**TO: Matt O'Dowd**

**OF: PBS Space Time**

**DATE: 4/19/16**

**RE: The Origin of Matter and Time**

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

**6 minutes into the video you state that the flow of time is not universal.**

**This brings up some questions:**

**Can you provide evidence, that there exists a place, anywhere in the universe, where time is not passing?**

**If such a place does not exist, then why couldn't the universe experience a "universal" time?**

**What evidence did you present in your video, or do you have in your possession, which prevents the universe from keeping a universal time, if every place in it - is experiencing the passage of time?**

**Why can't that passage of time be measured?**

**Can you produce evidence that proves that locally-perceived time**

**(time as measured in different reference frames)**

**has any effect on the passage of time elsewhere in the universe?**

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**RE: The True Nature of Matter and Mass**

[**https://www.youtube.com/watch?v=gSKzgpt4HBU&src\_vid=fHRqibyNMpw&feature=iv&annotation\_id=annotation\_511465417**](https://www.youtube.com/watch?v=gSKzgpt4HBU&src_vid=fHRqibyNMpw&feature=iv&annotation_id=annotation_511465417)

**Right before the 8-minute mark you stated that photons do not experience time because they do not evolve.**

**You then gave an example of an electron evolving (chirality).**

**You also gave an example of a photon traversing the universe**

**without ever interacting with anything.**

**This brings up some questions:**

**In your photon traversal example you omitted events:**

**such as a photon being absorbed or emitted by an electron or a nucleus.**

**Why do you not consider those events - evolution of the photon's existence?**

**Is it because it isn't known if the emitted photon is the same photon as the one that was absorbed?**

**Why do you not consider a photon which has traveled millions of miles away from where it had been only minutes before ...**

**as experiencing time?**

**For example, 10 minutes ago a photon might have encountered many obstacles as it was fighting its way to the surface of the sun, but now, 10 minutes later, it is absorbed by a receptor in a human's eye.**

**Why do those events not count as experiencing time?**

**neo**

**http://theskepticarena.com**