A Disproof of Relativity (Relativity as a Mathematical Virus)

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Part One

In 1887, A. Michelson and E. Morley conducted an experiment to attempt to discover the means by which light energy travels. Based upon an earlier statement of James Clerk Maxwell (paraphrased), *that if a light propagating medium existed, the time required for a ray of light to travel from a Point A to a Point B and back to Point A would vary if the two points (A and B), together, underwent a displacement through a light propagating medium,*[1] Michelson and Morley undertook to measure the earth's movement (displacement) relative to light, in order to investigate the possibility of the existence of a light propagating medium. In their experiment, Michelson and Morley proposed, as their initial premise, that a sea of aether particles permeated all space and the interstices of matter, and that light was propagated through the medium of this hypothetical aether. They also proposed (in reference to Maxwell's statement) that by comparing the earth's movement relative to light, the existence of aether could be demonstrated, and the movement of both the earth and light through the aether could be measured. In a mathematical formulation of this premise, Michelson and Morley assigned the given value c for the proposed movement of light through the hypothetical aether; and, for the proposed movement of the earth through the hypothetical aether, they assigned the given value v (also theorized as equivalent to an aether wind flowing past the earth in a direction opposite to the earth's movement through the hypothetical aether, or equivalent to the earth's movement through space). However, the assigning of the mathematical symbols c and v to represent given values in this experiment characterizes the basic logic flaw inherent to this type of scientific investigation: having no actual evidence of the existence of the hypothetical aether, nor of motion through the aether, Michelson and Morley assigned given values for the unknown factors they were trying to determine! Michelson and Morley, conducting an experiment to investigate the possibility that light energy required a physical medium for its travel, and the possibility of the existence of the hypothetical aether, proceeded to abstractly represent their assumptions, mathematically, as givens. In other words, they assumed the existence of aether and movement through the aether, as givens, in order to determine the existence of aether. Realistically, how could Michelson and Morley assign "given" values to the unknown values they were trying to determine? In what can only be referred to as quintessential, speculative mathematics, Michelson and Morley had tailored their mathematical formulation to fit their assumptions and expectations; and in doing so, not only rendered their own mathematics invalid and compromised the integrity of their experiment, but, by basing their mathematical formulation and calculations on speculation and assumption, Michelson and Morley had, in essence, constructed a mathematical house of straw.

In effect, in mathematically assigning movement through the hypothetical aether as a "given" in order to determine movement through the aether, Michelson and Morley created a type of mathematical virus. Looking at the application of the mathematics in this experiment, it becomes evident that the use of speculative mathematics creates a mathematical logic loop of impossibility. Again, Michelson and Morley assigned c to represent the movement of light through the hypothetical aether, and assigned v to represent the movement of the earth through the hypothetical aether. They then went on to compare c and v in mathematical equations (mathematically comparing hypothetical relative motion of the earth and light with respect to aether), with the intent of calculating the movement of the earth through the hypothetical aether. Herein lies the inconsistency in their mathematical logic:

The looked for result: *the movement of the earth through the hypothetical aether,* is already assigned as the given v *the movement of the earth through the hypothetical aether.*

The mathematical symbols c and v could not represent both given and unknown values in the same experiment the existence of aether and movement through the aether could not be both a given and an unknown. Michelson and Morley, by mathematically comparing the respective, proposed "given" values of the movement of the earth, v, and light, c, through the hypothetical aether, in order to then calculate v (the movement of the earth through the aether), had created the mathematical equivalent of a dog chasing its tail. Using v to determine v is a mathematical absurdity. Using a mathematical value, whether given or unknown, to determine itself, defies mathematical logic. Although the type of mathematics used in the Michelson-Morley Experiment will give a result, the result is unrepresentative of any reality, absolutely meaningless; and, of course, there can be no hope of reconciling the result of this type of calculation with any empirical result. To proceed to attempt to verify this type of calculation with experimentation becomes an

empirical absurdity.

Within the context of the mathematical formulation of the Michelson-Morley Experiment, regardless of what the mathematical symbols *c* and *v* are defined as representing,

1. if *c* and *v* are not actual, measured, given values, then any equations involving *c* and *v* are not mathematically valid, but rather, mathematical speculation; and,
2. if *c* and *v* are actual, measured, given values, then, it is not only redundant, but mathematically invalid to try to determine *c* and *v* with equations using *c* and *v* as givens.

The experiment, mathematics, and logic of the Michelson-Morley Experiment are dependent upon the existence of a hypothetical aether, i.e., something, other than light and the earth (that both light and the earth are moving relative to), that would offer a means of reference and comparison. Without the existence of the hypothetical aether, the experiment can only expect negative, or null results: empirical comparisons of light and the earth cannot show relative motion to aether if the aether does not exist. If the hypothetical aether does not exist, the mathematics of the Michelson-Morley Experiment concerning the aether can only fall under the order of predication and speculation, and cannot be fulfilled by empirical results.

Part Two

Ptolemaic

The assumption of unknown values as given values and the use of values to determine themselves is the defining mathematical logic basis of the Michelson-Morley Experiment; and their use of mathematics serves to illustrate the problem that can arise when the abstract language of mathematics is held to be a truth unto itself, rather than a language of abstract representation a means of expression that can be flawed in application and basis, and be limited and biased by the extent of understanding. Michelson and Morley, in their mathematical formulation, may have truly represented their thoughts and ideas, but, at the same time, did not truly represent reality. In a sense, a parallel can be drawn between the 19th century mathematics of Michelson and Morley concerning belief in a hypothetical aether, and the 2nd century mathematics of Claudius Ptolemy concerning belief in a geocentric universe.[2] Although intricately executed and developed in themselves, the mathematics of Michelson and Morley (concerning aether) and the astronomical mathematics of Ptolemy (concerning a geocentric universe) were both flawed in their initial, assumptive premise. Though Ptolemy was aware of the general size and shape of the earth, and had a general idea of how fast the earth would have to be moving to account for the apparent relative movement occurring between the earth and the other celestial bodies; he held firm to the belief that the earth was the immobile hub, the center, of the universe that all the stars and planets in the heavens revolved about the earth and developed his mathematics upon this premise. Like Michelson and Morley, Ptolemy was able to truly express his beliefs with the language of mathematics, but also like Michelson and Morley's mathematics (concerning the aether), Ptolemy's astronomical mathematics (concerning a geocentric universe), not founded upon a truth, were neither true in themselves, nor rendered a true result his basic premise invalidated his entire mathematical structure. The Ptolemaic system of mathematics involving the use of the ecliptic, deferent, epicycles, eccentrics, and equants could no more, in actuality, convert elliptical movement of the earth about the sun to circular movement of the universe about the earth, than Michelson and Morley's mathematical formulation of movement of the earth and light relative to a hypothetical aether could create the existence of a non-existent aether, or movement through a non-existent aether. The problem characteristic to both is a flaw in the basic mathematical premise, compounded by the belief in the language of mathematics as an absolute truth unto itself. As Ptolemy's astronomical mathematics exerted a profound influence on the development of mathematics and science from the 2nd century until the 16th century, similarly, Michelson and Morley's mathematics concerning the hypothetical aether (and relative movement occurring between the earth and light with respect to aether) has profoundly affected the development of mathematics and science of today.

Over the years, since the Michelson-Morley Experiment was conducted, the attempt to reconcile and relate Michelson and Morley's speculative, mathematical assumptions (concerning the hypothetical aether) to empirical realities has thrown open the floodgates to interpretive chaos. For example, rather than the results of their experiment leading to the conclusion that the hypothetical aether did not exist and, if aether did not exist, it would, of course, be impossible to measure the earth's motion relative to the non-existent aether (and there was an inherent flaw in applying mathematical givens to a non-existent aether); the lack of any correlation between the speculative mathematical projections and the (negative) empirical results of their experiment has led to the relativistic belief that it is not possible to compare the movement of the earth relative to light. Essentially, the logic basis of the Michelson-Morley Experiment has become the logic basis of Relativity.

Part Three

Relativistic

There are two notable, mutually exclusive relativistic theories that (in using the Michelson-Morley Experiment and mathematical formulation as a basis to develop their own theories) exemplify relativistic theory and mathematics:

1. H.A. Lorentz theorized that, because of forces occurring between matter and aether, matter was contracted in length along the line of direction of travel through the aether, making it impossible to measure movement through the aether; thus accounting for the lack of agreement between the projected mathematics and the empirical results received in the Michelson-Morley Experiment.[3] Lorentz developed mathematics to support this theory, such as the ratio:

$$1: (1 - v^2/c^2)^{1/2}$$

(1)

2. A. Einstein theorized (in contrast to the Lorentz aether theory, but still in reference to the mathematical formulations and experimental results of the Michelson-Morley Experiment), that light traveled in the form of photons, and that the movement of light is a mathematical absolute for any circumstance of motion. In other words, he theorized light as absolute unity under any circumstance of relative motion. Einstein theorized a type of "carrot and stick" relationship where light would always be measured to exceed the velocity of the observer by a given, set velocity; it would be impossible to measure the earth's motion relative to light; light would have the capacity of infinite velocity; and, also, light would be an absolute, unapproachable barrier and constant of the universe. Einstein's basic mathematical premise is stated in the form of a postulate as:

The speed of light has the same value for all observers, independent of their motion or the motion of the light source.[4]

Where Ptolemy theorized a geocentric universe, Einstein (upon the basis of the Michelson-Morley Experiment) theorized a "light-centric" universe; or, with the measurement of light theorized as a constant for all circumstances of motion, and therefore, all matter, energy, and space expanding and contracting to conform to the individual observer's motion, in essence, Einstein theorized a "self-centric" universe, where the entire universe of the individual conforms to the individual's motion.

Part Four

Equivalence?

All the inequable motion occurring in the universe, all the relative movement, creates a mathematical and scientific problem. Similar to the perceptual distortion and disorientation that can occur when beginning to move when traveling on a train or passing another train or platform, "Is the other train or platform moving past us, or are we moving past the other train or platform?", with relative motion there can be an equivalence of appearance, but not of actuality. Are the stars moving, is the earth moving, or are both moving relative to each other? Relative motion presents a problem of reference basis. What do we measure relative to; and how can it be determined what is moving relative to what? This was the problem faced by, and exemplified in the mathematics of both Ptolemy and Relativists. Ptolemy perceived all apparent relative motion of the celestial bodies as equivalent to, and to be mathematically regarded as, absolute motion with respect to the earth; a mathematical perspective which he supported (in theory) with assumptions made concerning comparative motion. For example, in Ptolemaic, geocentric theory and mathematics the earth was considered as the immobile hub and center of the universe, because it was assumed that if the earth moved:

a. the clouds would be outstripped by the earth's motion,

b. objects and animals on the surface of the earth (cows, etc.) would be left hanging, suspended in the air or space as projectiles, and,

c. an object dropped would always fall to one side of a line perpendicular to the earth's surface, indicating both the speed and direction of the earth's (and the observer's) travel through space (an experiment of comparative motion that also received negative or null results).

This Ptolemaic belief and assumption that comparative motion would demonstrate the earth's relative, dynamic relationship with space was taken up, in a different form, by Michelson and Morley (and relativists); with their assumption that comparisons of the earth and light (i.e., comparisons not of objects and the earth, but rather, of the earth and energy) should demonstrate the earth's movement in relation to space. Where Ptolemaic negative or null

results received from experiments of comparative motion were promulgated as "proof" of a geocentric universe, similarly, in modern-day mathematics and science, the negative or null results received in dynamic comparisons of the earth and light (as in the Michelson-Morley Experiment) are currently promulgated as empirical "proof" that it is impossible to measure motion relative to light, and that light is an absolute value in any circumstance of relative motion in other words, as the "proof" and mathematical basis of relativistic, "light-centric" doctrine.

Here, it must be pointed out that what are referred to as "negative or null" results, in the respective Ptolemaic and Michelson-Morley/relativistic belief systems concerning relative motion, are only "negative" with respect to scientific and mathematical *assumptions.* In fact, with the removal of the *assumption* that laws of mechanics should apply to space, these results can be viewed as "positive". What Ptolemy, Michelson and Morley, and theories and mathematics of Relativity have all consistently and "positively" demonstrated is that, as yet, there has not been found a means to compare movement relative to space nor to quantify space; and that experiments of comparative motion (with sound, falling objects, light, the earth, etc.) do not indicate motion in relation to space, nor absolute position or motion. (To make a distinction; Foucault's pendulum demonstrates movement of the earth in relation to the movement of a pendulum, but does not demonstrate either the movement of the earth or the pendulum in relation to space.)

Conclusions

In essence, the Theory of Relativity, like the geocentric theory of Ptolemy, demonstrates, in the language of mathematics, the inability to assign absolute motion and position. Everything is relative. So far there has not been discovered an absolute physical point of origin or reference. Therefore, as Ptolemy's choice to assign the earth as an absolute from which to measure all relative motion invalidated his mathematics; similarly, Relativists choice to assign the movement of light as an absolute with respect to any other circumstance of motion has also invalidated their entire mathematical structure.

In Closing

Relativists declare that: *The introduction of a "luminiferous aether" will prove to be superfluous ... as the view here to be developed will not require an "absolutely stationary space" provided with special properties, nor assign a velocity-vector to a point of empty space in which electromagnetic processes take place.*

They also declare that: *"We now imagine space to be measured from the stationary system K by means of the stationary measuring- rod, and also from the moving system k by means of the measuring rod moving with it; and thus we obtain the co-ordinates x, y, z ..."* [5]

In these two statements, Relativists admit to not being able to assign a co-ordinate system and velocity vector in relation to intangible or "empty"space; but, then, somehow, by the assigning of, and comparison of, "stationary" and "moving" matter, they expect to establish a stationary co-ordinate system to measure intangible space and movement in reference to intangible space. This obvious contradiction has been rationalized in Relativistic theory by the introduction of time as simultaneity. Relativists theorize that somehow the synchronizing of events will give absolute position in space. They theorize that by comparing two intangibles (time and space which cannot be independently, tangibly measured) to each other, somehow they can then establish, not only a tangible measurement of both time and space, but, also, the measurement of absolute (stationary) position and movement of matter and energy.

The obvious problem with this particular part of relativistic theory is that simultaneity does not indicate position. An event can happen simultaneously in London and New York: Simultaneity does not indicate position in space.

The relativistic mathematics and theory concerning simultaneity, are simply another result of the mathematical virus first created and introduced in the Michelson-Morley Experiment of 1887. With the incorrect assigning and use of *c* and *v* (hypothetical velocity of light and the earth in reference to hypothetical aether and intangible space) as given mathematical values in the Michelson-Morley Experiment (and subsequent relativistic equations), Relativists have created and perpetuated the equivalent of a mathematical virus: A mathematical wild goose chase, which can be avoided by the understanding that absolute position and movement can not, as yet, be measured; and that dynamic comparisons of energy (light), the earth, rods, clocks, observers, etc. do not indicate absolute position or movement.

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1. H. A. Lorentz, A. Einstein, H. Minkowski, and H. Weyl, *The Principle of Relativity*, (Dover Publications Inc., New York, 1952), p. 3.

2. Claudius Ptolemy, *The Almagest*, Great Books of The Western World, (Encyclopedia Britannica, Chicago, 1952)

3. Lorentz, *The Principle of Relativity*, pp. 3-7.

4. Raymond A Serway and Jerry S. Faughn, *College Physics*, (Saunders College Publishing, New York, 1985) p. 676.

5. Stephen Hawking, *On The Shoulders of Giants*, (Running Press, Philadelphia, 2002), pp. 1168-1172