

Entropic Cosmic Time (ECT) Forbids Closed Time-Like Curves (CTC)

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https://youtu.be/yH3lkiq4WqI&lc=UgwNee_8OVE36fMQ6iN4AaABAq

A Comment on the [Joe Scott](#) YouTube post:
The Most Convincing Time Traveler Story (Apr 24, 2023)
<https://youtu.be/yH3lkiq4WqI?t=8m47s>

Joe Scott, I apologize for my earlier version of this comment, which I've now deleted. You took the time to analyze an especially egregious hoax accurately, logically, and in detail from a perspective of sincere interest. Thank you for that.

The rest of my earlier comment is below, with additions on entropy and curved space.

8:47 "*Einstein called it a closed time-like curve.*" Occasionally, you encounter an analytical approach that affects you irreversibly. You see its value and can no longer "unsee" its implications.

What Einstein missed is that neither space nor time is fundamental. Instead, both are local-only interpretations of reality created by the structured clumps of fermionic matter we call "inertial frames." The output of each such xyzzt view is information, which *is* universal.

Einstein's closed time curves don't exist because there's no independent spacetime fabric to curve. It's just clumps of matter at various scales, all generating information. High densities of matter implement the behaviors we interpret as curved space, but that's also where the bogosity sneaks in: You cannot curl an *interpretation* into a closed loop.

At both the black hole (small) and cosmic void (large) limits, our ability to translate what's going on into curved versions of "spacetime" breaks down into pure information generation. That part stays linear (cumulative) and one-directional, with no loops, but starts giving odd results. That breakdown gets particularly severe at the largest scales of the cosmos, where there is no longer enough matter to emulate General Relativity properly.

Local, matter-based generation of space and time coordinates is why special relativity works: Every observer's frame of reference sees the same physics because every observer *is creating* identical physics through the local construction of a personalized xyzzt space.

We think time is universal because all these local inertial frames generate persistent information that can be shared to form a ratty, stretchy, stringy, finite, not-very-complete cosmic definition of time. This information accumulation is also called entropy, and at the cosmic level, it becomes the *only* meaningful definition of time: Entropic Cosmic Time, or ECT. Poor Mach-badgered Boltzmann was the one who had it right: Time is entropy.

Contemplating that the particles of the Standard Model generate spacetime instead of vice-versa — along with the immediate corollary that particles cannot be point-like since “points” are a space concept — alters your interpretation of every physics paper, textbook, and author. My favorite has always been Richard Feynman, but to my annoyance, his point-focused reasoning no longer gives me the confidence it once did.

That saddens me. But again, once taken seriously, this particular flip in perspective quickly becomes irreversible due to its ability to provide rapid, plausible dismissal of some of the dumber predictions of, say, quantum field theory. After all, do folks *truly* need to think the vacuum is infinitely dense to be “good” physicists?