

Einstein was wrong – who was right?

John-Erik Persson, Budkavlevägen 5, 14174 Segeltorp, Sweden

john.erik.persson@gmail.com

Abstract

Dissidents have spent lots of time on Einstein but has not observed what happened when Einstein was only 3 years old. At that time Potier wrote a paper, stating that Michelson's prediction for his experiments, (MMX), with Morley, were interpreted in error by Michelson. Michelson had assumed light to take the **fastest** – not shortest – way between mirrors, and therefore, wave fronts always are parallel to mirrors in MMX. This means no effect in the transverse arm. However, Potier had a different opinion and stated that transverse ether wind could change the behavior of light and force light to take a longer way.

Since mirrors in MMX have relevance for light only – and not for the ether wind – we can see that Michelson was right. Michelson's correct prediction was based on wave behavior in both arms of the equipment. Potier reintroduced a particle reasoning in the transverse arm only and did not see that light behavior is **unchanged in the ether's frame**. The increased path length is instead in the frame of the equipment. Potier's wrong idea got support from most scientists – but not from Michelson. So, Michelson was the last scientist that was right regarding MMX prediction. Poitier's error supported the Lorentz transform, but Michelson's interpretation is in agreement to the Galilean transform.

Keywords: Michelson-Morley, stellar aberration, special relativity, gravity, ether.

Paradoxes in the concept of time and in the structure of light

The wave or particle paradox indicates, that the transition from particles to waves for light, is not yet completed. For a correct description of the propagation of light we need **two** models. The difference between these two models is the relevance of the two components in the ether wind that fall inside the wave fronts (transverse to propagation). This distinction has been disregarded in the interpretation of stellar and pulsar aberrations; and also, in the interpretation of transverse ether wind, in the famous experiments of Michelson and Morley, (MMX). Stellar and pulsar aberrations are both about an angle of 10^{-4} radians, due to planetary **motion**. MMX is about a change in 2-way speed of light caused by a

second order effect of the ether wind of 10^{-12} , due to planetary **rotation** (not the assumed 10^{-8}) and compensated by contraction of matter.

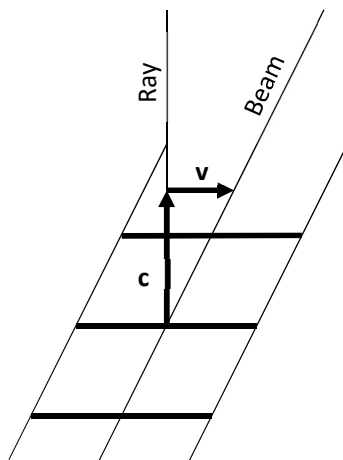


Fig 1 The relations between the concepts ray and beam

The **ray** direction is relevant in coherent systems like telescopes with no defined beam direction. See Fig 1. The wave front orientation is all we can see, since observation in coherent systems is based on phase. The ray is not real, but a mathematical tool to describe how the (real) wave fronts are oriented. The ether wind v inside the wave fronts cannot bend these wave fronts that are defined by mirrors. Instead observer motion, u , produces an illusion of bending. We can see this by regarding that when a light wave c shall be described in a frame moving with the velocity u the description becomes $c-u$. Stellar aberration is therefor u/c and not v/c . Light speed becomes $\sqrt{c^2+u^2}$ and not $\sqrt{c^2-v^2}$. The sign is also wrong.

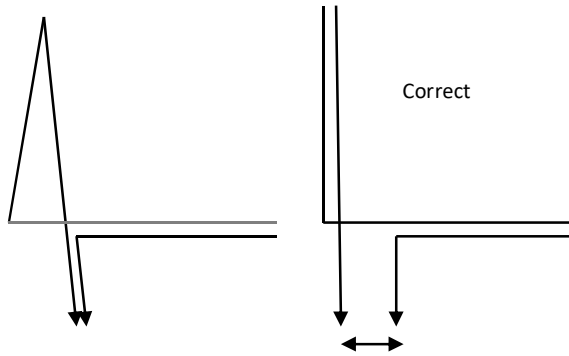


Fig 2 Interpretations of Michelson and Morley's tests

The **ray** direction is relevant for MMX, since mirrors define wave front orientation. So, mirrors are relevant in relation to wave motion c – not in relation to the vector sum $c+v$. Michelson assumed wave behavior in both arms of the equipment. The ether is the reference and this is independent of equipment's motion in both arms. Therefore, no effect in the transverse arm. See Fig 2.

In error Potier assumed mirrors to control the vector sum $c+v$, and he therefore assumed that a transverse ether wind could cause a bending of the wave front. Unfortunately, this particle-based thinking got support from most scientists - except Michelson – and they won the debate. This deviation from the wave model in the transverse arm produced the wave or particle **paradox**, when Einstein was a child. Potier used the beam direction instead of the ray direction and he could not see that the path length is **unchanged** in ether's frame. The change exists instead in the frame of the equipment, and mirrors control orientation of wave fronts - and not the real motion of light.

Potier's mistake had the effect that the FitzGerald-contraction became reduced by 50%. This error was covered up by the absurd concept of time dilation. The Lorentz transform was born, and this concept ruined the concept of time. So, it was Potier's mistake that gave false support to the relativity theories according to Poincarè and Lorentz. Therefore, **all** relativity theories are wrong. The situation was certainly not improved, when Einstein managed to substitute elastic matter by elastic space and combining into spacetime did not help either. Therefore, correction for Potier's mistake means doubling the FitzGerald's contraction of matter, and abolishing dilation of time. We can therefore use the Galilean transform, since the real contraction of matter is hidden by Michelson's definition of the unit of length (just like in the older mechanical meter definition). So, Potier's mistake produced the wave or particle **paradox**, as well as the twin **paradox**.

Without time dilation we need a contraction of physical bodies that is two times the FitzGerald contraction. This contraction is equal to the reduction of 2-way light speed. This is a very reasonable assumption, since atoms control their separations by means of the effects that they cause on the ether. These effects can logically be assumed to travel with light speed between atoms, in two opposite directions. So, it is very reasonable to assume contraction of matter equal to the reduction of 2-way light speed. FitzGerald contraction should be doubled.

The **real** motion of light is described by the beam direction as the vector sum of wave motion and ether wind, $c+v$. This direction is only relevant as the direction of max amplitude, and therefore only observable in focused light. The beam direction is **not** relevant in relation to MMX and stellar and pulsar aberrations – coherent systems. So, we see that we need **two** models for the propagation of light. However, if we correct for Potier's mistake, we can see that we need only **one** model – the wave model – for the structure of light. Potier caused the wave or particle paradox – not Einstein.

Atomic clocks

The behavior of atomic clocks can be explained by the fact that electrons, in the clocks, move forth and back in relation to the ether wind. The electron's kinetic energy is therefore changing during each orbiting period. This fact reduces clock frequency to the same amount as the reduction in 2-way light speed. Clock frequency depends therefore on a second order effect of the ether wind.

The clock effect predicted by SRT can instead be explained by an ether wind **tangential** to satellite orbit caused by satellite motion. This ether wind is 3.87 km/s in a GPS satellite and 7.91 km/s in a very low orbit.

The clock effect predicted by GRT can instead be explained by an ether wind **radial** to satellite orbit. This ether wind has the same magnitudes as the one predicted by SRT (3.87 or 7.91 km/s). The radial ether wind can also explain **gravity**, and can also be united with the high precision in the GPS system (global positioning system). This follows from the spherically symmetric and concentric arrangement of transmitters and receivers in the GPS system. The radial ether wind can also explain the Pioneer anomaly, since changes in 2-way light speed can affect the frequency in returned signal.

By using the relation $f' = f(1 - v^2/c^2)$ and v as the ether wind we find agreement to the experiences in the GPS system. It was assumed that atomic clocks are oriented transverse to gravity but not controlled in direction of motion. The effect due to tangential ether wind is therefore reduced by 50%.

A falling ether (an ether wind directed towards the center of Earth) appears possible to be united with early ether models according to Fatio and Faraday.

Remark

A very important difference between GRT and the radial ether, wind described here, is that GRT is assumed to affect light moving in **all** directions, but radial ether wind affects only the radial **component** of light. It is very difficult to observe this difference, since in most experiments we only can see 2-way speed of light. In order to detect an ether wind in 1-way light, we must concentrate on **changes** in light speed.

Conclusions

- Mirrors control light – not ether wind!
- Michelson was the last scientist that was right regarding the prediction for the MMX experiment.
- MMX is independent of transverse ether wind, and the dependency due to longitudinal ether wind is compensated by contraction of matter. Besides, the effect is 10^{-12} – not 10^{-8} .
- Stellar and pulsar aberrations are independent of transverse (to light) ether wind but depend instead on transverse observer motion.
- Physics went wrong when Einstein was 3 years old!
- We do not need dilation of time.
- Potier's mistake was hard to find due to Einstein's activities.