

Conscious Action Theory (CAT) Interpretation of Relativity Theory

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Abstract. Each year at Vigier conferences papers are presented which dispute both Einstein's relativity theory and his interpretation of space and time.^{1,2,3} Many of these difficulties are resolved when the true nature of the observer is properly taken into account. By applying the integrated objective/subjective framework of CAT⁴ this paper will show:

- 1) Coordinate frames in relativity related publications are always the sensor system of conscious observers viewed from the author's theoretical 3rd-person perspective.
- 2) The theoretical 3rd-person perspective is not equal to the direct 1st-person experience actually perceived by the observer imbedded in the observing system which includes the coordinate frame as its sensor.
- 3) When the action flow to and through the observing systems, which including the coordinate frames, is conducted the Lorentz transformations are explained by classic physics of Mach and Lorentz¹.
- 4) The Einstein's space-time warp interpretation is a complex work-around of the fact that his own conscious existence as a necessary and indisputable component of Reality. Einstein was a realist who discounted his own imagination as the undeniable background in which his thought experiments were visualized.

Times have changed. No longer are the Laws of physics restricted by the belief that conscious awareness is purely a consequence of an independent objective material universe that exists whether or not one is aware of it. The integration of mind and body as phases of a self regenerating existence cycle proposed by Wheeler⁵ and expanded in CAT suggests a physics built on action flow can incorporate subjective experiences that have direct effects on the objective world. Once this mind/body relationship is realized and Everett's contention that "all systems are observers"⁶ is taken seriously, then the experience of space is always attached to the observing system's underlying material and consequently there is always a background ether with the following characteristics.

- 1) Space - is cross-section of the action flow through the observing system
- 2) Matter consists of mass and charge which have the classic past and future aspects as well as the CAT postulated internal and external aspects. These interact through four force categories which can be related to gravity, electric, weak, and the strong forces.
- 3) Time is the measure of the state of the system used to measure it.

This paper will then show that there are three types of time measurements, which applicable to Einstein's theory. These occur when the Whole (W) is divided into the Self (I) and the rest of the Universe (U). The state of the W, U, and I are identified with

- 1) T_W – the total state of the Whole, traditionally called Newtonian time
 - 2) t_U – the coordinate time applicable when the Universe is adopted as one's clock system
 - 3) τ_I – the CAT corrected proper time of any observer attached to a coordinate frame used to measure events.
- By properly including a conscious observer in physics this paper will provide a simplified interpretation of space-time more closely corresponding to the Mach-Lorentz interpretation of relativity.

References

[1] Giese A., (2019) "On going problems with special and general relativity, and solutions", Journal of Physics: Conference Series, Volume 1251, IOP Publishing, ISBN-1742-6588

- [3] Hankey A., (2019) “Reanalysis of the Michelson’s in relation to the two swimmer problem“, Journal of Physics: Conference Series, Volume 1251, IOP Publishing, ISBN-1742-6588
- [3] Matveev V. Matveev O. (2016) “Kinematic Solutions to the Twin Paradox in Special Relativity” , Proceedings of the Xth Vigier Symposium Porto Novo, Italy, World Scientific, ISBN 978-981-3232-03-7
- [4] Baer, W., (2020) *Conscious Action Theory: an introduction to the event oriented world view* , Routledge Press, ISBN 978-1-138-66746-4 (hbk)
- [5] Wheeler J.A. Zurek W.H. (1983) *Quantum Theory and Measurement*, Princeton University Press. For example, see “Law without Law” by Wheeler p 182 and “The Problem of Measurement” E. P. Wigner p 324
- [6] Everett H. (1957) “‘Relative State’ Formulation of Quantum Theory”, *Rev. Mod. Phys.* Vol 29, No 3