

The Multiverse and Time

By Khoury Douglas



How does time and the
multiverse correlate with each
other

Why did you
choose this
topic?

Growing up reading comic books caused me to wonder if there really are alternate universes similar or vastly different to our own.

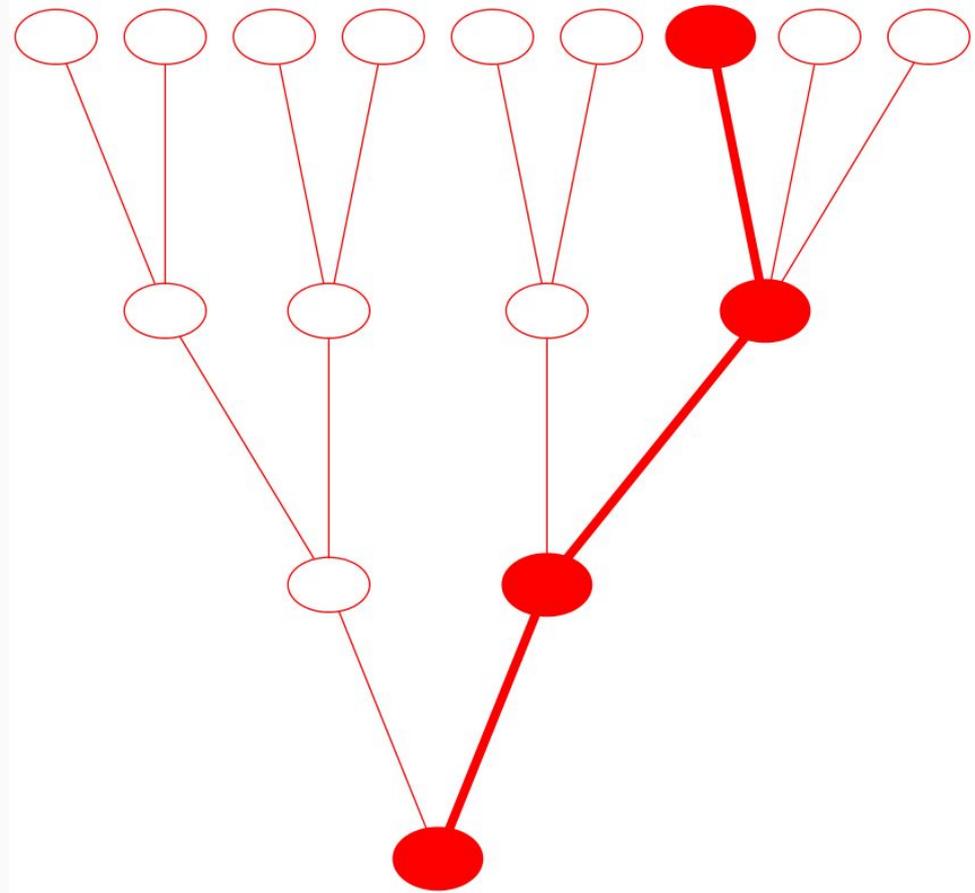
Intro

Multiverse theory is the idea that the universe we live in is not the only one, and that there is an infinite number of universes that may be similar to our own, or drastically different as explained in “Confronting the Multiverse: What 'Infinite Universes' Would Mean.” by Robert Lawrence Kuhn and Tech Insider’s “Multiverse Theory Explained” Multiverses can also be affected by time, which is created through the ‘Parallel timeline theory’, in which there are multiple universes exactly like ours existing at the same time as our own.

Split timelines are an example of “daughter universes”, in which every choice you make causes a split resulting in a new timeline, which can open your mind the multitude of possibilities that may exist out there, and if it is real, may cause us to think on how we may view our own universe.

Parallel Universe

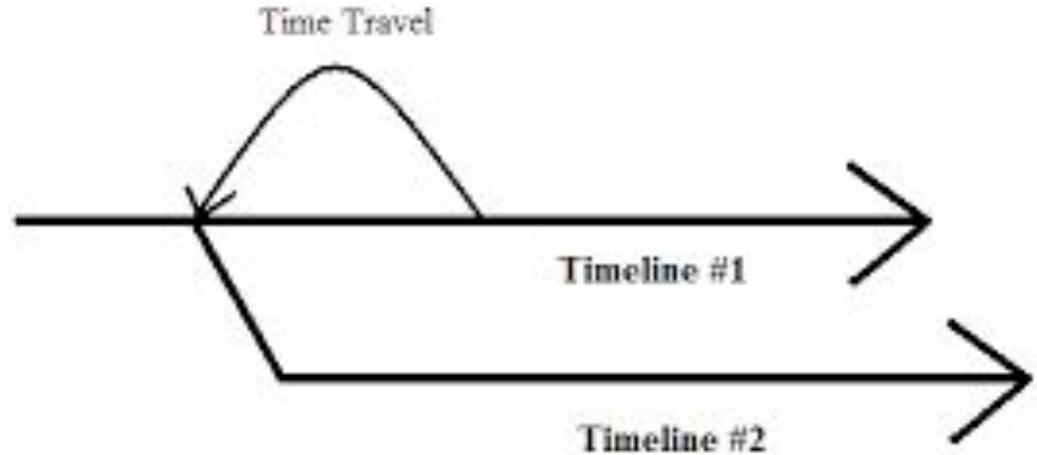
Caused by choices made in life, which causes new universe to be made and exist at the same time as ours



Traveling minds

Split Timelines

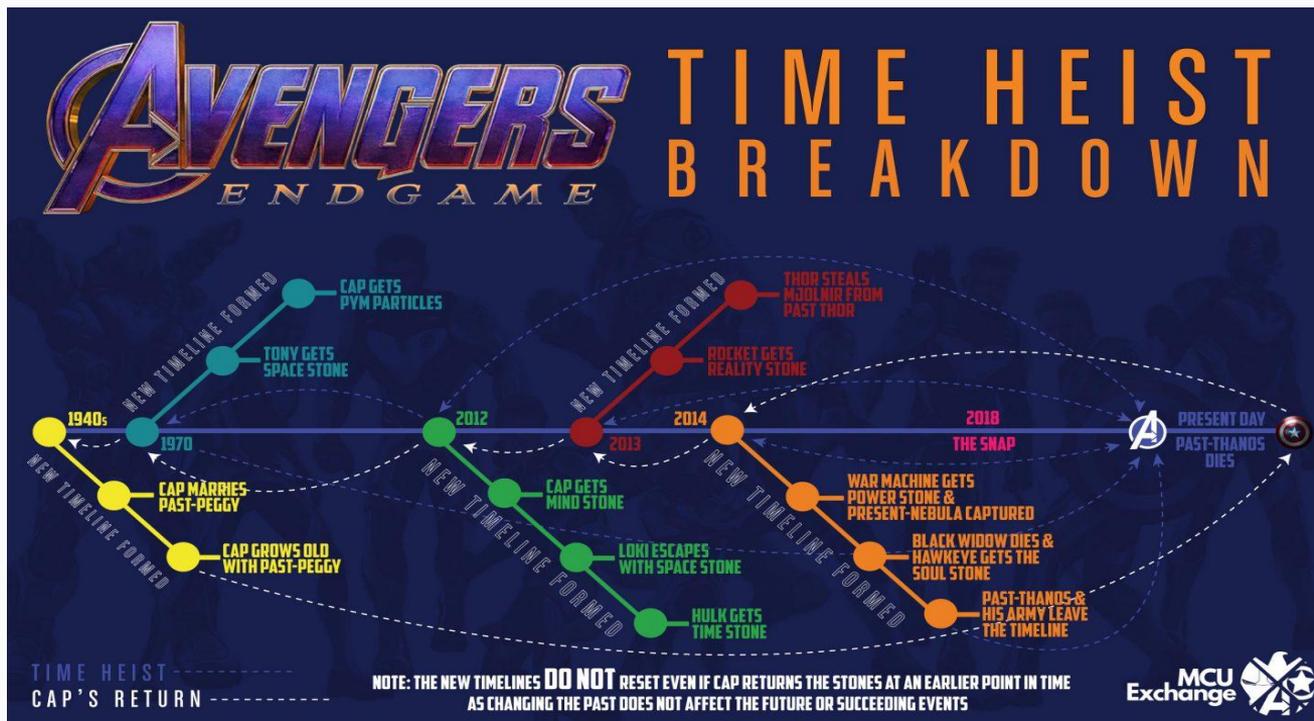
Caused by time travel, in which going back in time and changing things caused a split timeline. The Original timeline still exist, but is no longer the main one



Quantum Mechanics

Quantum mechanics also helps define another type of multiverse. Quantum mechanics is defined as “the study of how subatomic particles move”. Quantum mechanics is apart of the “daughter universe theory” as I mentioned before, in which every choice causes a split timeline. This is also known as “The Many-World Interpretation”, coming from the “Many-Worlds Interpretation of Quantum Mechanics.” by Lev Vaidman in which all these parallel universe exist at the same time. Quantum mechanics is important because it explains how the atoms and particles of the universe react to each other, and if the multiverse is real, then acknowledging it helps us realize that each universe has its own particle and atoms compared to ours.

Time Travel and Timelines



This diagram is from the Avengers Endgame movies, showing all the points of time that were traveled too, while also showing the new timelines that were created as a result.

Conclusion

In conclusion, multiverse is a very interesting and expansive topic, that may very well be a reality in our lives. We are only limited by our current technology in regards to actually exploring if such a thing exist. Personally, I do. The very universe we live in is highly expansive and vast, to the point that we do not know everything in it as it is not fully explored. So who's to say that there would not be alternate timelines, universes and everything explained?

Annotations

Kuhn, Robert Lawrence. “Confronting the Multiverse: What 'Infinite Universes' Would Mean.” Space.com. Space, December 23, 2015. <https://www.space.com/31465-is-our-universe-just-one-of-many-in-a-multiverse.html>.

Insider, Tech. “Multiverse Theory, Explained.” YouTube. YouTube, January 3, 2018. <https://www.youtube.com/watch?v=IVvcOQk6G0Q>.

Howell, Elizabeth. “Parallel Universes: Theories & Evidence.” Space.com. Space, May 10, 2018. <https://www.space.com/32728-parallel-universes.html>.

Annotations (Continued)

Avengers:Endgame Directed by Anthony and Joe Russo, written by Christopher Markus and Stephen McFeely, performances by Robert Downey Jr., Chris Evans, Mark Ruffalo, Chris Hemsworth, Scarlett Johansson, Jeremy Renner, Don Cheadle, Paltrow, Josh Brolin, Marvel Studios 2019

Biba, Erin. “What Is Time? One Physicist Hunts for the Ultimate Theory.” *Wired*. Conde Nast. Accessed December 3, 2020. <https://www.wired.com/2010/02/what-is-time/>.

Vaidman, Lev. “Many-Worlds Interpretation of Quantum Mechanics.” *Stanford Encyclopedia of Philosophy*. Stanford University, January 17, 2014. <https://plato.stanford.edu/entries/qm-manyworlds/>.

Annotations (Images)

Charles Villanueva Editor-in-Chief “Avengers: Endgame’ Time Travel Breakdown [INFOGRAPHIC].” MCUExchange, May 5, 2019.

<https://mcuexchange.com/avengers-endgame-time-heist-infographic/>.

Phil for Humanity. “Time Travel Theories.” " Phil for Humanity. Phil for Humanity, January 1, 2010. https://www.philforhumanity.com/Time_Travel_Theories.html.