*
> > *results (which are the same as those of LET, of course) at work later on.*
> > *(I got a 2–1, btw., and I'm pretty sure that my derivation of the Lorentz*
> > *transformations from Einstein's postulates was "correct" in exam terms.)*
> >
> > *So of "all the world's physicists", how many would you guess have *really**
> > *thought beyond their textbooks and exam answers re. SR itself,*
>
> *Less than ten percent*
>
> > *still less*
> > *re. SR vs LET, when they are unlikely to have learned anything at all (and*
> > *even less likely anything correct) about LET? Damn few, I would guess.*
>
> *Sure, maybe one percent or less.*
>
> > *And*
> > *I would also guess that it is in the ranks of those damn few that you*

will

- > > *find those who like me are quite relaxed about the fact that Lorentz may*
- > > *have got it essentially right, but sad that he didn't get the credit he*
- > > *deserved. And then there will be even damn fewer (of those already damn*
- > > *few) who are going to stick their neck out for Lorentz at the risk of*
- being
- > > *declared a nutter while still hoping for a career ...*
- >
- > *I accept your argument that a very small proportion of physicists*
- > *will look into the subject that closely, still less care about it, but*
- there
- > *must be literally millions of physics graduates in the world. Even if*
- > *one in a thousand meets your criteria there would be thousands*
- > *of bright willing physicists challenging SR. Even in parts of the world*
- > *with ideologies that conflict wildly with our own, no one does this.*
- >
- > *Relativity has been around for nearly a century and it has been*
- > *critically examined many times.*

Well, it is not "relativity" as such which needs questioning: merely the attitude that things are that way simply because of a mysterious "principle" which acts in an entirely unexplained manner.

- > > *So I attach very*
- > > *little weight to what "all the world's physicists" might be imagined to*
- > > *think about LET and SR. I know what a select few who have really*
- thought
- > > *about this topic have concluded, and I refuse to be cowed by any views*
- > > *assumed to be held by those who will in the vast majority of cases have*
- > > *looked only at standard textbooks,*
- >
- > *What about the people who wrote the text books?*

My impression is that they mostly copy previous authors in the trivial matter of dismissing "dead" theories in the opening paragraphs. Also, have you read Bill Bryden's excellent "A Short History of Nearly Everything"? He ranges widely over most branches of science, advised by well known experts in the various fields. What struck me most forcibly was that in every branch of science (except, it seems, relativity!) the theories that are now "accepted by all scientists" without exception were equally ridiculed and dismissed by the same "all scientists" for decades, if not centuries! So, I think it is just a matter of time before "all scientists" flip over and agree that Lorentz was right, and Einstein was wrong about the superfluity of the ether in SR. Einstein's reputation as a genius is of course safe because by 1920 he was acknowledging that something like an ether with locally-variable c is essential in GR, which should ease the eventual transition, now long overdue (from 1920 at least!).

- > > *I hope that answers your question.*
- >
- > *One of the better attempts but it still fails. There have been many*

- > *mistakes, hoaxes, and scams in science. Some fooled many*
- > *scientists for some time but you cannot fool all of the people all*
- > *of the time.*
- >
- > *Even on this newsgroup, apart from a hard core of crackpots*
- > *who could not even agree on how to measure the speed of*
- > *a train, there is little support for LET.*

But see above re. Bryden: the same can always be said about any branch of science at any given time, it seems! Some of the "mistakes" seem utterly ludicrous now, yet they all persisted largely unchallenged by the majority, in their time. It is also part of the pattern that the first to spot the mistake very rarely gets the credit...

- > *As mentioned above, the main difference between us is the*
- > *philosophy of what constitutes a good 'explanation'.*
- >
- > *As an example, consider Newtonian gravitation (or*
- > *classical electrostatics for that matter). Newtonian*
- > *gravitation was accepted as one of the great theories of*
- > *physics but, despite this, it is nothing more than a recipe,*
- > *as you call it. It lets us calculate the force between any*
- > *two masses but does not give any 'explanation' of why*
- > *this force exists.*
- >
- > *But what form could an 'explanation' take that would not*
- > *lead to greater complication for no benefit? Are we to*
- > *imagine an 'aether' of undetectable particles that leads to*
- > *the attraction between masses? Would it make you*
- > *happier to find that there is an 'explanation'*
- >
- > *What kind of explanation could exist that would not*
- > *lead to even more questions?*

None, of course, but surely science would be enriched by those questions and the attempts at answers? I keep going back to solid state theory, and what about the Gas Laws? Should we have just accepted them and not asked what gases **are**, and why the laws are (more or less) like that?

- > *Much better, in my opinion, to accept philosophical*
- > *concepts as the final answer (unless and until they are*
- > *disproved by experiment). Most people find concepts*
- > *like symmetry and conservation attractive, thus they*
- > *often play a part in theories of physics.*

That's all very nice: we all like to see patterns in things, but that should not stop us asking **why** the pattern is like that – what about snowflakes? Surely you would not say they are like that just because of a symmetry principle? Don't you want to know about polar molecules, van der Waals forces etc etc?

- > *You seem to be compelled to want to 'explain' everything*
- > *in terms of the familiar. Let me ask you this question. If*
- > *Newtonian gravity had proved to be in complete*
- > *agreement with experiment, would you have insisted that*
- > *there must be some 'explanation' for it?*
- >
- > *Martin Hogbin*

Absolutely (!) YES!!! How do the planets know the Sun is there, and vice versa? Kepler's Laws tell us what happens, but not WHY! That's the difference between recipes and science, imho!

Trevor Morris