

## Article

# Observer Is a Function of Four-dimensional Timeless Space

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### ABSTRACT

Recent research on time shows that one has to distinguish between physical time and psychological time. Physical time is run of clocks in space. Space itself is timeless. With clocks we measure material change i.e. motion that happen in space. Linear psychological time “past-present-future” is a result of neuronal activity of the brain. Observer is experiencing material change through psychological time. Observer is unchangeable and independent of psychological time running. This indicates that observer is not based on neuronal activity of the brain as psychological time is. Space and observer are both timeless. Here a proposal is taken that physical basis of the observer is space itself. In scientific exploration the process of observation is the function of space. Hypothetically every point of space has the function of observation. Human senses and brain are biological devices through which space experiences material change i.e. motion in space. Observer as a function of space is an integral part of the universe. This view opens new perspectives in understanding of Lorentz transformation and “proper time” of different inertial systems in Special Theory of Relativity.

**Key Words:** time, physical time, psychological time, run of clocks, Lorentz transformation, proper time, time dilatation, inertial system, observer, quantum consciousness.

### 1. Introduction

Physical time is the run of clocks in space. Space itself is timeless: past, present and future do not exist in space. Time as the run of clocks in space implies that the duration of a material change has no existence on its own. Duration of material change is the result of measurement with clocks. Planck time is the basic unity for measuring frequency, velocity and numerical order of physical events that run in timeless space. Time as a clock run is not a part of space; the time/clock run is a reference system to measure physical events, i.e. material change that run in space. Universe is a timeless phenomena as already predicted by Kurt Gödel back in 1949 (1,2 &3).

In Lorentz' transformation time  $t$  and  $t'$  are the running of clocks for every observer that is observing inertial systems A & A'. Hypothetically observer is in every point of space. The presence of scientist in a given point of space makes possible the process of observation. We experience change in timeless world through the concept of inner linear time “past-present-future”, which has its physical origins in neuronal activity of the brain. “The brain is the ‘local’ creator of time, space and space-time are our special maps of reality we ‘observe’ and participate in” (4).

“Time is a fundamental dimension of life. It is crucial for decisions about quantity, speed of movement and rate of return, as well as for motor control in walking, speech, playing or appreciating music, and participating in sports. Traditionally, the way in which time is perceived, represented and estimated has been explained using a pacemaker–accumulator model that is not only straightforward, but also surprisingly powerful in explaining behavioral and biological data. However, recent advances have challenged this traditional view. It is now proposed that the brain represents time in a distributed manner and tells the time by detecting the coincidental activation of different neural populations (5).

Observer has ability to observe outer material world, He also has ability to observe and be conscious how scientific mind builds of scientific models of the world. Observer ability to be conscious of the way mind functions is allowing speculation that observer is consciousness itself. It is

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consciousness observing and experiencing outer physical and inner psychological world.

physical world – outer perception with senses – mind processing – experience of the observer i.e. consciousness

psychological world – inner perception of thy way mind is processing – experience of the observer i.e. consciousness

Penrose and Hameroff define consciousness as a result of quantum gravity acting on the microtubule of the brain neurons (6,7). According to quantum gravity space is made out of grains size of a Planck volume  $17.6925569946 \times 10^{-105} \text{ m}^3$ . Here we consider that grains of space called “quanta of space” QS are four-dimensional and timeless. QS have the property of observation and being conscious about events that are happening in quantum space including functioning of the human mind.

## 2. Timeless Observer in Special Theory of Relativity

Experimental data confirms that clocks run slower on the airplane than on the surface of the planet. This is valid for every observer irrespective of which point of space he/she is observing both of clocks. An inertial system has not its local “proper time” according to which clocks run and in which observer should exist and observe clocks. This is the misunderstanding of Special Theory of Relativity. Experimental data confirms that speed of clocks in all different inertial systems is the same for every observer irrespective from which point of space he/she is observing them. There is no local “proper time” of an inertial system. Space in which inertial systems move is timeless and clocks are measuring devices for measuring speed of other material change.

Fourth coordinate  $X_4$  is composed out of:  $X_4 = i \times c \times t$ , where  $t$  is “tick” of the clock. Shortening of the fourth coordinate  $X_4$  called “time dilatation” is result of slower speed of a clock which influences  $t$  becoming smaller. Fourth coordinate of space is spatial too, space itself is timeless. Physical time is run of clocks in space, mathematical time is number  $t$  in formulas and psychological time is a mind frame into which we experience material change i.e. motion running in timeless space.

Relative “proper time” as a relative “speed of clocks i.e. change” running in timeless space resolves the “Twin problem”. One twin is traveling on fast spaceship other twin is remaining on the planet earth. Both of twins are growing older in the same timeless space, twin in fast spaceship is growing older slower than his brother on the earth.

## 3. Conclusion

Psychological time and processing of the mind are based on neuronal activity of the brain. Past, present and future belongs to psychological time. Physical time is run of clocks in timeless space. Universe is a timeless phenomenon. Observation and being conscious about outer material and inner psychological word is a function of quanta of space.

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