_____

i believe your explantion of telling ourselves a story , is on the right path,   the story teller gets is imputs from the embedded body,   ayaushca and drugs   , break that input leaving the explainer to only be aware.   lots of druggies haveing fun.   as the plant has no explainer , when it is digested. it masks the pathways. . many i belive in the vagus nerve and gut .

On Sat, Jan 20, 2018 at 8:33 PM, Joscha Bach <███████████████████> wrote:

> Dear Jeffrey,
>
> I hope this one will be an inspiring, healthy and in every way worth wile year to you!
>
> I don't know what your mind is up too these days and I always interested to hear about it. I just thought a bit about time, this weird thing…
>
> Subjective time can be abstracted into the mentally represented events, which are partially ordered by relations that encode (in degrees of increasing distinction) non-simultaneity, succession, interval and temporal distribution, and anchored to temporal events by co-occurence relations. Subjective time spans that are not anchored to neural clock generators tend to reflect the density of novel elements we experienced, because these are disproportionally stored in the temporal protocol of our attention that we remember as our stream of consciousness. It seems that due to a decreasing frequency of novelty in the course of our life, the subjective middle of the life of an 90 year old would be around 18, perhaps echoing the ubiquitous law of Pareto.
>
> Our physical time is relativistic, of course: the rate of change an observer witnesses in its environment, which is relative to the rate of change in the observer itself. Particles that don't undergo state change don't witness relativistic time, and from my computationalist perspective, that corresponds to all underlying computation being applied to their momentum, i.e. the rate at which they are copied along the computational graph of the universe. The higher the rate of state changes in a particle, the slower the rate at which it propagates relative to its environment.
>
> Time is crucial, because it captures change, and without change, information has no meaning. Nothing has a discernible property unless this property can be compared to something: information is discernible difference, and all discernment requires a computable function that requires a change of state. The meaning of information is its relationship to changes in other information.
>
> Computationalist time may be just this: elementary state change of a computational substrate. From the perspective of an embedded observer, we won't be able to discern the nature of that change itself, because from the perspective of the emergent patterns that form the causal structures of our own dynamics, they are functionally the same. Yet its fascinating to speculate about the ground truth of change.
>
> In eternalist time, all time points are simultaneously instantiated (yet as embedded observers only see one of them, or rather, we are constituted in the relation between adjacent states).
> If a universe has multiple possible timelines, these might be instantiated in parallel; let's call it "fat time".
> Embedded observers won't know about the other parts of the instantiated space of possibilities, but only about the parts looping back to its trajectory on the computational graph.
> Dual state time may be an implementation of a universe where only input state and output state if the universe transition function exist.
> There might also be a just a global single state time, where the universe transition function alters the present

state in-place all at once, and only a single time slice of the universe does actually exist.
And of course, there could be also a local single state time, a giant substrate graph, in which a single read/write head only ever changes one bit at a time.

Most models of foundational physics operate with a continuous temporal dimension, but I think I can see how we get Lorentz invariance in a discrete universe, too. I am wary of continuous time, because it is hypercomputational; it requires Turing machines that run to infinity in a single step, which means that the gods have to buy infinitely more expensive computers when they build their universes, and worse, it creates ugly wrinkles in our axiomatic systems that we don't know how to fix. It is not just that we have difficulty building hypercomputers as physical objects, I also have trouble to abstractly build them from first principles in all other universes I can think of. I think that is related to the my suspicion that our exploration of mathematics is exclusively done via processes of construction that all turn out to be computational themselves, not hypercomputational, but I will have to find out much more about this before I think I could prove that hypercomputers are indeed and surprisingly also a mathematical impossibility, and our universe must be fully discrete.

Regardless of this, and with my fondest regards to you, and deepest thanks for your support,
I wish you a great time!

Joscha

--