

## Re: Can time be separated from space?

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**From:** PD (*pdraper\_at\_yahoo.com*)

**Date:** 03/24/05

Date: 24 Mar 2005 11:31:07 -0800

TomGee wrote:

> *PD wrote:*

> > *TomGee wrote:*

> > > *a643155 wrote:*

> > > > *Hi,*

> > > >

> > > > *I'm wondering if anyone could give an example of a physical*

> *event*

> > > > *that involves time, but doesn't involve space (spacial dimension,*

> > > > *spacial coordinates, etc.) in any way, even behind the scene,*

> *free*

> > *of*

> > > > *spacial-motional causality, so to speak.*

> > > >

> > > >

> > > *Space is the medium for matter and light,*

> >

> > *Correction: spacetime is the medium for matter and light. Show that*

> > *light can exist in space without any extent in time.*

> >

> >

> *That could be true if there were such a place as  $s-t$ , but there isn't.*

So you say, but that's all you do, repeating it endlessly.

> *It is just a math construct used by us in tracking the movement of*

> *objects through time. Neither matter nor light really exist in your*

> *imaginary  $s-t$ .*

Really, I've said that? Or is this something else you're making up.

> *I have shown that the interdependent relationship*

> *between space and time as required by the  $s-t$  continuum*

No, you've shown the interdependency that YOU imagine space and time

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must have does not exist, and I don't think you've done that at all well, either. All that shows is that your idea of the interdependency of space and time is likely incorrect.

- > *does not exist,*
- > *therefore  $s-t$  can only exist as an imaginary math construct which*
- > *ignores reality.*

No, all it shows is that spacetime as YOU understand it does not correspond to reality. But then again, you've never read anything more than Scientific American and a computer encyclopedia about spacetime, so I'm not surprised.

- > >
- > >
- > > > *which means that there can be*
- > > > *no light nor matter without space, and thus, no physical events can*
- > > > *occur in our universe without the existence of space. But if you*
- > *are*
- > > > *referring to my recent postings regarding the same subject, the*
- > *point*
- > > > *was that AE claimed that space and time were interdependent,*
- > >
- > > *Yes, that's a fair statement.*
- > >
- > > > *which*
- > > > *means that one cannot exist without the other.*
- > >
- > > *No, that's an improper interpretation.*
- > >
- > >
- > *Well then, PD, give us your "proper" interpretation of*
- > *"interdependent"*
- > *for all the world to see how your mind works.*

Sure. A physical event occurs at a location in each of the three spatial and one time dimension, or collectively at a location in space and time. How \*much\* space and how \*much\* time is completely dependent on the choice of coordinate system, but there is a well-determined relationship between the spacetime coordinates of an event as measured by two different inertial observers. There is nothing more and nothing less to the interdependence of space and time in spacetime than this. Now that the world has seen how my mind works, why don't you ask them what they think of it? If you think interdependence means otherwise in this context — especially if you think Einstein claimed more — then you need to document that.

- > >
- > >
- > > > *AFAIK, he did not say*

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- > > > *they are interdependent in our universe – only in his  $s-t$*
- > *continuum!*
- > >
- > > *AFAIK, you've never read anything by Einstein, only brief articles*
- > > *about him.*
- > >
- > > >
- > *Pot. Kettle. Black. Personal attacks*

Is it true or false? If it's false, it's an attack. If it's true, it's an assessment.

- > *only show that you have no ammo*
- > *with which to rebut my claims, so you lose again.*

I'm not engaged in a fight with you, Tom. You don't seem to get that. When you state something incorrect in an open forum, I'll likely correct it. If you ask me a question, I'll likely answer it.

- > >
- > >
- > > > *In our universe, time is a property of matter,*
- > >
- > > *You have not shown this to be true.*
- > >
- > >
- > *Yes, I did, but you did not understand it. Here it is again.*
- > *According to SR in the Twin Paradox, one twin ages less than the other*
- > *by the end of an experiment in which one twin leaves Earth and then*
- > *later returns. The import of this finding (and all other time*
- > *dilation*
- > *effects) is that time passes differently for discrete objects*
- > *regardless of observers, and that it passes inversely proportional to*
- > *their states of motion.*

I already showed you that this is not an inverse proportionality. You have not shown this to be true. In fact, you never responded to my calculations.

- > *The twin in the spaceship had to move faster*
- > *than the Earth in order to leave it and he had to speed up in order*
- > *to*
- > *catch up to it again.*

This has also been shown to be incorrect every time you've said it. You have not shown this to be true. In fact, you never responded to the arguments that showed you were wrong.

- > *According to SR, the net speeds between the two*
- > *twins show that the astronaut twin moved faster than the Earth and he*

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> *aged less.*

And since this is not at all what SR says, this shows that you have no understanding what SR says about the twin paradox.

> *My model of the universe accepts SR's conclusion and claims  
> that it shows that time is a property of matter and that it passes at  
> time rates set inversely proportional to an object's state of motion.*

And you have not shown this to be true. In fact, you have not calculated a single example of your model of the universe to show a predicted, measurable effect of your model -- aside from saying that what SR predicts the two twins is indeed what will happen.

> >

> >

> > > *so it cannot have an*

> > > *interdependent relationship with space.*

> >

> > *Depends on how you define "interdependent", doesn't it?*

> >

> >

> *1. depending on each other: unable to exist or survive without each  
> other*

> *interdependent organisms*

>

> *2. with mutually dependent elements: relying on mutual assistance,  
> support, cooperation, or interaction among constituent elements or  
> members*

>

> *Microsoft® Encarta® Reference Library 2005. © 1993–2004 Microsoft  
> Corporation. All rights reserved.*

Which shows the limitations of Encarta's dictionary when talking about physics. Tell me, what does Encarta say about "gradient"? What does Encarta say about "parity"? I'm looking for particular meanings these words have in physics.

> >

> >

> *I've shown you mine, now let's see yours, Pd.*

See above. Suppose you invite the community to decide between my definition and yours (er... Encarta's)?

> >

> >

> > > *Both space and time are*

> > > *considered dimensions of our universe, and dimensions define  
> physical*

> > > *quantities, which are in turn defined as numerical values or*

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> > > *magnitudes.*  
> > >  
> > > *As dimensions, then, they are quantities;*  
> >  
> > *This is not necessarily so. Note a similar distinction between a*  
> > *variable and a value of a variable. For example, take a*  
*relationship*  
> *y*  
> > *= 2x + 5. (x,y)=(1,7) satisfies this relationship, but that does*  
*not*  
> > *mean that the relationship implies x = 1 and y = 7. Watch your*  
*logic.*  
> >  
> > *PD*  
> >  
> >  
> *Whatever does that have to do with what I said above and with what I*  
> *said below?*

Because you are implying that dimensions are defined as numerical values or magnitudes. This is not the case.

PD

> >  
> >  
> > > *however, space and time exist*  
> > > *as physical phenomena as well. As physical phenomena, space does*  
> *not*  
> > > *depend on time for its existence, although time is dependent on*  
*the*  
> > > *existence of space since it is a property of matter and matter*  
> *cannot*  
> > > *exist without space.*  
>  
> *TomGee*