Regarding Static and Dynamic Information

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Summary:

In his paper Simulating Space and Time, Brian Whitworth distinguishes between *static* and *dynamic* information within the context of the virtual reality conjecture. This distinction sheds light on an important point, however there is a subtlety that I will elucidate here, which clarifies the situation further. Here I show that when both the virtual and computational contexts, and their inter-relation, are considered it can be seen that static information is information within the virtual universe and dynamic information is information within the simulator. They are both information and operate by the same principles, however they seem different from the perspective of a virtual system within the virtual universe. This has some ramifications that are briefly discussed.

Brian defines:

Static information, which requires a symbolic representation (e.g. words in a book) and a decoding process (e.g. reading the book), which implies an assumed context (e.g. the English language).

Dynamic information, which "arise[s] from the actual making of choices itself, with no assumed context... Dynamic information is thus context free, needing no external reader to define it, while static information cannot exist without an encoding context."

Relevant arguments from the paper:

1. "if the physical world arose from static information it would need a context, as McCabe argues: All our digital simulations need an interpretive context to define what represents what. All these contexts derive from the physical world. Hence the physical world cannot also be the output of such a simulation (McCabe, 2005)."
2. "it is true that static information needs a viewer context. A world of static information would need a designer to “write” it across time and space, and such a world could be saved and restored, copied and duplicated, downloaded and uploaded, as we do with our information. However this model agrees with McCabe, that static information can't underlie our reality, e.g. imagine it “frozen” into a static state at a moment in time. It then has static information as a book does, but who can “read” it? Not us, as we are frozen too, and with no reader a frozen world has zero bytes. Static information, like the letters on this page, is “dead” without a reader."
3. “The physical world is more likely to arise from dynamic information than static. If the world we see arises from making choices not storing them, the only way to “store” a quantum event is to repeat it. So the trans-humanist dream to “download” a mind from an old brain, store it as static information, then “upload” it later to a new one, thus living forever, is unlikely to happen. Dynamic information only exists by continuous choices, as a video screen image must be continuously refreshed.”

Discussion:

There is a subtlety that has been overlooked in Brian's treatment of this topic. This same subtlety was clearly addressed in relation to his earlier discussion regarding the ether, where he pointed out that whether the ether was 'physical' (operating within the virtual context) or 'non-physical' (operating within the underlying computational process) was an important point to take into consideration. That same point needs to be considered here as well.

What Brian defined as "static information" is information that exists entirely within the virtual universe. There are virtual symbols and virtual systems using encoding/decoding contexts that exist within the virtual universe. This is the case for the reading of a book.

This comes to the surface in argument 1 quoted above, particularly in McCabe's statement "*All these contexts derive from the physical world.*" If this is true then it does follow that "*the physical world cannot also be the output of such a simulation.*"

However what if there is an encoding/decoding context that exists only within the simulator and not in the virtual universe at all? That context is exactly what SMN describes, hence understanding the subtlety elucidated in this document will assist in understanding SMN.

In SMN there is information that exists entirely within the simulator (Other, TBC, transcendent process, Noumena, etc). As the simulator iterates the SMN algorithm the state vector of the system model is decoded by the causal matrix of the system model, using the encoding/decoding scheme built into the system model. Thus information exists and flows within the simulator as the SMN algorithm iteratively processes the system model.

This information still requires an information medium in which discernible differences can be encoded as well as an information process to decode them. However from our perspective (as virtual systems) we cannot discern it as information. It manifests to us as our existence, our awareness, our choices, the seething activity of the vacuum, the ceaseless motion of particles, etc.

So what Brian calls "dynamic information" is information that operates within the simulator and therefore outside of the virtual universe, yet animates the virtual universe, whilst what he calls "static information" is information that operates inside the virtual universe and can be discerned as information by virtual systems. Both are just information, although they seem very different from a perspective embedded within the virtual universe.

To clarify this issue further, consider argument 2 quoted above. I will address the various points made in it:

- That which 'writes' information "*across time and space*" is the simulator operating outside of time and space. None of this is discernible as information from the perspective of a virtual system, yet it underlies the existence of the virtual system and could be understood as dynamic information, as defined by Brian.
- The SMN system model can be saved and restored but only from within the transcendent computational context (the TBC), not from within the virtual universe.
- If the simulation was to be paused the simulation process is still running but performing null cycles. Within the virtual universe it is true that all virtual systems are frozen so there can be no virtual reader so no virtual information exists within the virtual universe. However the simulation process is still operating as a reader of the system model thus there is always transcendent information. So in answer to Brian's question "*who can 'read' it?*" the answer is, there are no virtual beings to read it because they are all frozen, however the simulator is still a 'reader'.

Imagine a virtual being living inside the virtual world of a computer game that is running on a computer that we control. That virtual being cannot pause and restart the game because once paused the virtual world, including the virtual being is frozen, however from our perspective (outside the virtual world) we can easily pause and restart the game.

Also, the virtual being cannot save the game (including the entire virtual world) onto a virtual disk within the virtual world and then restore the game later. However the entire game can be saved onto the hard-drive of the computer on which the game is running.

Certain things are impossible from within a virtual world, which are possible from outside the virtual world – hence the two contexts need to be carefully considered.

Also consider argument 3 quoted above:

- Re "*the only way to 'store' a quantum event is to repeat it*": that is true for us virtual systems because we operate within the virtual universe that is animated by those quantum states. However the simulator that is operating within the TBC can and does store quantum states as information. To us (virtual systems) a quantum state is the essence of our manifest existence but to the simulator it is just data flowing through an algorithm.
- Re "*the trans-humanist dream*", it is not possible in the manner that it is typically envisaged because they typically aim to store and operate on transcendent information as if it was virtual information. However if a way is found to 'hack' into the transcendent context itself, not just manipulating virtual systems, then the full quantum state of systems could be stored, transferred, modified, etc.

  In fact, this is what yogi's and other mystics claim to do, and they achieve this by hacking into the core or foundation of their consciousness, which is the same as hacking into the simulator because the simulation process is the inner-most animating process 'within' all virtual systems. We hack the simulation process by going deep within ourselves. This is what underlies intentional influence, remote viewing, all psi phenomena, as well as the 'miracles' performed by yogi's, mystics, saints and ordinary people in extraordinary circumstances.

Conclusion:

Brian's general conclusions are correct:

- Firstly that static information cannot underlie the physical world. In other words, information operating within the virtual world cannot underlie the virtual world.
- Secondly, that dynamic information does underlie the physical world. In other words, information operating within the simulator does underlie the virtual world.

However knowing that these are both the same kind of information operating in two different contexts (computational and virtual) helps to clarify the overall situation.

When both the virtual and computational contexts are considered, both utilise the same kind of information, but they appear different from a perspective embedded within the virtual universe. Thus, so long as this is kept in mind, the principles learnt from information processes within the virtual world can be directly applied to the operation of the transcendent simulator.