

# The Tragic History of Theoretical Physics

John-Erik Persson, Budkavlevägen 5, 141 74 Segeltorp, Sweden

[john.erik.persson@gmail.com](mailto:john.erik.persson@gmail.com)

## Abstract

This article contains no mathematical concepts, since this article is primarily intended for non-scientists. The reason is that mainstream physicists are not likely to read dissident papers because they are deeply indoctrinated by the relativity dogma.

Today theoretical physics is in a bad state as indicated by paradoxes and other absurdities. A critical analysis of special relativity seems to be needed, and this article discusses development of physics over a period of about 140 years.

## The failed detection of ether wind by Michelson and Morley

This method (called MMX) is an attempt to detect very small changes in the propagation time for light moving forth and back in two opposite directions. This effect is assumed to be caused by an ether having a speed (ether wind) in relation to the test equipment.

However, atoms in a crystal produce longitudinal forces that are propagating between the atoms in two opposite directions, and thereby define the separation between the atoms. These forces also move with the same constant speed as transverse forces in light, but instead of between mirrors they move between atoms. This fact means that the separations between these atoms are reduced in the same way as the reduction in 2-way speed of light. This means that the assumed effect (although real) is compensated by contraction of matter. **This effect is therefore not observable in MMX.** So, MMX tests made for many decades are completely useless. We will later see that this contraction is 2 times the presently accepted Fitzgerald contraction.

We find that ether wind detection must (and can) be detected by observing 1-way speed of light. The reason for the previous useless tests with 2-way speed is that this method was needed for finding a numerical value on the speed of light. However, finding effect of ether wind demands observations on 1-way light speed.

## No effect in the reference arm in MMX

The previously described measurements demand a reference system, implemented by an arrangement of mirrors in the same way as in the measurement system. The only difference is that the reference system is mounted in a right angle to the measurement system. According to Michelson the ether wind should not cause any effect in the reference arm.

However, an important mistake was done in the year 1882 by the assumption of an ether wind effect in the reference arm also. This effect was stated to be half the effect in the measurement arm, and was motivated by a wrong statement that light must take a longer way due to the ether wind. This mistake seems to be influenced by a particle-based reasoning, and therefore in conflict with the description of light by means of waves. **Instead, the wave model states that mirrors are controlling how waves are moving, but mirrors have no effect on the ether wind.** This means that an ether wind falling inside a wave front cannot change orientation of that wave front and is without any importance

in a system based on mirrors. This means also that ether wind in the reference arm is irrelevant. So, in relation to a mirror light should be described as the wave motion together with just the component in the ether wind that is falling in the same direction as light. In this context it is important to see that the effect of the ether wind is many times smaller than the beam width of most optical systems. We must also remember that optical technologies allow us to find orientation of a wave front (the wave front normal, or ray direction) with very high precision, but total motion (the center of the beam) of light cannot be detected by this high precision.

The MMX equipment is sensitive in the horizontal plane only, and in this plane the effect is caused by the rotation of our planet. So, the ether wind is as small as one part in a million, in relation to the wave motion. Therefore, when light has moved 1 km, the ether wind can have changed the motion only plus or minus 1 mm, in the horizontal plane. Since the normal to the wave front (ray) is falling along the optical axis the total motion (beam) is deviating due to transverse ether wind. The distinction between these 2 concepts was ignored. Since this distinction is small it can be ignored in most cases, **but not in the interpretation of MMX**. So, we find that when light has moved with constant speed **and** direction forth and back in the equipment it is practically **and** theoretically impossible for the mirror-based equipment to detect if the ether wind shifted light a small amount inside the wave front. If such a shift is real the speed in relation to the equipment has increased a small amount, since speed in relation to the ether, and the direction, are unchanged.

Infection with a particle-based idea gave a false reduction of the prediction for MMX, and a cover up for this mistake gave us time dilation, twin paradox and wave or particle paradox. The behavior of atomic clocks in the global positioning system supported this idea, but an alternative explanation exists. Instead of time itself the clocks themselves can dilate as an effect of the ether wind. We can see this by regarding that circulating electrons move forth and back in relation to the ether wind, in one dimension.

**So, we can conclude that wave front orientation is defined by mirrors in MMX, and therefore constant.** (Reported to NPA 10 years ago in a MEMO.) So, ether wind transverse to light motion can not cause any effect on light speed. This important mistake contributed to the wave or particle paradox. Instead of relativity's 2 effects on time and space we need a doubled effect on matter and no effect on time, and clock effect instead of time effect.

## Stellar aberration

A moving ether can move a wave front, but **not** change its orientation. This is true for stellar light as well as in MMX's reference arm. However, an **unchanged** wave front can need a changed representation when described in relation to a moving observer. So, stellar aberration is caused by observer motion and not by the ether wind.

## Special relativity (SRT)

SRT was based on MMX and stellar aberration. The ether wind cannot produce any observable effect in measuring arm as well as in the reference arm. Stellar aberration is also useless. SRT was therefore based on 2 useless tests.

**We can see that an infection with particle-based ideas into the wave model was the tragic cause of the wave-particle paradox. This means that the present chaotic situation in physics was founded as early as in 1882.**

## A possible error in the quantization of radiation

Thermal radiation is caused by moving charged particles. Radiation from many particles is needed to make the radiation possible to detect by means of effects on an electron. The radiation is assumed to be moving with light speed from radiating charges to a detecting electron. This takes a finite amount of time, since we will not accept action at a distance without consumption of time. Therefore, generated forces must be regarded as **potential** and realized in the moment when they reach another charged particle. This delayed realization means that needed energy cannot be provided by the generating particle and instead must be caused by the ether. So, energy consumption is not needed in the generating particle. Therefore, bound electrons can generate thermal radiation continuously without the need for quantum jumping, and we do not have to assume quantization in radiation. So, it is possible that Planck's idea that  $hf$  is a quantum of energy in radiation may not be demanded. Instead  $hf$  can represent quantized detection of radiation caused by quantized charge in detecting electron. Therefore, Planck's constant,  $h$ , can be a scale factor representing an electron property. So, perhaps quantum jumping is not needed, and this mistake is also another contribution to the creation of the wave-particle paradox. The assumption of forces in light to be potential is also a demand, needed for uniting destructive superposition in light with the law of energy consumption.

**The photoelectric effect** has an official explanation based on light particles. It is said that light particles moving **towards** a surface can force an electron to move **away** from the surface. Electrons were assumed to have very low kinetic energy. We find another explanation by assuming electrons to have a **suitable** kinetic energy to allow interference with light frequency in monochrome light. Interference can change **potential** electron energy by a force transverse to motion, and cause the electron to escape. Interference implies demands on frequency as well as on phase, and this explains why only a few electrons are escaping. Interference explains also the dependency on frequency. The wave model works without particles.

**The Compton effect** can be explained in 2 steps. In the first step an X-ray wave packet can cause an electron to escape, in about the same way as we saw regarding the photoelectric effect. In the second step – going in opposite direction – this free electron is captured by another atom, whereby a secondary X-ray wave packet is generated. The wave model works without particles.

**A beam splitter** can be used to illuminate 2 photodetectors with equal amounts of continuous radiation from a laser, and force these detectors to produce equal amounts of photoelectrons. Of course, the outputs are **not** correlated, since the electrons are not correlated. If we have 2 beam splitters, we can use a Mach-Zehnder interferometer to demonstrate that light is waves and not particles. The wave model works without particles.

**We have seen that the wave model for light is all we need to explain light.**

## Radiation from hydrogen

The radiation from hydrogen contains no radiation from the ground states themselves, but only radiation produced by the differences in the frequencies caused by the ground states. We can explain this fact without assuming quantum jumping, since all atoms in a specific ground state are in a wireless communication at the same frequency. This means that they all can cooperate and together produce zero radiation by means of destructive superposition. It is not likely that superposition can work for the interference frequencies. Therefore, we do **not need quantization** in radiation – only in the binding energy.

## Summary

The transition from light particles to light waves is not finished – and all particle stuff is not swept out. So, the present confusion regarding the wave or particle issue started as early as in 1882. The fact that mirrors are transparent to the ether wind was not observed, and this error is so small that it is important only in the interpretation of MMX. Therefore, SRT is based on errors, and we also find that we do not need the particle model for light.

Our problems seem not to be in accepting waves, but rather in unlearning about particles. It also seems in conflict with logic to accept dark matter and deny the ether concept.

We have also seen that, in order to avoid action at a distance, we must assume light to contain **potential** forces, and this assumption is also needed to explain destructive superposition in light without getting in conflict with the law of energy conservation.

## References

More articles by this author can be found at the links below.

<https://www.gsjournal.net/Science-Journals-Papers/Author/763/John-Erik,%20Persson>

<https://independent.academia.edu/JohnErikPersson>

[https://www.researchgate.net/profile/John\\_Erik\\_Persson](https://www.researchgate.net/profile/John_Erik_Persson)