

# About 11 Possible Interpretational Errors

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## Abstract

This article discusses how we should interpret the empirical facts behind modern physics. It is suggested that many current interpretations should be changed.

## Background

Theoretical physics is in a state of chaos. Space is considered to be without physical substance in some kind of ether. Nevertheless space is described by up to 11 dimensions. Einstein caused confusion by denying the ether concept. However, he was never allowed to reintroduce the ether. The ether is a mysterious concept hard to understand. Therefore, the concept was denied due to *lack of* knowledge. This is wishful thinking and bad logic. The result is therefore a kind of physics full of inconsistencies and paradoxes. Observers moving with different speeds are assumed to observe the same light to move with the same speed in relation to all observers moving with constant speed. Action at a distance is also accepted. Light is assumed to be sometimes waves and sometimes particles. These problems are frequently discussed by dissident physicists. However, it is the opinion of this author that we should be more critical to present interpretations of what the experiments say. This article will demonstrate that many errors may be present in interpretations of empirical facts.

## Error 1: Stellar aberration

The astronomer James Bradley discovered in 1728 that the observed direction to a fix star really changes due to our planet's motion in relation to our sun. Bradley explained the effect by stating that the aberration is produced in the transformation of light's motion from the frame of our sun to the frame of our planet. However, when Maxwell's theory of electromagnetic waves was applied to light, it was stated that the motion of light was defined by the state of motion of the ether instead. This is a correct description of how light *really* moves, but is *not* a correct description of what we can observe in a telescope. The telescope compares phases over a surface and detects the wave front's *orientation* (represented by its normal). See [1], *Light without Energy*. The orientations of wave fronts do *not* depend on ether winds inside these wave fronts. This means that the telescope is blind to ether wind transverse to light. Stokes reduction of Michelson's prediction is wrong. Stellar aberration can therefore not tell us anything about the ether wind. The entrained ether is not ruled out by stellar aberration as currently is assumed.

In reality stellar aberration is caused by changes in observer motion. Stellar aberration is therefore produced in the same way for assumed light waves as for assumed light particles. *Apparent* wave front normal changes just like apparent particle track. The effect of observer motion in relation to a moving phenomenon cannot depend on the kind of phenomenon. The entrained ether was denied in error.

## Error 2: Michelson and Morley

The separations between atoms in a crystal are controlled by changes in the ether produced by the atoms. These changes move with speed of light (in relation to the ether) between the atoms. Therefore, the atoms are in a 2-way communication based on the ether. It is not easy to find an alternative since the ether is all there is between the atoms and we will not accept action at a distance. This communication is simultaneous in 2 opposite directions.

Michelson and Morley also used 2-way communication based on the ether. Their communication was sequential. The effect (of second order) is the same for sequential as for simultaneous 2-way communication. The effect, searched by Michelson, is therefore compensated by the same effect in atomic separation as in 2-way speed of light. This explains why Michelson measured constant phase (number of waves) and *not* 2-way speed of light. Michelson made fantastic measurements but interpreted the results in error. His mistake caused the denial of the autonomous ether. The effect Michelson could not detect is instead detected by the Pioneer satellites.

The current definition of the meter is based on the length of a 2-way propagation of light in a specific time. This means that the meter depends on 2-way wavelength. Since wavelength in an observer's frame depends on ether wind in that frame we can conclude that the *real* length of the meter depends on ether wind of the second order.

## Error 3: Denial of the ether

The earlier described errors regarding stellar aberration and Michelson and Morley's experiments had the effect that Einstein could abolish the entrained ether as well as the autonomous ether. Instead Einstein introduced the *not existing* ether. A fourth alternative – that is an ether, not entrained in itself, but having entrained properties – was introduced in [2], *The Fourth Ether*. The entrained properties are ether wind and gravity produced by that ether wind.

When Einstein had abolished the ether he was forced to use the observer as a reference for light speed. As a consequence of this illogical decision the concepts space and time became elastic properties in relation to the state of motion of the observer.

## Error 4: Denial of pushing gravity.

Pushing gravity is a concept explaining gravity by a flow of particles moving in all directions. Gravity is assumed to be caused by a shadowing effect caused by matter that attenuates the flow of particles. Therefore, fewer particles are leaving a body than the number of approaching particles. This difference is the cause of gravity. The difference is very small for bodies of the size of our planet. In a point that is stationary in relation to the body causing gravity the force of gravity is *constant*. Constant gravity means that the speed of ether particles is irrelevant for aberration. The force of gravity caused by our sun is therefore directed towards the Sun without aberration. Constant gravity has no speed. The speed of ether particles causing gravity has therefore relevance only for *changes* in gravity. This is in agreement to light that can be considered as changes in the states of the ether. Changes in gravity are very difficult to detect. A common opinion, that no aberration in gravity implies enormous speed of gravity, is therefore wrong. A plausible speed of ether particles is the speed of light. Pushing gravity has been denied in error.

### **Error 5: Denial of gravity anomalies**

According to Newton's gravity the contribution to gravity from 2 bodies is always the vector sum of the 2 effects. The principle of superposition is valid. Pushing gravity implies a very, very small reduction of this sum if the 2 bodies are in line with each other in relation to the point where gravity is detected. Anomalies of this kind have been observed during solar eclipses. Effects in vertical direction have been observed in gravimeters. Effects in horizontal direction have been observed in the motion of high radio towers. See [1], *Light without Energy*.

The anomalies have been ignored since instead of 1 effect 2 effects of supposed wrong signs have been detected in the beginning and in the end of the eclipse. However, this phenomenon can easily be explained if we consider that the observed effect is not just the effect in the point of measurements. Instead the observed indication should be considered as the difference of the effect in a point and the effect in a part of our planet. The size of this part is defined by the size of our moon. The eclipse anomalies have therefore been abolished in error.

### **Error 6: Denying radiation from bound electrons**

Observations on light are always indirect. This is because we observe energy changes in matter (mostly electrons) instead of changes in light. We conclude light's behavior from these indirect observations. We have *no* information from moving light and we have *not* regarded the contribution from the ether to the energy balance. By including the contribution from the ether we find that the contribution from light can be zero. This means that *bound* electrons can radiate without losing energy.

If there is no energy in light we do not have to assume quantization of that energy. We also find that the law of energy conservation is not in conflict with the observed fact of destructive superposition in light. We can also conclude that bound electrons can explain the observed line type spectra.

### **Error 7: Photoelectric effect**

Bound electrons move according to a balance between inertial force due to mass and radial Coulomb force due to charge. These forces can balance each other for circular orbits. Light with a frequency equal to (or to a multiple of) the orbiting frequency can produce a force transverse to motion. It is possible that this force can disturb the balance of forces. This can change the *potential* energy of the electron. This is in agreement to the *wave* model for light. The particle model for light *cannot* explain how emitted electrons can move in the direction from where the light was coming. Einstein's explanation is in conflict with basic mechanical laws. Therefore, photoelectric effect implies light to be waves. Einstein's interpretation is wrong. See [1], *Light without Energy*.

### **Error 8: Compton effect**

X-rays are generated when a fast electron is captured by an atomic kernel. The reverse process is when an X-ray wave packet changes potential energy in an electron and the electron therefore can escape from its kernel. This phenomenon is analogous to the process in the photoelectric effect. The escaped electron can be captured by another kernel and thereby generate an X-ray wave packet. The Compton effect can therefore be explained by *two* processes. An electron escaping one atom can be captured in another atom. The processes take part in different atoms. Therefore, the primary and the secondary X-rays can be different in frequency and in other parameters. Compton effect can be interpreted in error.

## Error 9: Atomic clocks

Electrons in atomic clocks move forth and back in relation to the ether's state of motion. This means that the electron is retarded and accelerated in proportion to the ratio between ether wind and light speed in the direction of the ether wind. The effect of this force is that the electron's velocity component in a direction transverse to the ether wind is different in 2 opposite directions. Therefore, the ether wind produces an effect that is analogous to the effect assumed in the Michelson and Morley experiments. Since the 2 opposite effects do not compensate each other completely a small second order effect remains. Therefore, in atomic clocks we can observe the same effect that Michelson failed to detect. The effect in atomic clocks is *not* caused by dilation of time as Einstein said. Instead atomic clocks are sensitive to the ether wind. The effect is described and calculated in [1], *Light without Energy*.

## Error 10: Pioneer anomaly

It was assumed in [3], *The Falling Ether*, that gravity is caused by a vertical ether wind of the same magnitude as a satellite in a circular orbit at the same altitude as the ether wind. From this assumption follows that radio signals to and from the Pioneer Satellites move towards and along the ether wind. The 2-way speed of light is therefore changing when the distance from Earth changes from 20 to 80 astronomical units. With assumptions given here and data from the Pioneer satellite we can find the 2-way effect over the range of observation is about 1.5 Hz. This estimation is derived in [4], *The Pioneer Anomaly and the Ether Wind*. The value is in agreement to observation. We can therefore conclude that the real cause of the anomaly is an increase in 2-way speed of light. The apparent decrease in satellite speed is therefore an illusion.

## Error 11: Light bending near our sun

According to the wave model for light and assuming an existing ether we can conclude that observable propagation of a wave front depends only on one component in the ether wind. This component is longitudinal to light and transverse to the wave front. Light tangential to our sun is therefore first accelerated by the ether and later decelerated. Since the effect is largest nearest to the Sun we get a bending first away from and later back towards the Sun. The effect is back to the same direction, but not to the same position. The difference was estimated in [1] to be about  $10^{-5}$  radians as observed. It was also described in that article how this bending could be more accurately calculated. Therefore, the light bending near our sun does not prove light to be massive particles. Instead the wave model for light is correct.

## Conclusions

We have demonstrated 11 plausible errors in the current interpretations of well-known empirical evidences. By regarding these errors we can conclude that the theory of relativity and the application of quantization on light are serious mistakes. Instead we find that we have classical and physical explanations to the following:

- Wave or particle behavior in light
- Stellar aberration
- Michelson's failure
- Light bending near our sun
- Atomic clocks
- Pioneer anomaly

- Destructive superposition in light
- Stability in planetary orbits
- Aberrations-free gravity

## References

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