

Addendum to thesis

I argue that entropy is not fundamentally connected to probability nor is it connected to time. Thus, probability inferences do not establish causality nor a direction of time.
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There is an ever increasing question about time, from the perspective of the beginning of the universe. We can think about it in terms of language and in terms of concepts.

[Insert hawking at the north pole example]

This is good but it does not get at a lot of what is going on. When we are discussing the universe, either in normal language or in science, we are bound to a time parameter or a nontemporal vocabulary.

Think about it like this.

To discuss what is, we use natural language. To discuss what is not, we cannot discuss it. There are two ways to understand nothing, well actually three. One is that nothing is the unknown we cannot speak about, the wish wash, the fairy dust. Another is that non-existence exists just as much as existence, but in a way not accessible or describable to us, like the other side of a portal that can see into the other universe but is a black hole. A third way is that nothing cannot exist because everything is, just in different varieties and forms.

When we are asking what is before the big bang, this doesn't mean anything. Maybe we exist in an oscillating universe, but what happened at the beginning of the oscillating universe? Well there was no beginning because the beginning is a thing in time, and this is a question before time. If we want to describe this in temporal vocabulary, we would say the universe has always been. The store of information that exists exists in a timeless vacuum, but this is different from a changeless block. The universe, as a dynamic entity, has a timeless store of information from which it mirrors, or draws, such that time can emerge.

What we know as dynamics of time, or time as dynamic, is set in the finite amount of information ever to be present in the universe. To the timeless universe, there is no beginning or end because these are comparative terms.

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There is a way to shorten the entirety of the thesis. We can remove

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Backwards causality is how these two systems progressing in opposite time can interact with each other.

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Basically what is important is that if a non-direction of time is to be identified itself created a direction of time, in somewhat of a paradox, not necessarily of a purely logical nature but of a conceptual one, possibly usurped by either a more complete notion of logic or through a clarification of concepts and methods of their formation.

When we are asked to identify that there is no true direction of time, we are operating with a direction of time. To say that there is no ultimate direction of time is similar to making this identification from a singular direction of time.

Potentially this has to do with the inability to think in non-positive non-linear time.

Think about identifying two opposite time series. Doing so created a third time series, the successive observations of the opposing time series.

We are not saying one series has metaphysical priority over the other, but rather the relative frame from which the record is collected is itself distinct.

Maybe one has metaphysical priority? Once the two time series interact, what happens? Does time freeze and cease to exist? Undefined?

Forward and backwards are not what we are talking about, but rather the ordering is what is preserved.

Or maybe not. Maybe things are ordered the way they are because they happen to be, like a book, or a story, the pages can be rearranged at random, it is only when we read it can we not make sense of the timeline despite the existence of the “disordered pages”.

On another note, does the person who sees the future also forget the past? What does it mean

On a new note, everything is a relation to something else, nothing exists as an isolated object, what matters is the relations we can establish between relationships

The same way that matter and energy are no different, matter is energy, time is not different from space, time is space in the same way that matter is energy. We understand and interact with matter and energy as different substances but that is an illusion, just as time is an illusion of space, space wrapped in a way to give us time

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What if we can define causality in terms of conditional reasoning instead of causal ones, eliminating the need for a strict temporal order?

{...}

Archangel Gabriel

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The presupposition of a time direction is not in play here, merely the probabilistic ordering of events, which can be mapped in either direction from origin O left or right but must always follow the given ordering. That means that the universe, as a whole, either progresses one way or the other, from the universal perspective thinking of the universe as a box in a laboratory.

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ANALOGY: When you are writing a book, you can go back and add a word, you can write the sentence the fox jumped over the fence as fence the the fence jumped over in your temporal order but the reader will read the former in theirs.

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Ref to the Zimmerman paper about the time series of the time traveler.

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If a theory is based on what is observable, it is oriented towards being defined within observations and confined to describe what one observes, not what is independent of such observations.

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Here we are noting the observer based nature of reality, thus, the observer based nature of our models and theories of the universe. If reality is in fact observer dependent, then there must be a theory of time to account for this.

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Given the observer based nature of reality, when discussing changes in information in a system, we must also discuss information change in the observer as well, being a catalyst, if not the source, of the system.

More broadly, systems must be described two fold- first in terms of the system trad. & secondly in terms of the system's observer.

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We can think of the eternity of the universe from Gabriel's perspective as being able to see both the death and the birth of a star by looking at different points in the sky, at the same instant.

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Time, in effect, is an emergent property of a deeper feature of reality, that being the generation of information as recorded by Gabriel. Similarly to how heat is an emergent property of movement and life is one of interaction.

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In essence, I am saying that if a time series has kicked off in a given direction, the time series will progress in that direction...

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This third kind of information is the information we obtain external to a system, the information it gives off.

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The probability of any given system as it tends towards lower entropy states is a factor of the observer in question, the observer in the time series wherein the person declares one state more probable than another because of its relation to the observer making the probability claim.

Insert the probability axioms

Thus though the probability direction of destroyed, the ordering is not necessarily. We can have the same ordering of events, even if they are described in opposite directions. We can have the events progress to the left or to the right in a given system but not changing in direction. Thus, once a system "chooses" a direction, said direction will not reverse. Or at least the ordering, as it stands, exists as records in the primary record, and thus the past exists as a record and the future as none. We might not ever be able to confirm the primary record but we can say it can exist, which gives more claim to the past existing...

"it is not obvious how to assign probabilities to the specific macrostates" Davey