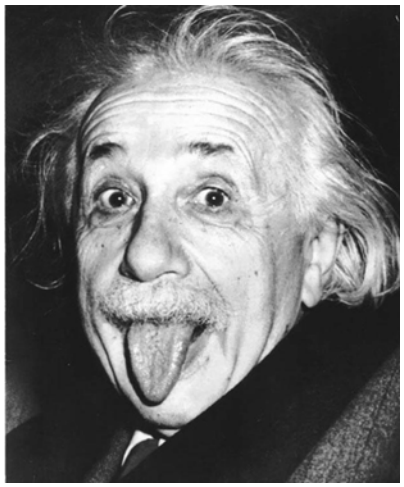
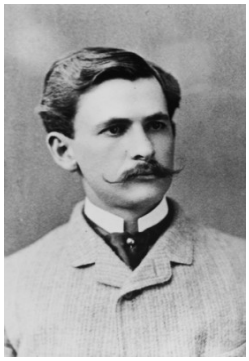
Albert Einstein: The Earth Mover

How Einstein Made the Earth Move

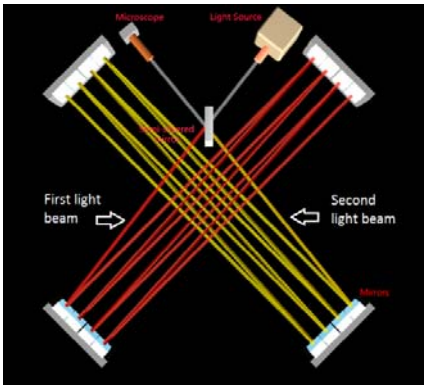
(…When All the Experiments Showed it Didn't Move)



In his 1881 and 1887 experiments, Albert Michelson discovered the Earth was not moving around the sun. As Michelson himself described the results of his own experiment: "This conclusion directly contradicts the explanation…which presupposes that the Earth moves."[1] But since his colleagues, including Albert Einstein, were die-hard Copernicans who didn't want to believe that Michelson had discovered a motionless Earth, they proposed his experimental apparatus was distorted by the Earth's motion through space and thus Michelson's apparatus only made it *appear* as if it wasn't moving. In scientific parlance, we call this the fallacy of *petitio principii*, that is, using as proof (a moving Earth) the very thing one is trying to prove (a moving Earth). Let me explain.

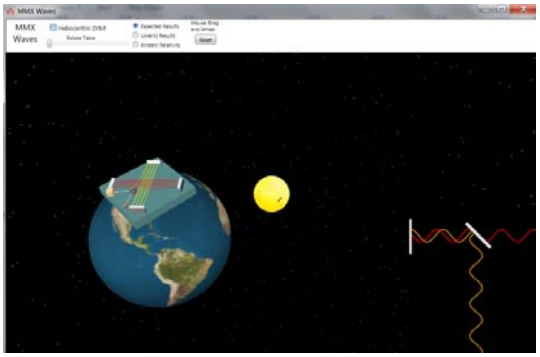


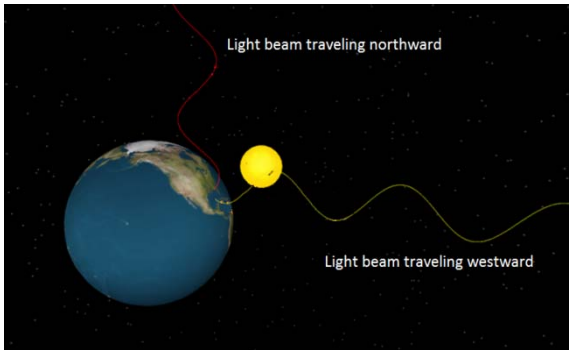
Michelson found the Earth wasn't moving by using the speed of two light beams against one another.



[1] Albert A. Michelson, "The Relative Motion of the Earth and the Luminiferous Ether," *American Journal of Science*, Vol. 22, August 1881, p. 125.

The first light beam was pointed westward because it was the presumed direction of the Earth's movement around the sun. The second light beam was pointed northward and thus away from the direction of the presumed moving Earth.

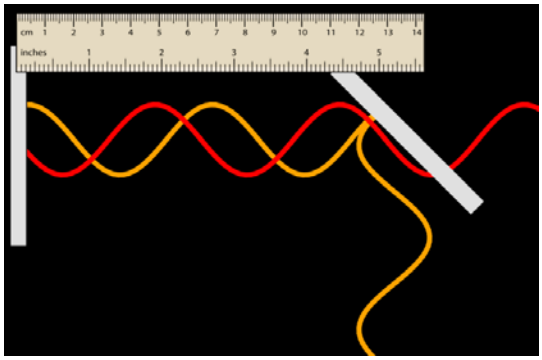




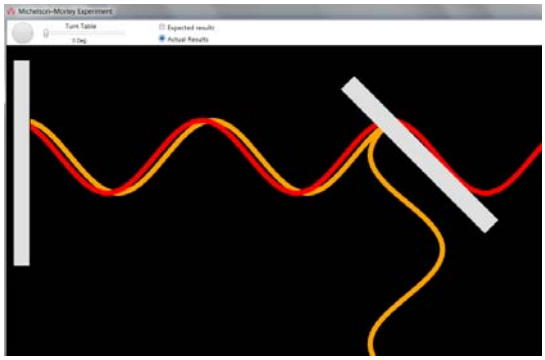
The first light beam should have been affected by the Earth's movement through space if it the Earth is moving around the sun at the accepted speed of 66,000 mph. If so, the first beam would have traveled slower than the second light beam.

But that didn't happen.

Both light beams traveled at nearly the same speed. According to Michelson, the first beam traveled only about one-sixth of the retarded speed needed if the Earth was moving around the sun.[2] The conclusion, as Michelson notes above, should have been that the Earth isn't moving around the sun.



Desired Result (if Earth is moving around the sun)



Actual Results (shows Earth isn't moving around the sun)

[2] The equations used in the calculation are as follows: calculates it: $\Delta t - \Delta t' = (l_1 + l_2)\, v^2/c^3$. Now we take $v = 3.0 \times 10^4$ m/s, the speed of the Earth in its orbit around the Sun. In Michelson and Morley's experiment, the arms l_1 and l_2 were about 11 m long. The time difference would then be about $(22\text{m})(3.0 \times 10^4 \text{ m/s})^2/(3.0 \times 10^8 \text{ m/s})^3 \approx 7.0 \times 10^{-16}$ s. For visible light of wavelength $\lambda = 5.5 \times 10^{-7}$ m, say, the frequency would be $f = c/\lambda = (3.0 \times 10^8 \text{ m/s})/(5.5 \times 10^{-7} \text{ m}) = 5.5 \times 10^{14}$ Hz, which means that wave crests pass by a point every $1/(5.5 \times 10^{14} \text{ Hz}) = 1.8 \times 10^{-15}$ s. Thus, with a time difference of 7.0×10^{-16} s, Michelson and Morley should have noted a movement in the interference pattern of $(7.0 \times 10^{-16} \text{ s})/(1.8 \times 10^{-15} \text{ s}) = 0.4$ fringe. They could easily have detected this, since their apparatus was capable of observing a fringe shift as small as 0.01 fringe.

Other prominent physicists have noted the same truth:

> "There was just one alternative; the earth's true velocity through space might happen to have been nil."
>
> Physicist, Arthur Eddington[3]

> "The data [of Michelson-Morley] were almost unbelievable… There was only one other possible conclusion to draw — that the Earth was at rest."
>
> Physicist, Bernard Jaffe[4]

> "Thus, failure [of Michelson-Morley] to observe different speeds of light at different times of the year suggested that the Earth must be 'at rest'…It was therefore the 'preferred' frame for measuring absolute motion in space. Yet we have known since Galileo that the Earth is not the center of the universe. Why should it be at rest in space?"
>
> Physicist, Adolph Baker[5]

> "….The easiest explanation was that the earth was fixed in the ether and that everything else in the universe moved with respect to the earth and the ether….Such an idea was not considered seriously, since it would mean in effect that our earth occupied the omnipotent position in the universe, with all the other heavenly bodies paying homage by moving around it."
>
> Physicist, James Coleman[6]

> "The Michelson-Morley experiment confronted scientists with an embarrassing alternative. On the one hand they could scrap the ether theory which had explained so many things about electricity, magnetism, and light. Or if they insisted on retaining the ether they had to abandon the still more venerable Copernican theory that the earth is in motion. To many physicists it seemed almost easier to believe that the earth stood still than that waves – light waves, electromagnetic waves – could exist without a medium to sustain them. It was a serious dilemma and one that split scientific thought for a quarter century. Many new hypotheses were advanced and rejected. The experiment was tried again by Morley and by others, with the same conclusion; the apparent velocity of the earth through the ether was zero."
>
> Historian, Lincoln Barnett, foreword by Albert Einstein[7]

> "What happened when the experiment was done in 1887? There was never, never, in any orientation at any time of year, any shift in the interference pattern; none; no shift; no fringe shift; nothing. What's the implication? Here was an experiment that was done to measure the speed of the earth's motion through the ether. This was an experiment that

[3] Arthur Eddington, *The Nature of the Physical World*, 1929, pp. 11, 8.
[4] Bernard Jaffe, *Michelson and the Speed of Light*, 1960, p. 76.
[5] Adolf Baker, *Modern Physics & Antiphysics*, pp. 53-54.
[6] James A. Coleman, *Relativity for the Layman*, p. 37.
[7] Lincoln Barnett, *The Universe and Dr. Einstein*, p. 44.

was ten times more sensitive than it needed to be. It could have detected speeds as low as two miles a second instead of the known 20mps that the earth as in its orbital motion around the sun. It didn't detect it. What's the conclusion from the Michelson-Morley experiment? The implication is that the earth is not moving…"

Physicist, Richard Wolfson[8]

"Michelson and Morley found shifts in the interference fringes, but they were very much smaller than the size of the effect expected from the known orbital motion of the Earth"

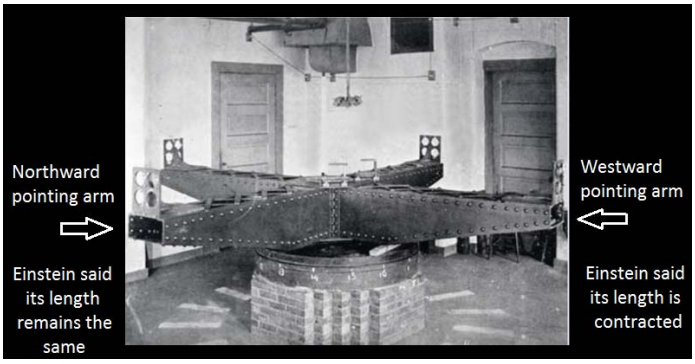
Physicist, John D. Norton[9]

"This 'null' result was one of the great puzzles of physics at the end of the nineteenth century. One possibility was that...v would be zero and no fringe shift would be expected. But this implies that the earth is somehow a preferred object; only with respect to the earth would the speed of light be c as predicted by Maxwell's equations. This is tantamount to assuming that the earth is the central body of the universe."

Physicist, Douglas C. Giancoli[10]

But the die-hard Copernicans of that day were not about to accept the *prima facie* results of Michelson's experiment. They knew the catastrophic scientific, cultural, and religious implications if it was experimentally shown that Earth is fixed in space. In a word, the whole world would have been turned upside down, literally and figuratively.

Pressured to provide a "scientific" answer to the world, they searched for a way to make it appear that the first light beam did, indeed, provide six-sixths of the retarded speed required for an Earth moving around the sun. To do so they thought up an ingenious (but devious) explanation. As noted above, they claimed the Earth's movement around the sun contracted the metal enclosure in which the first light beam traveled.



If the length of the housing is contracted, then the first light beam does not need to travel as far as when the housing is not contracted. This would account for the why the speed of the

[8] *The Teaching Company*, episode taught by Professor Richard Wolfson of Middlebury College.
[9] The Origins of Special Relativity, www.pitt.edu/~jdnorton/teaching/HPS_ 0410/chapters/origins/index.html, p. 14.
[10] Douglas C. Giancoli, *Physics: Principles with Applications*, 1985, pp. 613-614 and 1980, p. 625.

two light beams did not differ much. With this contrived explanation, they proposed to the world that the contraction of Michelson's apparatus was the reason the Earth appeared to be motionless.

In effect, if someone said to them, "You claim the Earth is moving but you admit you cannot detect that movement by any experiment," they would retort, "Well, we can't detect it because every time we try to do so, the length of the experimental apparatus shrinks just enough to conceal the movement, which makes it impossible to measure the Earth's movement."

Again, we see the fallacy of *petitio principii* is in play.

From start to finish the whole enterprise was *ad hoc*. Length contraction wasn't even contemplated previously, much less was it an established fact of science. But in this emergency situation, length contraction was invented on the spot so that the science establishment would have at least some hypothetical answer why Michelson's experiment showed the Earth was motionless. Everyone could breathe a sigh of relief. The irony, as of this date, is that no one has ever detected a length contraction in a moving object. In fact, modern physicists can't even agree on what length contraction is or how it would be manifested.[11]

[11] So far, there are eight different views of length contraction proposed, none of which have actually proven it exists: **(1)** "The contraction is real." Lorentz stated in 1922 that the "contraction could be photographed" (*Lectures on Theoretical Physics*, Vol. 3, Macmillan, p. 203); C. Møller writes: "Contraction is a real effect observable in principle by experiment…This means the concept of length has lost its absolute meaning" (Møller, *The Theory of Relativity*, 1972, p. 44); Wolfgang Pauli: "It therefore follows that the Lorentz contraction is not a property of a single rod taken by itself, but a reciprocal relation between two such rods moving relatively to each other, and this relation is in principle observable" (*The Theory of Relativity*, Dover Publications, 1958, pp. 12-13); R. C. Tolman: "Entirely real but symmetrical" (*Relativity Thermodynamics and Cosmology*, pp. 23-24); **(2)** "The contraction is not real." E. F. Taylor and John Wheeler write: "Does something about a clock really change when it moves, resulting in the observed change in the tick rate? Absolutely not!" (*Spacetime Physics: Introduction to Special Relativity*, p. 76); **(3)** "The contraction is only apparent." Aharoni writes: "The moving rod appears shorter. The moving clock appears to go slow" (*The Special Theory of Relativity*, p. 21); McCrea writes: "The apparent length is reduced. Time intervals appear to be lengthened; clocks appear to go slow" (*Relativity Physics*, pp. 15-16); Nunn: "A moving rod would appear to be shortened" (*Relativity and Gravitation*, pp. 43-44); Whitrow: "Instead of assuming that there are real, *i.e.*, structural changes in length and duration owing to motion, Einstein's theory involves only apparent changes" (*The Natural Philosophy of Time*, p. 255); **(4)** "The contraction is the result of the relativity of simultaneity." Bohn writes: "When measuring lengths and intervals, observers are not referring to the same events" (*The Special Theory of Relativity*, p. 59). See also William Rosser, *Introductory Relativity*, p. 37; and A. P. French, *Special Relativity*, p. 97; and Stephenson and Kilmister, *Special Relativity for Physicists*, pp. 38-39; **(5)** "The contraction is due to perspective effects." Rindler writes: "Moving lengths are reduced, a kind of perspective effect. But of course nothing has happened to the rod itself. Nevertheless, contraction is no illusion, it is real" (*Introduction to Special Relativity*, p. 25); **(6)** "The contraction is mathematical." Herman Minkowski writes: "This hypothesis sounds extremely fantastical, for the contraction is not to be looked upon as a consequence of resistances in the ether, or anything of that kind, but simply as a gift from above, – as an accompanying circumstance of the circumstance of motion" ("Space and Time," in *The Principle of Relativity*: *A Collection of Original Memoirs on the Special and General Theory of Relativity* by H. A. Lorentz, A. Einstein, H. Minkowski and H. Weyl, translated by W. Perrett and G. B. Jeffery from the original 1923 edition, Dover Publications, 1952, p. 81); **(7)** "The contraction is

Since they insist the Earth is moving around the sun yet cannot detect it moving, nevertheless, they needed some physical and mathematical way of accounting for it, since there is obviously a difference between motion and non-motion. So length contraction became their convenient scapegoat. This is the essence of the Special Relativity theory that Einstein invented in 1905. It was invented solely to answer Michelson's experiment. As Einstein himself said:

> "…to the question whether or not the motion of the Earth in space can be made perceptible in terrestrial experiments. We have already remarked…that all attempts of this nature led to a negative result. Before the theory of relativity was put forward, it was difficult to become reconciled to this negative result."[12]

Whereas in 1892 Hendrik Lorentz had hypothesized that the ether of space was what caused the contraction, Einstein decided to dispense with ether and attribute the cause to "relative motion." In effect, Lorentz at least proposed a physical cause for his claims of length contraction, but Einstein never explained how "relative motion" could shrink objects. Hence, during his day, various philosophers accused him of violating the principle of "cause and effect."

So, whatever the cause of the contraction, in order to give the *ad hoc* theory some semblance of credibility, the required amount for the metal enclosure to contract was put into a mathematical equation, called "the Lorentz transform."

$$\mathbf{Length_{new} = Length_{old} \times (1 - v^2/c^2)^{-1/2}}$$

It has become the most famous and most used equation in modern physics. Essentially, whatever tests disagreed with their belief that the Earth was moving around the sun could now be mathematically "transformed" into their desired result, as well as give the semblance of being "scientific."

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real but invisible." James Terrell writes: "…the Lorentz contraction will not be visible, although correction for the finite velocity of light will reveal it to be present" ("Invisibility of the Lorentz Contraction," *Physical Review*, Vol. 116, No. 4, Nov. 15, 1959, p. 1041); **(8)** "The contraction is real and not real": Einstein writes: "The author unjustly posited a distinction between Lorenz's conception and my own with regard to the physical facts. The question of whether the Lorenz contraction really exists or not is deceptive. It doesn't 'really' exist insofar as it doesn't exist for a non-moving observer; it does 'really' exist, in that it can be proven principally through physical means for a non-moving observer" ("Zum Ehrenfestschen Paradoxon. Eine Bemerkung zu V. Variĉaks Aufsatz." *Physikalische Zeitschrift* 12: 509-510.; Original German: "Der Verfasser hat mit Unrecht einen Unterschied der Lorentzschen Auffassung von der meinigen mit Bezug auf die physikalischen Tatsachen statuiert. Die Frage, ob die Lorentz-Verkürzung wirklich besteht oder nicht, ist irreführend. Sie besteht nämlich nicht 'wirklich,' insofern sie für einen mitbewegten Beobachter nicht existiert; sie besteht aber 'irklich,' d. h. in solcher Weise, daß sie prinzipiell durch physikalische Mittel nachgewiesen werden könnte, für einen nicht mitbewegten Beobachter.")

[12] "Relativity – The Special and General Theory," cited in Stephen Hawking's, *A Stubbornly Persistent Illusion*, 2007, p. 169.

But the transform of length required another transform. Since they contracted the length, they also had to dilate the time, since if a moving object has its length contracted, it is not going to get from Point A to Point B in the same time as when it is not contracted. To increase the time of travel, they use the same "transform" equation as above, but since they are increasing instead of decreasing, they turn the multiplier into a divider to get…

$$\mathbf{Time_{new} = Time_{old} \div (1 - v^2/c^2)^{-1/2}}$$

Of course, just as there is no proof that length contracts, there is no proof that time dilates. They just need it to make everything appear to balance if they are going to insist the Earth is moving around the sun when the empirical evidence says it is not. It's easy for them. They just make up a theory and represent it by a mathematical equation to erase any discrepancies the experiment shows against their theory.

The "transforms" are not over. They must also add mass increase, since if a moving object has its length contracted, then it will have a larger mass per unit volume when it gets to point B. So, to make the mass larger they use the same "transform" equation as for time dilation:

$$\mathbf{Mass_{new} = Mass_{old} \div (1 - v^2/c^2)^{-1/2}}$$

Inertial Frames

Often in the debate over the relevance of Michelson's experiments, the issue of inertial frames presents itself. An inertial frame is one in which an object is at rest or is moving in uniform motion and not accelerating or decelerating. If the Earth is moving around the sun, it is a non-inertial frame since it is accelerating (NB: in physics, all objects that move in a circle are considered accelerating, even though they go the same speed). As such, one is hampered when doing experiments on Earth due to the effects of acceleration on the apparatus (a principle of which all scientists agree). So, in order to make Michelson's experiment valid, that is, one that takes place in an inertial frame (as IF it were at rest), a Relativist will create the inertial frame by the above "transform" equations.

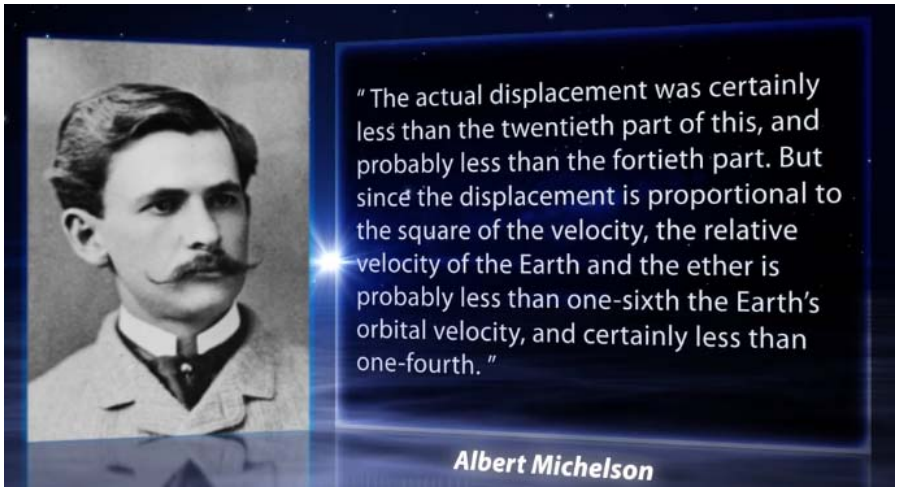
Once again, it is easy to see the fallacy of *petitio principii* at work in their thinking.

For those who accept the *prima facie* results of Michelson's experiment (that the Earth is not moving), the Earth is already shown to be an inertial frame because it is at absolute rest. Thus there is no need to create inertial frames for the Earth, and thus no need to use a "transform" equation.

Residual Ether

Incidentally, we should note one more important facet of the Michelson experiment before we move on. We saw above that the experiment showed only one-sixth of what was required for an Earth moving around the sun. This one-sixth is important for another reason. It showed that space was composed of something substantive. The name given to it by Lorentz, Maxwell, and all other scientists was "ether." No one knew precisely what it was composed of, but they correctly deducted that space cannot be nothing, since metaphysically "nothing" cannot exist. Space must be a "something," composed of something physical, although like air we cannot see it because it is invisible. It doesn't matter what you call it. The fact is that it must exist. Quantum mechanics has suggested that the ether's basic component is Planck particles, which are 20 orders of magnitude smaller than the electron. Another type of ether may be an electron-positron dipole particle, which was discovered in 1932 by Carl Anderson.

In any case, the substance of space, which we will call "ether," was detected in Michelson's 1881 and 1887 experiments, as well as his 1897 experiment with an above-ground apparatus. Since light moves so fast, it can serve to measure the effect on something as small as ether particles. His interferometer was so accurate it could measure one hundred times more than it was required to measure. As such, Michelson's interferometer didn't measure enough ether to match an Earth moving at 66,000 mph around the sun, but it did measure a little ether, otherwise his results would not have shown one-sixth, but zero-sixths of ether presence. Michelson noted this small presence in his 1887 paper.



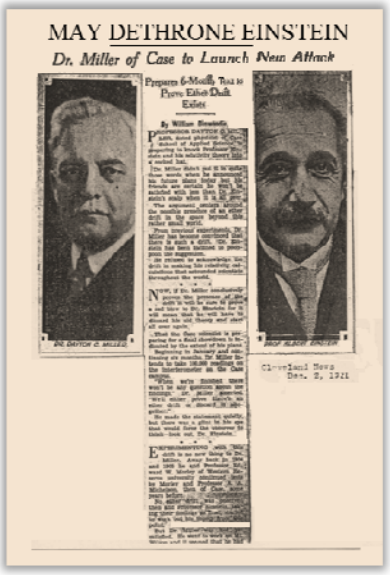
This was not good for Einstein. He candidly admitted that if any ether was detected, even a little bit, his theory of Special Relativity would automatically be falsified. This was noted in Einstein's statement to Sir Herbert Samuel in Jerusalem: "If Michelson-Morley is wrong,

then relativity is wrong."[13] In other words, Einstein was forced to assume that because Michelson did not find enough ether for an Earth revolving around the sun, then Michelson couldn't have found any ether. But if this conclusion of Einstein's was wrong, then his whole relativity theory would be falsified automatically, since even a little ether would act as an absolute frame and thus nullify "relativity." Noted physicist Charles Lane Poor of Columbia University reiterated the problem:

> "The Michelson-Morley experiment forms the basis of the relativity theory: Einstein calls it decisive…if it should develop that there is a measurable ether-drift, then the entire fabric of the relativity theory would collapse like a house of cards."[14]

So Einstein was banking on the hope that since Michelson did not detect the *required* amount of ether for an Earth moving around the sun, he could conclude that the ether simply didn't exist. Hence, the detection of one-sixth of the required ether was thus conveniently chalked up to "experimental error."

The facts show otherwise, however. Every interferometer experiment performed from Michelson in 1881 to Joos in 1930—which is 50 years of the same results from a dozen different experimenters—detected one-sixth to one-tenth. Einstein was so bothered by this fact that he hired what can be called a 'scientific hit man,' Robert Shankland, to seek to discredit the experiments, especially the most comprehensive interferometer experiments performed by Dayton Miller between 1908 and 1921.



MAY DETHRONE EINSTEIN

Dr. Miller of Case to Launch New Attack

Prepares 6-Months Test to Prove Ether-Drift Exists

By William Ewaldt

Cleveland News
Dec. 2, 1921

[13] *Einstein: The Life and Times*, p. 107.
[14] *Gravitation versus Relativity*, p. 261.

But at this point in time (the 1910s and 1920s) the world was only too happy to accept Einstein's theories and reject anyone who challenged them. After all, Einstein was the Earth-Mover. He made the Earth move around the sun and thus saved mankind from having to admit that popular science had misled the world for the 500 years prior.

For the geocentrist, the only thing left to answer is: from whence did the one-sixth of ether originate? The simple answer is that since the universe, with its ether, is rotating around a fixed Earth, some of that ether spilled into Michelson's 1887 interferometer when he was trying to detect if the Earth was moving around the sun. This is confirmed by the fact that Michelson did another experiment in 1925 in order to measure the ether movement for the daily rotation between space and Earth. In that experiment he found six-sixths of the required ether for a daily rotation. Hence it is logical to assume that the one-sixth he found in 1887 came from the same ether he later detected in his 1925 experiment. Since the ether in the 1887 experiment hit the interferometer orthogonally instead of linearly, it would only pick up one-sixth of the total ether in space.

"Electromagnetism"

You will often hear modern devotees of Einstein claim that he invented Special Relativity as an answer to Maxwell's equations of electrodynamics. They do this because they don't want to admit that Einstein invented Special Relativity for the express purpose of making it appear the Earth was moving around the sun. They want to make it appear that Einstein invented Special Relativity out of pure motives and an independent thought process. The truth is far different. Einstein himself admits that the only reason he invented Special Relativity was due to Michelson's discovery. He writes in 1922:

> Soon I came to the conclusion that our idea about the motion of the Earth with respect to the ether is incorrect, if we admit Michelson's null result as a fact. *This was the first path which led me to the special theory of relativity*.[15]

Be that as it may, the reason the Relativist wants to intrude on Maxwell's electrodynamic theory is because, as it stands, electromagnetism doesn't show any characteristics of being "relative." Maxwell's experiments from 1865 show us that the effect of an electric coil moving over a stationary magnet is different than a magnet moving over a stationary electric coil, and Maxwell appropriately represented these different reactions by two different equations.

[15] Speech titled: "How I Created the Theory of Relativity," delivered at Kyoto University, Japan, Dec. 14, 1922, as cited in *Physics Today*, August, 35 (8), 45, 1982, by Yoshimasa A. Ono.

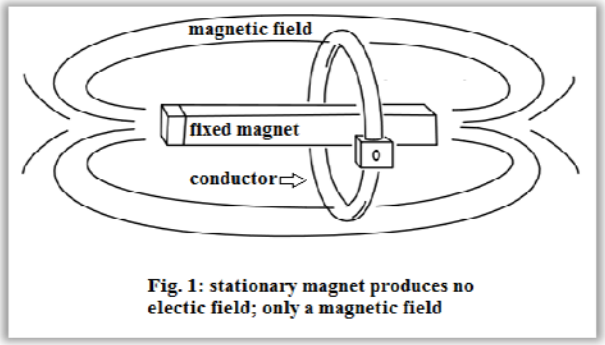


Fig. 1: stationary magnet produces no electic field; only a magnetic field

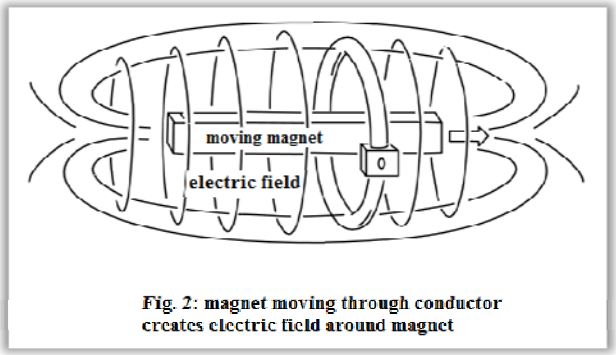


***Fig. 2*: magnet moving through conductor creates electric field around magnet**

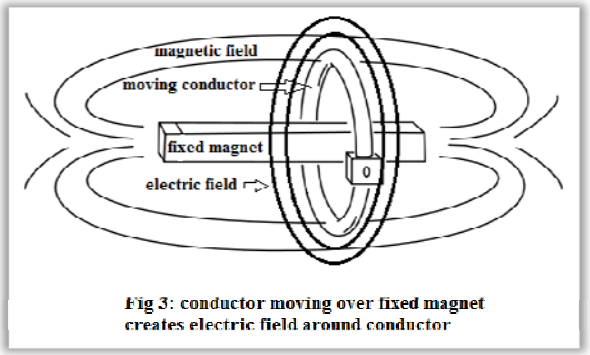


Fig 3: conductor moving over fixed magnet creates electric field around conductor

Maxwell's experiment and his two equations (actually four equations altogether, but with two main equations) thus show us that space and the reactions that occur in it are absolute, not relative, since it distinguishes between the two different effects of the electric coil and the magnet, respectively.

Since a Relativist does not like anything absolute, Einstein sought to make Maxwell's experiment "relative" just as he tried to make Michelson's experiment "relative." To do so, he used the same "transform" equations that he used to make it appear the Earth was moving. As such, the Relativist can make it appear that the effect of electricity on magnetism is the same as magnetism on electricity, but in reality they are not the same.

We still use Maxwell's equations today, because they are correct. But when the Relativist uses them he must invariably inject the "transform" equations in order to make Maxwell's two absolute reactions into Einstein's one "relative" reaction.[16] Without the "transform" equation, Maxwell's findings are diametrically opposed to Einstein's relativity theory.

Not surprisingly, Einstein was well aware that Maxwell's finding of the different reactions between an electric coil and a magnet are related to Michelson's "unsuccessful attempt to

[16] This is also why Relativists tout the idea of an "electromagnetic wave" to describe light. The term "electromagnetic" gives the impression that light is electricity and magnetism combined into one entity. Hence this makes electricity and magnetism dependent and relative instead of independent and absolute. Einstein did this because previously it was understood that light traveled in waves of ether. But since Einstein's Special Relativity dispenses with ether, he then claimed that light made its own medium by orthogonal oscillations of electricity and magnetism.

discover any motion of the Earth." In his famous 1905 paper, he seeks to make their respective absolute effects into "relative" effects (i.e., the same). He writes:

> It is known that Maxwell's electrodynamics—as usually understood at the present time—when applied to moving bodies, leads to asymmetries which do not appear to be inherent in the phenomena. Take, for example, the reciprocal electrodynamic action of a magnet and a conductor. The observable phenomenon here depends only on the relative motion of the conductor and the magnet, whereas the customary view draws a sharp distinction between the two cases in which either the one or the other of these bodies is in motion. For if the magnet is in motion and the conductor at rest, there arises in the neighborhood of the magnet an electric field with a certain definite energy, producing a current at the places where parts of the conductor are situated. But if the magnet is stationary and the conductor in motion, no electric field arises in the neighborhood of the magnet. In the conductor, however, we find an electro-motive force, to which in itself there is no corresponding energy, but which gives rise—assuming equality of relative motion in the two cases discussed—to electric currents of the same path and intensity as those produced by the electric forces in the former case.
>
> Examples of this sort, together with the unsuccessful attempts to discover any motion of the earth relatively to the "light medium," suggest that the phenomena of electrodynamics as well as of mechanics possess no properties corresponding to the idea of absolute rest. They suggest rather that, as has already been shown to the first order of small quantities, the same laws of electrodynamics and optics will be valid for all frames of reference for which the equations of mechanics hold good.

In other words, since Einstein firmly believes the Earth is moving around the sun and yet he realizes that he must have an answer for all the "unsuccessful attempts to discover any motion of the Earth," he proposes that this discrepancy can be dealt with by:

(1) Assuming, as a fact, that electrodynamics and mechanics *did not* show states of absolute rest (*i.e.*, Michelson did not show us a motionless Earth, and Maxwell did not show us the absolute states of electricity and magnetism)

(2) We are thus obligated to change what appeared to be absolute frames in Michelson's and Maxwell's experiments into relative frames (which is noted in his phrase, "all frames of reference"). In order to do so, that is, in order to make "all frames of reference" to be "valid," Einstein will use the "transform" equation, which appears on page 7 of his 1905 paper as follows:

$$\beta = \frac{1}{\sqrt{1 - {v^2}/{c^2}}}$$

or, the same equation can be written as:

$$\beta = 1 \div (1 - v^2/c^2)^{-1/2}$$

This is the precise equation used by Lorentz to claim that the arm of Michelson's apparatus had shrunk by $1 \times (1 - v^2/c^2)^{-1/2}$, with Einstein also adding time dilation by $1 \div (1 - v^2/c^2)^{-1/2}$.

The section of the paper where this "transform" equation appears begins on page 5 with the title:

> § 3. Theory of the Transformation of Co-ordinates and Times from a Stationary System to another System in Uniform Motion of Translation Relatively to the Former

Alas, we don't need to go searching for it. Einstein tells us quite candidly what he is doing. He is "transforming" space and time from a "Stationary System" (*e.g.*, a fixed Earth) to "another System," one of "Relativity." In fact, the word "transformation" appears twenty-four times in his paper as he applies it to every phenomenon from time, space, motion, electricity, magnetism, the Doppler effect, stellar aberration, energy of light waves, electron acceleration, to mass increase. It became the quintessential means to "relativize" the whole universe and forever banish the thought of a motionless Earth.

As we can see, it is all done by mathematics. There is not one iota of physical, empirical proof to the theory. In the Relativist's mind, of course, there is no need to prove their findings or to justify using the "transform." Since everyone "knows" the Earth is moving around the sun, then everything is moving and there is no object at rest and thus the whole universe is "relative."

In effect, whenever the experiments show an absolute result, the Relativist can wave his magic wand and change it into a relative result. This is the essence of the Special Relativity theory that Einstein invented in 1905.

That Einstein believes the Earth is moving, but has no proof for it is noted in his statement…

> "I have come to believe that the motion of the Earth cannot be detected by any optical experiment, *though the Earth is revolving around the Sun*."[17]

Einstein's admission merely begs the question: If, on a scientific basis, he can't detect the Earth moving, how does he know the Earth is moving? The truth is, he doesn't know. He just assumes it to be so, since that is what he has been taught since childhood. In effect, the "transform" equation is then invoked to make it appear as if the Earth is moving around the

[17] Speech titled: "How I Created the Theory of Relativity," delivered at Kyoto University, Japan, Dec. 14, 1922, as cited in *Physics Today*, August, 1982.

sun, but in reality the "transform" equation is just an equation and has no ability or authority to determine the issue. Hence Einstein would also admit in 1938…

> The possibility of solving these difficulties depends on the answer to the following question. Can we formulate physical laws so that they are valid for all coordinate systems, not only those moving uniformly, but also those moving quite arbitrarily, relative to each other? If this can be done, our difficulties will be over. We shall then be able to apply the laws of nature to any coordinate system. The struggle, so violent in the early days of science, between the views of Ptolemy and Copernicus would then be quite meaningless. Either coordinate system could be used with equal justification. The two sentences: "the sun is at rest and the Earth moves," or "the sun moves and the Earth is at rest," would simply mean two different conventions concerning two different coordinate systems.[18]

That is, he will employ arbitrary "coordinate systems" to make the absolute state (i.e., a fixed Earth) into a relative state in which either coordinate system can be used (i.e., a fixed Earth or a moving Earth). All the "coordinate systems" are created mathematically out of thin air by using the "transform" equation. If they didn't use the transform equation, then they would be stuck with only one "coordinate system," the one Michelson found in 1887 when the experimental evidence showed the Earth wasn't moving around the sun.

If you ask a Relativist for the scientific validity of using the "transform" equation, he will simply retort, "Well, the transform equation was proven to be valid when Michelson did his experiment in 1887."

Again, the fallacy of *petitio principii* is readily apparent since he is using an unproven fact (an Earth moving around the sun) as the basis for making the conclusion that the Earth is moving around the sun.

The cause of the fallacy, as Einstein admitted above when he said "*though the Earth is revolving around the Sun,*" is that they insist on using a moving Earth (which they claim to "know intuitively") as the indisputable authority to interpret Michelson's experiment. Consequently, if one firmly believes the Earth is moving, but the experiments show it is not moving, then ones interpretation of the experiment will force one to find some way to make it appear as if the Earth is moving.

In effect, any experiment that shows the Earth is not moving will be math-magically transformed into a moving Earth by the "transform" equation. The "transform" equation is

[18] *The Evolution of Physics: From Early Concepts to Relativity and Quanta*, Albert Einstein and Leopold Infeld, 1938, 1966, p. 212.

like a magician waving his wand over the experiments so that the system one *does not* prefer is transformed into system one *does* prefer.

Modern man certainly does not prefer a fixed Earth, since a fixed Earth would validate much of the history and science prior to the modern age, and would show modern man that he is not the objective and non-prejudiced icon of society that he has enjoyed the last few hundred years. He is little more than a magician who has been feeding the world a steady diet of illusions.

Light as the Absolute

Speaking of illusions, we have one more to expose. In order to determine they have made a non-inertial frame into an inertial frame (which is hard to do if everything is "relative"), ironically, you need something absolute! You need an absolute measuring stick to determine the difference between the inertial and the non-inertial. They can't use the Earth, of course, because they have already insisted it is accelerating around the sun. They can't use length, time, or mass because they have already said that they increase or decrease upon movement and thus are not absolute.

The only candidate left is light. In order to make light an absolute measuring stick, they claim that its speed never changes. But there is no proof for it. They just assume it to be the case (Einstein called it a "postulate"). In this way, they make light serve as the one and only absolute in order to measure the amount of length contraction, time dilation or mass increase, and even the rate that the Earth travels around the sun.

Again, this is the essence of Special Relativity. No proof, just made-up postulates and mathematical equations that give the appearance of truth.

Einstein's "transform" equation, $\beta = 1 \div (1- v^2/c^2)^{-1/2}$ is interesting in itself. First, the easiest way to understand it is in the form of a ratio. We've often heard of a 1-to-1 ratio. Well, this equation was formulated to make the right side always less than a 1-to-1 ration, since 1 multiplied or divided by any number less than itself will always be less than 1. The amount it will be less than 1 depends on the value of v. The higher v is, the higher β will be. Second, c, which represents the speed of light, is used in the denominator because it is believed to be constant and can thus serve as the absolute. Hence v is always measured against a constant value for c; and v can never be higher than c because light is assumed to be the fastest known speed. If v ever equaled c, then, then the ratio would be 1-to-1. Of course, the Relativists are assuming that c is always the same, but they have no proof of this claim.

The Relativist may retort with, "Yes, light speed is constant, but only in an inertial frame. It can vary in other frames." By doing so, he only traps himself. First, if light is constant only in an inertial frame, but an Earth going around the sun is a non-inertial frame, then how can

the Relativist claim that the light beams used in Michelson's experiment on Earth were in an inertial frame? He can't, so he employs the "transform" equation. But in this case the Relativist has again committed the fallacy of *petitio principii*, using as proof (an inertial frame) by the very thing he is trying to prove (that "transform" equations create an inertial frame).

Incidentally, one of the main questions Relativists have never answered (although they have been challenged with it previously), is: if the physical dimensions of length and mass can be contracted by movement, and the essence and calculation of time can be dilated by the same movement, then why isn't light contracted by a moving Earth? Since the Relativist admits that light is a physical reality of "photons" (courtesy of Einstein) shouldn't they also be affected in some way? This very question was posed to Einstein by Maxwell Abraham and August Föppl to the Relativists, but without an answer forthcoming.[19]

In reality, the only reason light is kept immune from the effects of motion in the Relativists scheme of things is because, ironic as it is, the Relativist desperately needs an absolute to make everything else "relative"!

In his mind, he has two choices for the required absolute: (A) the fixed Earth that Michelson found, or (B) the presumed constant speed of light that Einstein wants. If he chooses A as his absolute, it means B would vary. If he chooses B as his absolute, it means A would vary. But choosing A as the absolute would mean certain death for the science establishment, since it would affirm the Church's decision against Galileo. Choosing B would allow the charade of "scientific" authority over the Church to continue indefinitely.

Which one do you think has the greater chance of being chosen by the reigning science establishment?

The geocentrist says that the choice is easy. The *prima facie* evidence of the 1887 and 1925 Michelson experiments show the Earth isn't moving around the sun, but there is a relative daily rotation between Earth and space. Hence, the Earth is the absolute inertial frame and the absolute measuring stick. If so, then the universe is absolute, not relative. Since the motionless Earth is already an absolute inertial frame, then there is no need to introduce *ad hoc* "transform" equations to turn it from a non-inertial frame into an inertial frame, and thus there is no need to contract length, dilate time or increase mass. No magic is required for geocentrism.

[19] As Pauli puts it: "For this purpose we shall discuss the Michelson interferometer experiment….Now, because of the Lorentz contraction….it would therefore seem that an observer travelling with K' measures a velocity of light…different from that measured by an observer in K. According to Abraham there is no time dilation. Abraham's point of view is consistent with Michelson's experiment, but it contradicts the postulate of relativity, since it would in principle admit of experiments which would allow one to measure the 'absolute' motion of a system. (Maxwell Abraham and August Föppl, *Theorie der Elektrizität*, Vol. 2, 2nd edition, Peipzig, 1908, p. 367, cited in W. Pauli, *Theory of Relativity*, page 14, fn. 41).

Additionally, they cannot assume the speed of light is constant or unaffected by motion since if the Earth isn't moving, then there is no way for them to make such a determination from Michelson's two experiments, especially when other experiments and evidence, (e.g., Sagnac in 1913 and the GPS system that shows a 50ns difference in light speed going east-to-west) show light speed is not constant. It is obvious that the Relativist is making these unproven *ad hoc* "transform" adjustments simply because he refuses to believe that Michelson's 1887 experiment showed the Earth is at rest.

Modern Versions of Michelson's Experiment

One more thing: Relativists—those who believe that Michelson's 1887 experiment showed no difference in the speed of the two light beams—claim that Michelson's "null" result has been verified by modern versions of Michelson's experiment that show no difference between the speed of the light beams up to 10^{-18} precision.[20] But if you ever want to see a shell game, this is it. The modern experiments only trap the Relativists more firmly than Michelson did.

Remember above we said Einstein maintained that the slight difference in the two light beams of Michelson's original 1887 experiment can be chalked up to "experimental error." In effect, Einstein was claiming that there was no difference in the speed of the two light beams and the result was thus "null." For the sake of argument, let's assume that to be the case. Hence, if the speed of the light beams was the same, what did this suggest to Einstein? It suggested the Earth wasn't moving! We already saw what Michelson himself said about the presumed "null" result, namely, "This conclusion directly contradicts the explanation…which presupposes that the Earth moves," as well as the other scientists we quoted after him. For further verification, let's look at what Einstein's biographer said:

> In the United States Albert Michelson and Edward Morley had performed an experiment which confronted scientists with an appalling choice. Designed to show the existence of the ether…it had yielded a null result, leaving science with the alternatives of tossing aside the key which had helped to explain the phenomena of electricity, magnetism, and light or of deciding that the earth was not in fact moving at all.[21]
>
> The problem which now faced science was considerable. For there seemed to be only three alternatives. The first was that the Earth was standing still, which meant scuttling the whole Copernican theory and was unthinkable.[22]

So if the new sapphire oscillator confirms that the two beams go the same speed, it doesn't relieve the Relativist one bit. In fact, it traps him all the more, since now an even more

[20] http://m.phys.org/news/2015-09-precise-lorentz-symmetry-photon-constant.html
[21] Ronald Clark, *Einstein: The Life and Times*, 1984, p. 57.
[22] *Ibid*., pp. 109-110, emphasis added. In the opposite vein, senator James W. Fulbright once remarked: "We must care to think about the unthinkable things, because when things become unthinkable, thinking stops and action becomes mindless."

sophisticated and precise experiment confirms that the Earth isn't going around the sun since the light beam in the oscillator that was supposed to be affected by the Earth's movement is not affected. But instead of admitting, or at least holding out the possibility, that this result shows the Earth isn't moving, they instead claim that the 66,000 mph speed has no effect on the light beam, and therefore, they conclude the Earth could be moving and the light beam is constant, regardless that its frame is moving at 66,000 mph. For them the choice is a fixed Earth or a fixed light speed, and they have chosen the latter because a fixed Earth was "unthinkable."

But when they make such a choice, they must also conclude that Special Relativity allows both a moving sun around a stationary Earth and a moving Earth around a stationary sun. As the article itself admits:

> According to special relativity, there is no absolute space or absolute time. So if two objects are moving relative to each other in empty space, it would actually be impossible for an observer to tell their absolute velocities—maybe only one of the objects was moving and the other was stationary, for example, but you wouldn't know which was which because their movements are relative to each other, not to any external reference frame (assuming the reference frame is non-accelerating).[23]

Notice the corner into which the Relativist has painted himself. What they discovered is that there is a price to pay for choosing a fixed light speed over a fixed Earth. With a fixed Earth one knows the universe is absolute, since the universe revolves around an absolute, fixed point, and everything can be accurately measured from that fixed point.

But with a fixed light speed, there is no fixed point and no one knows whether the Earth is moving around the sun or the sun is moving around the Earth. Obviously, if they claim that light speed is not affected by movement, then they can't use light to determine movement, and thus all movement is undeterminable. In effect, for all its bravado and sophistication, science is forced to conclude that science can't answer the simple question of which is moving around the other, the Earth or the sun.

But the problems are not over for the Relativist. If he can't determine the precise motion by using light, then he must account for his inability, since it is a fact that out of the two possibilities (*i.e.*, the sun moving around the Earth or the Earth moving around the sun) only one can be the true reality. So he resigns himself, based on other criteria (mostly philosophical), to believing that the Earth moving around the sun is the true reality, but he is incapable of proving it. The best he can hope for is a draw due to his incompetence.

Another issue concerns the length contraction, the time dilation and the mass increase of the original Lorentz and Einsteinian theories. Do these three effects apply to the sapphire

[23] http://m.phys.org/news/2015-09-precise-lorentz-symmetry-photon-constant.html

oscillators? If they do, then the Lorentz "transform" must be used to arrive at a "null" result if they insist that the Earth is moving around the sun. If the three effects are discarded, then so must Einstein's theories.

The only question left to answer is, why did Michelson's 1887 experiment show at least some ether (e.g., Michelson said it showed one-sixth), but the sapphire oscillators don't show any ether down to 10^{-18}? The reason is very simple. The sapphire oscillators are put in an extreme vacuum, which essentially removes the ether that Michelson discovered. Michelson did not use a vacuum. In effect, the Relativists have to create an artificial environment in order to obtain a "null" result. In the real world, however—the one without a vacuum—some ether always shows up in the Michelson-type experiments. In fact, in Michelson's 1925 experiment, all the ether in space shows up in the experiment.

In the end, it really doesn't matter, since if the oscillator shows no difference in the light beams, then it shows precisely what Einstein believed Michelson showed, namely, the Earth isn't moving. The only way out of that dilemma was to claim that the interferometer shrunk and time dilated, but these were nothing more than pulling a rabbit out of a hat. Consequently, if the Earth were moving, we would expect there to be a significant difference in the speed of the two light beams, just as Michelson found.

One way to test the sapphire oscillator's capability is to position it on the frame of a 1925 Michelson-Gale experimental apparatus instead of an 1887 Michelson-Morley apparatus. A significant difference in the oscillator's results may be seen. The reason, of course, is that in 1925 Michelson found 98% of the ether he needed to confirm a daily relative rotation between the Earth and space, but in 1887 Michelson only found a fraction of the ether he needed for an Earth revolving around the sun (since some of the rotational ether spilled into the 1887 Michelson apparatus). The geocentrist says that this is precisely what should be expected, since the Earth is not revolving around the sun; but ethereal space, which makes up the universe, is daily rotating around a fixed Earth. If on a Michelson-Gale frame the oscillator shows no difference in the speed of the light beams, this would prove that the oscillator cannot detect the relative rotation between Earth and space (but we know positively that there is a relative rotation), and thus show why it is also not able to detect whether the Earth is moving around the sun. It would prove the oscillator to be inert and discount it as being capable of detecting celestial movement. It would then disqualify it from being used to determine that light speed is constant and also disqualify it from claiming "Lorentz symmetry."

We could also put the sapphire oscillator on a GPS frame to determine whether its results are valid. Presently, light beams sent from GPS stations in the east to GPS stations in the west are faster than light beams sent from GPS stations in the west to GPS stations in the east, by at least 50 nanoseconds, every day, all day. (NB: This discrepancy is covered up by

Relativists since they preprogram the GPS computers to adjust for the difference so that they can then claim that light speed is constant according to the Special Relativity theory). In effect, the GPS shows that light speed is not invariant and there is no Lorentz symmetry. If the oscillator is capable of detecting the difference, it would detect the 50 nanoseconds. Since we know for a fact that there is a 50ns difference, then if the oscillator cannot detect it, then either the oscillator is being hampered by its vacuum state or the oscillator simply can't be used to measure light speed differences.

Incidentally, the geocentrist can easily explain the 50 nanosecond discrepancy, since he holds that because space is daily rotating east-to-west against a fixed Earth, the inertial frame of the GPS light beam sent east-to-west is moving westward by 1054 mph by the fact that space is rotating around the Earth, thus adding space's rotational speed to the light beam's speed. Conversely, the GPS light beam traveling west-to-east must travel against the east-to-west frame of space's daily rotation and thus will be slower than the east-to-west light beam.

Back to Maxwell's Equations:

If, as one Relativist claimed: "Special Relativity is for inertial frames of reference, a non accelerating frame of reference. They are the equations which keep the laws of electromagnetism invariant," he is being deceptive (as is much of physics today). He is making it sound as if there is some necessity to make the effect of an electric coil moving against a magnet to be the same effect ("invariant") as a magnet moving against an electric coil. His "necessity," of course, is nothing more than his desire for a backup argument for "relativity" after he had already relativized Michelson's experiment. But Maxwell showed quite conclusively that his results were not "invariant." They are variant because nature is what it is. Since the effects are not invariant, then the universe is absolute, not relative. Special Relativity, because it seeks to promote a relative universe to hide the fixed Earth that Michelson found, can't tolerate the absoluteness of Maxwell's experimental results, so it uses its mathematical magic (the "transform" equation) to make Maxwell's results relative.

Deep in his heart the Relativist realizes that if Maxwell's equations are left absolute, it means that Special Relativity cannot be applied to Michelson's experiment and thus Michelson's finding that the Earth is motionless would be valid. But the Relativist would rather die a thousand deaths than accept a motionless Earth. It is "unthinkable." So he commandeers an untested, unproven *ad hoc* concept (*e.g.*, length contraction) and its accompanying mathematical equation (the "transform" equation) to make it all go away. Einstein is famous for one thing. He is the man who made it "go away," and the world has worshiped him ever since. He did so by making the whole universe "relative" when, in fact, the empirical evidence clearly showed him the universe was absolute.

All in all, the history of the Michelson experiments shows how a preconceived idea (*i.e.*, the Earth moves around the sun) is made the sole determining factor of how a modern scientist is going to interpret the results of any experiment. In order to hold on to his preconceived idea, he will introduce mitigating factors onto the experimental results, and usually, this is done by hypothetical concepts and fudged mathematics. The scientist thus convinces himself that because he can invent a mathematical equation that can "transform" the empirical results, he can keep his preconceived idea of how he thinks the universe must operate. In his mind, 'The Ends Justifies the Means' because he "knows" that the Earth revolves around the sun.

There was nothing that would make mankind happier than to keep believing the Earth moved around the sun, regardless of what the experiments showed. Otherwise, they would have to bow to the pope of the Catholic Church for condemning Galileo for the same error. Their god from on high, Albert Einstein, showed them a magical way to avoid such a predicament, and the world has accepted Einstein as a god ever since. His "transform" equation has become the magic wand to turn an Earth-fixed absolute universe into an Earth-wandering relative universe. As the noted Einstein biographer, Abraham Pais, put it:

> A new man appears abruptly, the 'suddenly famous Doctor Einstein.' He carries the message of a new order in the universe. He is a new Moses come down from the mountain to bring the law and a new Joshua controlling the motion of heavenly bodies….The new man who appears at that time represents order and power. He becomes the θεῖος ἀνήρ, the divine man, of the twentieth century.[24]

To get more details and many other important facts, you can obtain the DVD *Journey to the Center of the Universe* or the books *Galileo Was Wrong* and *Geocentrism 101* at www.jttcotu.com

Robert Sungenis
August 9, 2016

[24] Abraham Pais, *Subtle is the Lord*, 1982, 2005, p. 311. The phrase θεῖος ἀνήρ is the Greek for "divine man."