**My Response To The Vidya Article**

**“Time – a function”**

**by Kjeld Danneskiold-Samsøe**

**(his claims in italics – followed by my replies in bold)**

*You can define a space-time point by its space-time coordinates:*

*P₁ = (A₁ , B₁ , C₁ , T₁), where A, B and C are the space dimensions*

*and T is the time dimension. Any change to a new point, say, to P₂ ,*

*could be a change in all four dimensions …*

*If A₂ = A₁ , B₂ = B₁ , C₂ = C₁ , and T₂ = T₁ , and you have Pm = 0,*

*that is no change in time ( time stands still ),*

*then there is no movement of the object .*

**Can you name one place in the universe, at any time in history,**

**where time has stood still?**

**Can you name one object in the universe that is not moving?**

**Since you cannot provide an example for either question**

**then your assertions that “time stands still” and “there is no movement of the object” are not based on science, but on … fantasy.**

*If we move a photon, then we know that it moves with the speed of light (since photons are light). According to general relativity, time runs slower near the speed of light*

**Pay special attention to the first line - where time is defined.**

[**https://en.wikipedia.org/wiki/Time\_in\_physics**](https://en.wikipedia.org/wiki/Time_in_physics)

**“Time in physics is defined by its measurement ...**

**time is what a clock reads.”**

**It’s not time that is running slower,
but the clocks that measure time … that are running slower
and that is because the object used to measure time
must travel a greater distance as its speed increases**

 **(this video is well worth 4:38 of your time):**

[**https://www.youtube.com/watch?v=7m2KK8rOTBE**](https://www.youtube.com/watch?v=7m2KK8rOTBE)

and at the speed of light ***time stops***.

**Where does time stop? In the Milky Way? Andromeda? On Earth?
Since all photons travel at the speed of light,
are you claiming that time stops wherever there are photons?
So when a photon strikes a retina, where does time stop?
In the eye? Around the person? And for how long does it stop?**

So for a photon, ***arrival time is the same as departure time***.

**That sentence is incoherent, not only in physics, but in English.**

Entanglement isn’t that mysterious at all since particles working at the speed of light ***work within a timeframe of zero***.

[**https://en.wikipedia.org/wiki/Quantum\_entanglement**](https://en.wikipedia.org/wiki/Quantum_entanglement)

**Quote from article “*Quantum entanglement has been demonstrated experimentally with photons, neutrinos, electrons, molecules as large as buckyballs, and even small diamonds*.”**

**See the problem with your assertion?**

**Of all the objects listed, only photons travel at the speed of light.**

**Perhaps you could explain the entanglement of the other objects**

**which travel at far less than the speed of light?**

Electromagnetic fields work ***at the speed of light***.

**Electrons are surrounded by electromagnetic fields.**

**Electrons do not move at the speed of light.**

[**https://www.youtube.com/watch?v=bHIhgxav9LY**](https://www.youtube.com/watch?v=bHIhgxav9LY)

**According to your assertion above,**

**an electron’s electromagnetic field would soon leave the electron behind.**

**So where does the electromagnetic field go after it leaves the electron?**

If all fields in the quantum world don’t count for the time factor, it is easier to understand why ***a particle can be on two different places at the same time***.

**If two particles exist in two different places at the same time …**

**please explain how you know they are the same particle.**

**You said previously that the position of a spacetime point**

**could be determined by “P₁ = (A₁ , B₁ , C₁ , T₁)”**

**So how do you determine that Point 2 (which is at a different location)**

**is actually Point 1?**

Time is a dimension ***built by humans***.

**So before humans existed, and built the time dimension, there was no time?**

**I think the dinosaurs might have something to say about that.**

In quantum reality, ***time doesn’t exist***.

**According to your formula “P₁ = (A₁ , B₁ , C₁ , T₁)” without a T1**

**it would be impossible to determine the position of a quantum object.**

**Yet researchers have been able to determine the location of quantum objects**

**(such as photons and electrons) which appear on a screen:**

[**https://en.wikipedia.org/wiki/Double-slit\_experiment**](https://en.wikipedia.org/wiki/Double-slit_experiment)

In search of a unified theory that combines general relativity with quantum mechanics, time must be cumbersome. ***In the one reality time exists, and in the other it doesn’t***.

**Do you have any evidence that time doesn’t exist for quantum objects?**

**I ask because this article lists dozens of instances of time**

**related to quantum mechanics:**

[**https://en.wikipedia.org/wiki/Quantum\_mechanics**](https://en.wikipedia.org/wiki/Quantum_mechanics)

It might be the same with gravity. ***Gravity exists in general relativity***,
but does not work as such in the quantum world.

**Gravity does not exist “in general relativity.”**

**Gravity exists in the universe.**

**Relativity is a theory describing gravity**

**And if gravity doesn’t exist in the quantum world,**

**how do you explain the gravitational lensing of light?**

[**https://www.science.org.au/curious/space-time/gravitational-lensing**](https://www.science.org.au/curious/space-time/gravitational-lensing)

So time and gravity at least have these properties in common.
We know that mass curves the space-time, and by that creates gravitational forces that work between masses. When mass is present in space, it changes the geometry of space itself, and also ***the geometry of time***.

**“Geometry of Time” was a bad choice of words.**

**You just destroyed your opening statements**

**where you asserted that time was the fourth dimension:**

[**https://www.frontiersin.org/articles/10.3389/fphy.2016.00044/full**](https://www.frontiersin.org/articles/10.3389/fphy.2016.00044/full)

**Here’s the money quote from the article:**

**“Our main result is that time is the scalar component of a Clifford space and can be viewed as an intrinsic geometric property of three-dimensional space without the need for the specific addition of a fourth dimension.”**

**Time is not a dimension – it is a concept.**

**We use clocks to measure this concept that we call time.**

**When time is referred to as a “dimension,”**

**it is used figuratively (metaphorical rather than literal).**

***Curved time is stretched.***

**You cannot curve a concept.**

**That assertion was nonsensical.**

which means that ***time runs slower***.

**Clocks run slower. There is no evidence that time moves at any speed**

**other than 1 second per second … everywhere in the universe.**

Black holes with enormous mass (and gravitation) might curve the arrow of time so much that ***time stops***. It could be that time in a black hole has no meaning…just like in the quantum world.

**As I asked earlier: do you have evidence, ANY evidence,**

**that time has ever stopped anywhere in the universe at any time in history?**

**If you do, now would be a good time to present it.**

The only way to build a unified theory is to establish equations where ***time either isn’t counted in***, or at least ***is set to a zero-value***. If not, then the value of time ***must tend toward zero*** as a result of ***downsizing***. This means that the value of the time parameter is dependent on the scale of the structure which we are observing.

**wtf?**

**That last paragraph can best be described as a …**

[**https://www.merriam-webster.com/dictionary/word%20salad**](https://www.merriam-webster.com/dictionary/word%20salad)

**(definition #2)**