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## ABSTRACT

We accurately describe what time is. And it is about time!

## ASSUMPTIONS

Special Relativity, as defined by Dr. Einstein's first 1905 paper, is wrong. Thus there is no time dilation, length contraction, etc. See [www.k1man.com/c1](http://www.k1man.com/c1) However, his two postulates therein are correct:

First 1905 paper: On The Electrodynamics of Moving Bodies, it states in the second paragraph:

(Assume, for a few moments, that Dr. Einstein's assumption, that there is no aether, is also correct.)

## FIRST POSTULATE

"...the unsuccessful attempts to discover any motion of the earth relatively (sic) to the 'light medium, suggest that the phenomena of electrodynamics as well as of mechanics possess no properties corresponding to 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. We will raise this conjecture (the purport of which will hereafter be called the 'Principle of Relativity') to the status of a postulate

## SECOND POSTULATE

and also introduce another postulate, which is only apparently irreconcilable with the former, namely, that light is always propagated in empty space with a definite velocity  $c$  which is independent of the motion of the emitting body..."

The two postulates are correct, only needing a unique frame in the void (of space, or the approximate void as the author defines in [www.k1man.com/c62.pdf](http://www.k1man.com/c62.pdf))

Light does always go at  $c$  in a void (he calls it "empty space.") He could not explain "Going  $c$  relative to what in empty space?" That is where I solve this problem with the LOCATION concept that light travels  $c$  in a void (empty space) relative to its LOCATION at the instant of emission. The LOCATION concept turns out to define a unique frame in the universe without an aether. See [www.k1man.com/c48.pdf](http://www.k1man.com/c48.pdf) "Special Relativity Replacement."

## TIME IS REAL

Time is just as real as the indeed constant speed of light (as distinguished from the relative speed of light – see [www.k1man.com/c48.pdf](http://www.k1man.com/c48.pdf)) in the void (or approximate void – see [www.k1man.com/c62.pdf](http://www.k1man.com/c62.pdf)).

Light travelling  $c$  in the void unique frame (see [www.k1man.com/c62.pdf](http://www.k1man.com/c62.pdf)) is the universal standard in all of physics and science. [1] We must only arbitrarily define the meter, conceptually, as the distance between two scratches on a platinum iridium bar in Paris. Now time is accurately represented as  $c = (\text{distance in meters})/\text{time}$  or

$$\text{time} = (\text{distance in meters})/c$$

Light self propagates through a void (or approximate void) and keeps everyone honest, so to speak. Light somehow squeezes energy into a region of space in a certain amount of time, and the energy then comes out, etc., etc., as the light propagates at  $c$ . You could also gauge time in other less precise ways such as rotation of the earth, etc.

It is not time that is “flowing,” really, but rather that light is propagating. Light will always propagate, and time will therefore always “flow.” The light is very real, but the “flow” of time is not real in the same sense. But time always flows in the forward direction. It never stops. It doesn’t go in the reverse direction. So time does, after all, have some very real properties. Thus we can argue that time is “real” in this sense, Light does not have mass, a weird property, and time is only “real” in a weird way. How about the word “weird” as a scientific term? Someone from a far away galaxy would have a hard time understanding what I mean by “weird.” Tough bananas! Suck it up and try and understand some of the REALLY crazy things that humans do on a daily basis!

But, YOU understand “weird,” right?

AETHER

To assume an aether, things change slightly. See [www.k1man.com/c48.pdf](http://www.k1man.com/c48.pdf)

SUMMARY

Time is not a very difficult entity to understand if you keep your wits about you. Light, and other forms of radiation, such as radio, X, Gamma, Delta, etc. are quite a bit harder to understand. For one thing, light seems quite different from mass. And, what is mass, anyway? And how is light generated in and from atom? These are much more significant questions.

[1] Consider light coming through space, an approximate void, from a binary star system to your eye on earth. Assume one star coming toward you at  $v$  and the other going away from you at  $v$ . Assume that at  $t = 0$ , both stars are equal distance from your eye, with a plane going through the two stars. Assume that a perpendicular to that plane passes through your eye and that the plane has no velocity relative to your eye. Between the two stars on that plane is a flashlight. The light coming to your eye from each star and the flashlight will all reach your eye at exactly the same moment (ignoring the parallax causing the flashlight to be slightly closer). The light from the star coming toward you will be blue shifted, and the light from the star going away from you will be red shifted. Light from the first star will have a relative speed of light of  $c + v$  and light from the second star will have a relative speed of light  $c - v$ . The actual speeds of the light from the two stars and the flash light will all be  $c$ .

***“To kill an error is as good a service, and sometimes even better than, establishing a new truth or fact.”***

***Charles Darwin***

"Great causes are never tried on the merits; but the cause is reduced to particulars to suit the size of the partisans, and the contention is ever hottest on minor matters." - Ralph Waldo Emerson - From his essay "Nature" 1844

**Mr. Baxter has a degree in Industrial Engineering from the University of Rhode Island and is a Licensed Professional Engineer in Illinois and Maine. He is a graduate of Vermont Academy, which honored him in 1993 as a Distinguished Alumnus with the Dr. Florence R. Sabin Award. It was at Vermont Academy as a student where Mr. Baxter attended a talk and met the very popular relativity author James A. Coleman. Mr. Baxter has been doing research in relativity and physics ever since and is currently Executive Director of the Institute for Advanced Research. See [www.k1man.com](http://www.k1man.com) His current interests include physics, philosophy, and theology.**



**Glenn A. Baxter, P.E., at his home in Belgrade Lakes, Maine U.S.A.**





Glenn A. Baxter, P.E., age 4, with his dad, Frank H. Baxter (Bachelor of Science Degree, Mechanical Engineering, 1914, Rhode Island State College), and President of Frank H. Baxter Associates, 370 Lexington Avenue, New York City. See [www.k1man.com/fhb](http://www.k1man.com/fhb) and also [www.k1man.com/w10](http://www.k1man.com/w10) and [www.k1man.com/Loons](http://www.k1man.com/Loons)