

# Re: Twin paradox revisited II

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- *From:* "Martin Hogbin" <[goatREMOVETHIS123@xxxxxxxxxx](mailto:goatREMOVETHIS123@xxxxxxxxxx)>
  - *Date:* Fri, 20 Jul 2007 10:11:58 +0100
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"bill" <[cosmosco@xxxxxxxxxxxxxxxx](mailto:cosmosco@xxxxxxxxxxxxxxxx)> wrote in message  
<news:1184887231.899046.188560@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>

On Jul 19, 6:42 pm, "Martin Hogbin" <[goatREMOVETHIS...@xxxxxxxxxx](mailto:goatREMOVETHIS...@xxxxxxxxxx)>  
wrote:

"bill" <[cosmo...@xxxxxxxxxxxxxxxx](mailto:cosmo...@xxxxxxxxxxxxxxxx)> wrote in  
message <news:1184810766.298641.95760@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>

On Jul 18, 2:57 am, [stevendary13...@xxxxxxxxxx](mailto:stevendary13...@xxxxxxxxxx) (Daryl  
McCullough)  
wrote:

So you apparently agree with the decade old posting that the  
stay at  
home twin physically ages at the faster rate ('ages the most')  
rather  
than it is the traveler who ages at the slower rate.

Could you explain what the difference is between those two  
scenarios? How could we tell?

The difference is that according to the original posting the stay at  
home physically ages at the faster rate and although as you correctly  
point out there is no way that we can tell which twin physically aged  
at the different rate – from the traveler's point of view the earth  
could be orbiting the sun at close to the speed of light then at the  
very instant that he takes his foot off the gas pedal that orbital  
velocity instantly changes from close to 300,000K–s to 30K–s.

In your opinion – does the traveler *\*really\** believe that this  
*\*physically\** takes place?

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That is really two questions. On the basis of the best measurements he can make, and allowing for all effects that he can think of, the traveller calculates that the other twin's clock is running more slowly than his own during the cruise phase. In such circumstances I would believe that this is what is 'really' happening. Would you come to the same conclusion?

During the acceleration the situation is much more complicated but the answer is essentially the same.

As regards whether it is 'physically' happening, I cannot answer this question unless you define exactly what you mean 'physically'.

It has nothing whatsoever to do with what \*we\*, as stay at home observers, think but what is claimed the \*traveler\* determines is reality.

Yes, for the traveller.

What we can tell is that, when the two twins meet up, the travelling twin has aged less than the earthbound twin.

One could argue that inertial clocks run as quickly as possible and that the best way of describing what has happened is to say that the non-inertial (travelling) twin's clock has been slowed down.

Other than what one 'could argue' I fully agree with those comments but I cannot agree, as expressed above, that the stay at home \*physically\* ages at the faster rate thus that the traveler could obliterate all life on earth by taking his foot off the gas pedal.

You need to define 'physically'.

The fact that the traveler finds on his return that everything is 'normal' back here – that life continues – should indicate to him that the earth had \*not\* been orbiting the sun at near light speed, that what he saw or determined was nothing more than a visual illusion generated by his rate of travel.

No, it indicates that the passage of time is not universal. Of course, on his return, the traveller will be aware that, from the earthbound

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twin's point of view, nothing unusual has happened.

The bit you have not grasped is that the passage of time is not universal. This is very counterintuitive but it is the inescapable conclusion of experiment.

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Martin Hogbin