The Obituary of the Special Theory of Relativity

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Abstract

Upon the post-mortem of Frankeinstein's monster (SRT), (only a pun) it has been found that, in its creation:

1. A serious error has been committed in cross-connecting two antithetical components (laws of motion of bosons and laws of motion of fermions) by accident. (Whereas there can be no connection between Lorentz transformation pertaining to motion of fermions and the constancy of the velocity of light - bosons, the central thesis of SRT is based on this connection).

2. The whole idea of creation of this 'monster' has come about due to the elimination of important parts from the body of physics by the previous use of a lancet named Occam's razor and the classical theory has been written as if these parts did not exist. And it is these missing parts that prevent us from making the necessary diagnosis.

That is, Newton in the construction of classical mechanics has made four assumptions for convenience, to simplify his system and it is these assumptions that have made it impossible for us to understand relativistic phenomena in terms of classical mechanics.

The assumptions are:

a) By his Definition III Newton has considered that in a body, out of its internal momentum, what matters and what is effective is its ***inertia aspect*** only and the velocity aspect is of no consequence. "This force (vis insita) is always proportional to the body whose ***force it is*** and differs nothing from the inactivity of the mass, *but* ***only*** *in our* ***manner of conceiving*** *it*. …. Upon which account, this *vis insita* may, by the most significant name, be called ***inertia***"(p. 2)**.**

b) By his Definition IV, he has deemed that out of the external momentum moving a body, it is only the ***velocity aspect*** of it that is effective and its inertia aspect is of no consequence. : "*An impressed force is an action exerted upon a body, in order to change its state,*…… (Newton continues) This force consists in the action only, and remains no longer in the body when the action is over. For a body maintains every new state it acquires, by ***its*** inertia only…." (p.2).

c) Also under Definition IV it is deemed that the applied kinetic energy (the 'impressed force') does not get assimilated into the body.

d) Although, Newton has recognized that a body undergoes a dual motion, that is while a body moves relative to its space of location, it also co-moves with it, "a body, which is

moved from a place in motion, **partakes also of the motion of the place**"(p. 9), he has assumed that this will not have any appreciable effects, therefore he has built his system ***as if*** momentum of motion of a body does not interact with the momentum of the space of location.

Explanations:
Why a body continues to be in the same state of motion (law of inertia) is because on its own it cannot induce momentum for to change its state of motion. This induction occurs only as a consequence of application of kinetic energy (momentum). This gets assimilated into internal momentum of the body and ***manifests*** as a '***mass increase***'.

The inducted momentum has inertia (the effect of which Newton chose to ignore). In order to overcome this inertia, a part of the internal momentum of the body has to be sacrificed, and this is why the internal processes of a body slow down (***clock retardation***) when in motion.

Lorentz transformation -The induced momentum has to move lock-step with the body. To do this it has to 'partake in the motion of the place' just like the body itself. This requires the induced momentum to sacrifice a fraction of itself for co-movement with the space of location. This fraction being $(M'v.u/c)/(1- u^2/c^2)^{1/2}$, the fraction left for the motion of the body relative the space of location is $M'v(1 - u/c)/(1- u^2/c^2)^{1/2}$. So the velocity of motion of the body is not v, but $v' = v(1- u/c)/(1- u^2/c^2)^{1/2}$. Hence the displacement is not x = vt but,

$x' = v't = v/c(x- ut)/(1- u^2/c^2)^{1/2}$ (general equation of motion)

It is only for the condition v -> c, that Lorentz transformation is realized.

$x' = (x- ut)/(1- u^2/c^2)^{\wedge 1/2}$

Conformity of experiments to the general equation will invalidate SRT.

Hitherto why SRT could not be decisively faulted is because it is an *equivalent theory* to what ought to be the real theory. And we could not know the real theory because we did not know how the Lorentz transformation comes about and under what conditions it is valid.

Under this circumstance, when in real theory x' = v't, SRT as the equivalent theory proposes x' = vt' where $t' = t(1- u/c)/(1- u^2/c^2)^{1/2}$, such that x' = v't = vt'.

Because SRT is equivalent we had no handle to refute it. Now that we have the general equation we have the handle. It has the v/c term. This means that the time unit t' in SRT becomes a function of the velocity v of motion of the body in addition the velocity of motion of the moving reference frame. This means that there is not a single (unique) time unit for a given reference frame. The experimenter cannot measure the time by a

stationary clock relative to the laboratory frame but he has to co-move with the object at the same velocity, carrying the clock with him.

And that happens to be the *Coup de Garce* of the SRT!!!