

Relativistic Physics – Science or Religion?

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"The Einstein Hoax", and its related texts, were written because post-Einstein physics has been degraded from a science which relies on the proper use of the "Rules of Evidence" and the "Rules of Logic" into a religion which is based upon the acceptance by the scientific community of items of "Faith" as revealed by anointed "Experts" but which have not been proven or may not even be provable. Once established, these "Experts" have then insured the survival of that "Faith" by controlling what material that gets to be published in scientific journals.

The difference between a "science" and a "religion" is that a science follows the "Rules of Law and of Logic" and accepts as true only that knowledge which is verifiable unambiguously by observation or logical deduction while a religion requires that its adherents accept one or more of its basic tenets on "Faith" since it/they cannot be proven, (even in principle). Unlike many, if not most, physicists, the writer is not foolish enough to accept the unproved or unprovable as "True" and consequently is not willing to accept the unproved portions of modern physics on "Faith" as is currently the custom.

In order to accept a proposition as true, one must be able, at least, to recognize the existence of a path by which those assertions may be verified unambiguously. Even if one is not able to rigorously follow all of the arguments, recognizing that of such a path exists means that he need only accept that the knowledgeable workers in the field are acting in "good faith". Modern physics, at least that part which is based upon Dr. Einstein's work, is better characterized as a "Religion" rather than a "Science" since some of its assertions are at best unproven or reveal have no apparent path where proof can be developed and, at the worst, are demonstrably false.

In a recent airing of "Nova", an experiment was described in which a physicist transported an atomic clock around the world on jet airliner and compared the time recorded by that clock with the time recorded by an identical clock which remained at the starting point. Since the elapsed time shown on the transported clock was less than that shown on the stationary clock, the physicist concluded that the velocity of the aircraft caused time to progress more slowly. He did not accept the possibility that the velocity of the trip might have affected the calibration of the moving clock. He stated "that as far

as he was concerned, time was what clocks measure". One should note that in the mundane field of Land Surveying, a surveyor regularly compensates his readings for the effects of ambient temperature on his steel tape. Not only must he measure distance, he must correct his measurement for the effect of the ambient temperature on his units of measurement for length (thermal expansion of his steel tape measure). If he failed to do this on a regular basis, he would probably find himself on the unemployment line. Similarly, taking into account the possible effects of velocity on the calibration of the moving clock is a necessary part of the observation that the physicist performed, but he failed to take this step. Unfortunately, we do not seem to impose the same standard of rigor on theoretical physicists as we do on Land Surveyors.

It is an unfortunate truth that the training received by advanced physicists teaches them to think "within the box" (as represented by mathematics) and, unless they are extremely resistant, acts to destroy their innate ability to think "outside the box" (which one might characterize as intelligence) where the new information lies and where contradictions indicating errors are found. It is easy to believe that higher education provides the tools needed for the generation of new knowledge but destroys the ability of the mind to use those tools. The result is a population of scientific leadership who's AQ (arrogance quotient) effectively exceeds their IQ.

The physicist's conclusion was based upon "Faith" rather than proof and, as such, is actually a religious pronouncement and as such is not worthy of a legitimate scientist. The experiment showed the exact opposite of the physicist's conclusion. The moving clock started and finished the experiment at the same location and velocity reference frame as the stationary clock. This means, that regardless of what may of happened during the trip, the duration of the experiment was the same for both clocks since that duration was measured at the location and velocity reference frame of the stationary clock. As a result, any difference in the readings of the clocks can only have resulted from a variation in the velocity-induced calibration of the moving clock. (A similar experiment can be performed in a gravitational field to any desired accuracy by comparing clocks at two different elevations for a sufficient period of time.) For "Time", at least, any difference in observations between reference frames must result from a change in size of the units of measurement of the clocks (calibration) rather than from a difference in its rate of passage of time. (This change in calibration is defined by Larmor's Lorentz Transformation for velocity and (incorrectly) by Dr. Einstein's Time dilation for the Gravitational Field.)

In the 19th Century, it was concluded that all of space must be filled with a medium, called the Aether. The existence of this medium provided an explanation of how electromagnetic waves propagated though apparently empty space and how forces (e.g.:– electric, magnetic, gravitational) acted at a distance. (Maxwell's Equations are readily understood at the intuitive level in terms of the Aether.) The fact that light was known to be a transverse wave that could only propagate through a solid led to the conclusion that the Aether was a solid. The next step was an attempt to measure our velocity with respect to that solid, and, to everyone's chagrin, such experiments, such as the

Michelson–Morley Experiment, led to the impossible conclusion that our velocity through the Aether was always zero even though the velocity of the Earth varied by 36 miles per second over the course of a year.

One of the truly great minds in recent history, Fitzgerald, provided the answer to that dilemma by recognizing that matter contracted in length in the direction of velocity in accordance with the Lorentz Contraction for Length. Larmor recognized that a reciprocal effect for time was also required and the Lorentz Contraction for Time resulted. In a Force– Length–Time system of units, these are all that is necessary to completely describe the effects associated with velocity since, by their application to accepted (and locally testable) physical laws, the transformations for all other physical parameters, including electromagnetic, can be determined. The result of the work of Fitzgerald and Larmor was the Lorentz Transformation–Aether Theory (LTAT) in 1903. In 1905, Dr. Einstein showed in Special Relativity (SRT) that these conclusions could be derived simply from mathematical considerations and, since as LTAT had demonstrated, absolute velocity could not be measured (then), the existence of the Aether could be ignored. (Dr. Einstein stated "we should remember that we have not disproved the existence of the Aether, we have merely proven that we do not need it [for calculations]). LTAT is a special case solution of SRT in which one (the Aether) of STR's infinite number of allowable velocity reference frames between $\pm C$ and cannot be proven not to be the correct one without disproving the validity of SRT. SRT showed that, computationally at least, it is permissible to assume that the observer's reference frame is at rest and all other velocity reference frames were in motion, it did not show that the Aether was not a prime ingredient of reality. (Dr. Einstein is also reported to have believed in the Aether since he maintained a belief in "absolute time" for 25 years after publishing SRT.)

Whether our reality is represented by the Aether as asserted by LTAT or by "empty space" as represented by STR is not a mere academic exercise, it determines how we view the remainder of the physical sciences. Fortunately, a few simple reasonableness checks show that LCAT must be the correct interpretation of reality.

A:– THE VELOCITY OF LIGHT IS INDEPENDENT OF VELOCITY OF ITS SOURCE. Such a result obviously occurs if LCAT represents reality. Light has been determined to be a vibrational phenomena and the velocity of propagation of a vibration in a medium is determined by the medium (the Aether) and not by the velocity of the source. If, on the other hand as adherents of STR assert, light consists of particles (photons) traveling ballistically through "empty space" the only explanation for that independence would seem to be that some form of "magic" was at work. "Magic" does not belong in science. Rational explanations are required.

B:– EXPERIMENTS BY QUANTUM PHYSICISTS HAVE SHOWN THAT OUR VELOCITY WITH RESPECT TO SPACE CAN BE MEASURED, JUST AS MICHELSON AND MORLEY ATTEMPTED. THE "COBE" OBSERVATION OF THE "BIG BANG" SOURCE OF THE UNIVERSE REINFORCES THIS VIEW.

C:– ACTION AT A DISTANCE:– The Aether was originally conceived as a medium that would allow forces to act at a distance. When the post Einstein science took hold, it was necessary to find a new mechanism to explain forces (electric, magnetic, gravitational, etc.) that acted at a distance. To meet this requirement, the idea of the virtual particle (one which used quantum uncertainties to allow it to spring into being for extremely short times) was substituted for the Aether. Such an idea has several difficulties that obligate science to either explain or find another concept.

C.1:– If forces acting at a distance were produced by the exchange of virtual particles (e.g.– virtual photons exchanged by the atoms in a hydrogen atom), how do these virtual particles produce attractive forces? The forces they should be able to produce should only be repulsive, similarly to the production of a repulsive force between two athletes throwing a medicine ball to each other. They should not be able to produce the attractive forces needed to hold atoms and molecules and planets in their proper positions. (To date there seems to have been no attempt to answer this question.) While the mathematics describing the effects of virtual particles allows for the production of an attractive force, the mathematical solution does not consider the momentum exchange required to allow the process to work for attractive forces. To achieve that exchange requires a "substrate" (e.g.– the Aether). A boomerang would not return to the thrower on the Moon because there is no such substrate (i.e.– air).

C.2:– If virtual photons are responsible for electric or magnetic forces, then, for large spacing, these photons should be of low enough frequency to be detectable by a radio receiver. A rigorous experiment is possible, but the fact that electromagnetic communication is possible in the presence of the alleged "virtual photon" flux generated by the large electric and magnetic fields present on Earth would seem to be an indication that Nature does not use them to achieve "action at a distance".

C.3:– Without the Aether as a reference, how does light "know" how fast to travel? The alternative to the Aether again would seem to be a reliance on some form of "magic".

D:– Besides occupying a volume, space has at least two observable properties. It possesses a dielectric constant and permeability. If space is filled with the Aether, this presents no problem, but if space were "empty" as SRT requires, it would seem that "nothingness" has observable properties. (How's that again?)

General Relativity (GRT) has allegedly replaced Newtonian Gravitational Theory (NGT), but neither theory is a theory of gravity. NGT describes an attractive force produced by matter that allows a first order determination of orbits. GRT provides a refinement of gravitational theory by asserting that the presence of mass causes space to curve to produce the orbital motion of objects, refraction of those orbits and of light, and the observed time dilation. Since, as you read this, the effects of orbital motion on the force holding you to your chair are negligible, the source of the force that holds you to your chair is remains unexplained. (One physicist who had asserted that

GRT had eliminated gravity as a force became strangely silent when it was suggested that he step through an adjacent second story window so that we could discuss the subject across the windowsill.) A competent theory of gravitation MUST be able to pinpoint the source of the force and energy of gravitation because that is its most observable effect.

When Dr. Einstein attempted to derive GRT using Tensor Calculus, he was stymied for about 18 months and was unsuccessful until he incorporated the Riemannian idea of curved space and asserted that gravity was caused by that curvature. This allowed him to predict additional second order gravitational effects that caused GRT to be accepted because the gravitational fields of the Solar System were about a million times too weak to reveal its deficiencies. Since Dr. Einstein was reported to be uneasy about the extension of GRT to strong fields, it is uncertain whether, in proposing the theory, he was acting in good faith and merely failed to understand the significance of the relativistic phenomena or was actually faking his conclusions with a confidence that the errors could never be proven.

A:– In order to use Tensor Calculus in deriving the nature of the gravitational field it is necessary to perform a mathematical integration. Unfortunately, the relativistic dilations (time and length in an FLT system of units) must be known in order to perform that integration and those dilations could not be known until the integration had been performed. The circular reasoning induced by this error resulted in the production of a theory that violated its own postulates, the Principles of Relativity and of Equivalence. It is inconsistent with both. The error resulted in the proliferation of weird, and false, conclusions such as "Black Hole", "Wormholes", "Singularities", and the idiotic idea of the continuous creation of additional space to accommodate an apparently expanding Universe without first determining whether the Universe is actually expanding or only appears to be. The nature of the error made in the generation of GRT is of a type which, if repeatedly made by a student of Elementary Calculus would result in a failing grade.

B:– The Riemannian Geometry used by GTR is identical to Euclidean Geometry except that the axiom that parallel lines never meet is missing. Unfortunately, the definition of a straight line currently used by all geometries is deficient. The straight line is more correctly defined as the shortest distance between two points WHICH REMAINS WITHIN THE GEOMETRY. This revision works for all geometries. As an example, the surface of the Earth is a two dimensional Riemannian Geometry. The shortest distance between New York and Los Angeles is not a great circle however, as the Riemannian axiom asserts, it is through a tunnel which passing about 200 hundred miles below the Mississippi River and which is clearly outside of the Riemannian Geometry represented by the Earth's surface. ANY NON-EUCLIDEAN GEOMETRY OF N DIMENSIONS CAN BE CONTAINED IN, AND ALSO REQUIRES, A EUCLIDEAN GEOMETRY OF AT LEAST N+1 DIMENSIONS. If a non-Euclidean geometry is to be used for its convenience, it is necessary to properly consider the effects of that higher order Euclidean Geometry on the problem at hand. THIS HAS NOT BEEN DONE WITH GTR.

When it comes to particle physics, another question arises. High Energy experiments have led to a plethora of short-lived high-energy products. As an

example, two protons, each having a mass equivalent energy of 1 GEV are accelerated to a velocity close to that of light so that they each contain kinetic energy as high as hundreds of GEV. These protons are then induced to collide head on and in so doing produce short-lived high-energy products having observable energies of hundreds of GEV. Where did the energy they represent come from?

A: – The energy certainly wasn't in the original protons; their rest mass indicates that their total energy was about 2 GEV.

B:– The only source of the excess energy represented by the collision products is the kinetic energy of the impacting protons. (If the excess energy was hidden in the original protons and did not come from their kinetic energy, then where did the kinetic energy go?)

C:– Experiment indicates that electrons, and the quarks that make up protons and neutrons have no solid structure down to the observation limit of 10^{-18} meters, as indeed they cannot have. The more rest mass energy a particle has, the smaller it is. If quarks contained smaller particles, the rest mass of those smaller particles would be greater than the rest mass of the quark and the proton or neutron would be more massive than it is. On the other hand, if particles making up the quark were less massive than the quark they would also be larger and would not fit within the nucleon.

Rather than accept the fact that these particles contain no structure, theoreticians have resorted to Superstring Theory that asserts that reality consists of curled higher order dimensions having a radius 20 orders of magnitude smaller than the nucleon. At this level the combination of Quantum Theory and General Relativity is asserted to cause space to be a frothy foam. They would rather accept such a concept than accept the idea that there is an error in General Relativity, after all, the religious "Faith" must not be challenged. Once that error is admitted, the merging of the two theories becomes much easier. The need for the activity at 10^{-34} meters vanishes and space becomes smooth.

Everything really does become much simpler when one follows the rules of evidence in Science as well it is done in other activities and recognize that it is necessary to consider the effects of possible changes in the size of the units of measurement used by instruments produced by a change in reference frame in addition to the results of those measurements. When one takes this step an entirely different view of reality results. This view of reality is much more straightforward and is capable of being understood by the average man since the operation of its mechanisms are clear.

The disturbing part of the present process is that the next generation of scientists is having their minds destroyed by being indoctrinated into the "True Faith".

The source material for this posting may be found in "Gravity" (1987), "The Einstein Hoax" (1997), and "Corrections to Residual Errors in Special Relativity" (1999) located at <http://www.members.aol.com/einsteinhoax/site.htm>.

EVERYTHING WHICH WE ACCEPT AS TRUE MUST BE CONSISTENT WITH EVERYTHING ELSE WE HAVE ACCEPTED AS TRUE, IT MUST BE CONSISTENT WITH ALL OBSERVATIONS, AND IT MUST BE MATHEMATICALLY VIABLE. PRESENT TEACHINGS DO NOT ALWAYS MEET THIS REQUIREMENT. THE WORLD IS ENTITLED TO A HIGHER STANDARD OF WORKMANSHIP FROM THOSE IT HAS GRANTED WORLD CLASS STATUS.

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