

Just by considering the nature of the self, we can derive many concepts related to immortality and how we should approach it. Let's start by considering what a self actually is. One may think of a "self" as the integrated identity of an individual, comprising their thoughts, memories, personality, and sensory experience. The thing we are really interested in, however, is this other type of self, which is the *actual perceiver* of the sensory experience and memories, or the *experiencer* of experience. While an individual's experience will change throughout their lifespan, the individual that is experiencing everything likely does not. One cannot have experience without this experiencer.

This idea that there exists this kind of experiencer-self that stands independent of all experiential content of an individual is understandably disturbing to some philosophers, and many try to argue against it. But I argue that regardless of whether or not this "experiencer-self" exists in the real sense, it is an important thing to consider by the mere fact that we *perceive* it to exist. This is easily demonstrable: after the death of my body, I want THIS experiencer inside my body right now to survive in some way. The reason philosophers are disturbed by this is because the properties of the experiencer self are very weird, and we can come up with many thought experiments that show that the boundaries of experiencers are messy. Take, for example, the idea of mind uploading to attempt to preserve one's consciousness after death. Uploading can take many forms, but most types discussed in literature involve scanning the brain in its microscopic parts followed by recreating it in an alternate substrate. The alternate substrate is usually a non-biological functional isomorph, such as a silicon-based computer system with individual circuits taking the place of individual neurons in their original locations with respect to the brain and spinal cord as a whole. The fundamental question, as outlined perfectly in Chalmers' essay "The Singularity: A Philosophical Analysis" (2010), is this: Assuming that this uploaded mind would actually be conscious, would it be *you*? That is, would the experiencer of what the uploaded mind is perceiving be the same experiencer that was once in your body? You may think it would, because the uploaded system functions in the same exact way that your brain does. But not so fast! Imagine that instead of directly *replacing* your brain with an uploaded equivalent of your mind on an alternate substrate, we utilize the upload as a *copy* of your mind *while preserving your original body*. The process of uploading is exactly the same otherwise, except that from your perspective inside your original body, nothing should have happened because the scanning and copying is non-invasive. So intuitively, whether or not your experiencer-self is transferred into the alternate substrate depends on whether or not your original body is preserved, but yet this seems logically absurd because nature should not care about this detail. So it is understandable why philosophers try to get around this problem by postulating that experiencer-type selves are a flawed construct. I, however, take a different approach in saying that there is a more direct way of confronting the problem.

Let's call this experiencer-type self an "active experiencer". By active – I mean conscious. Now, every *active experiencer* has a corresponding *potential experiencer*, in which is the experiencer would be in an unconscious state. So, at this particular moment in time, you are an *active experiencer*, because you are obviously conscious to be reading these words. But if you were to go under general anesthesia, you would temporarily become a *potential experiencer*. You can imagine a switchboard with one switch for every conscious organism alive, each switch having an active (on) and potential (off) setting, and at any given time, each switch is either on or off. There is no "in-between" setting, because you are either aware or you aren't, and even if the intensity of your awareness is very small, it is still *you* that are aware. When an organism dies, the switch is permanently shut off (to simplify the problem – we'll momentarily assume that there is no consciousness after death). The switch does not disappear

however, because it is *theoretically imaginable* that it could be switched on again, if the experiencer that inhibited the body were to become conscious again. So in addition to the switches for organisms alive, which can be either on or off depending on the organism's current activity, there is a whole set of switches that are "permanently" off for organisms that have died. There is also a whole set of switches for all conscious organisms that *will* come into existence in the future, and for now those switches are off.

But how many potential experiencers are actually out there? We've accounted for all conscious organisms that existed in the past, exist now, and will exist in the future, but there is in principle no limit to the amount of conscious organisms containing an experiencer-type self that *could theoretically* come into existence. Therefore, I would argue that there are an infinite amount of these potential experiencers. Even if we know for sure that the universe is finite and will only produce a finite number of conscious experiencers throughout its several billion year existence, a potential experiencer is simply a construct – something we are imagining to describe a problem and make predictions, much like the idea of potential energy. A potential experiencer is not some "spooky" thing like an immaterial soul. Whether or not you believe in souls, you are a single conscious experiencer among these infinite amount of potential experiencers.

Perhaps it was inevitable from the laws of physics that the body you find yourself in now would eventually come into existence, and perhaps it was also inevitable that it would be conscious. But it did not have to be *you* that is experiencing the consciousness associated with that body. From an objective perspective, not only could it just as easily have contained *my* experiencer-self (instead of yours), or anyone else's, but it in fact had an infinite amount of options! Even if it wasn't really an "option", something in nature must have determined it. This is our big second explanatory gap in consciousness studies. How do we go from knowledge that living organisms have conscious experiencers to the idea that *specific* experiencers are mapped into *specific* bodies? Or, phrased another way, How do *specific* potential experiencers become active experiencers? From the building blocks of the universe (matter, energy, etc), how do we create an entity that is not only conscious, but *you* that is experiencing the consciousness in that entity? The answer is not clear at all, and this is our ultimate missing science, which I call "the selection problem".

There are a number of hypotheses out there that attempt to answer this question by stating that something about the configuration and/or numerical identity of the molecules in our bodies is what determines which experiencer (out of the infinite possibilities) will find itself conscious inside our body. But the problem with that explanation is that we would still be left with a huge explanatory gap. *What is it* that makes one particular arrangement or set of molecules *me* being the experiencer in that body as opposed to *someone else*? Or we could think of this from the other direction: why is *my* consciousness the equivalent of *this* particular set of molecules as opposed to any other set? It seems that we may be inevitably faced with a fundamentally random process in nature. To me, this idea is just as mind-boggling as the randomness in quantum uncertainty. Intuitively, nothing in the universe should be random.

Perhaps a more plausible solution to the selection problem is that some central mechanism in the brain is responsible for selecting one potential experiencer (as opposed to other potential experiencers) to activate. By "central mechanism", I mean an explicit large-scale brain function or reaction that reliably has the same experiencer activated even when consciousness itself in the organism is interrupted by

something like general anesthesia. While this may sound like an absurd idea, the only conceivable alternative within the materialistic paradigm is to accept some fundamental randomness. This mechanism may be a quick silver-bullet in our search for truth, similar to the discovery of DNA as the “life force” that has always been searched for.

The one other possibility transcends the idea that consciousness is restricted to living brains. It proposes that the infinite amount of potential experiencers we postulated are really active experiencers embedded in universal fabric. All possible conscious entity “switches” imaginable (an infinite amount of them) would be on, at least periodically. This infinite sea of active experiencers would be an unlimited supply of consciousness and in line with many eastern spiritual philosophies. Specific active experiencers may get drawn into specific organisms when some critical feature in their living brain is formed. Alternatively, perhaps particular entities ingrained into the universe can split off from this sea of infinite consciousness and play a role in generating a body for itself, though this is purely speculative.

So the approach to immortality basically needs to start with figuring out the answer to the selection problem. This will be very difficult and require an integrative approach from philosophy, spirituality, mathematics, and science. I do not, however, think that this is an unsolvable problem as many people seem to believe. The hard problem of consciousness proposed by David Chalmers essentially asks how matter and energy can arrange itself such that a new property of awareness arises, and my selection problem just takes this question a step further. These two problems tie directly into each other, so any consciousness research attempting to address the hard problem should also attempt to address the selection problem. With futuristic technology, I am optimistic that it will be possible to attain some answers. To give one example: a highly sophisticated form of Transcranial Magnetic Stimulation may be able to help scientists map out exactly what parts of the brain give rise to the sense that we are a unified and irreducible experiencer of awareness.

Why do we need to figure out the answer to the selection problem in order to achieve immortality? I believe that the selection problem is the deepest and most fundamental issue related to consciousness, so if it can be solved, we will have a full understanding of how consciousness works and its physical place in the universe. If we in fact discover something like the scenario depicted above with an infinite amount of active experiencers existing, and specific experiencers being pulled into specific bodies and released back into this sea of infinite consciousness at bodily death, we will see that some kind of natural immortality exists and need go no further. However, if we do not naturally go anywhere after death and consciousness is in fact produced entirely by the brain, we will understand how *specific* conscious experiencers (such as *you* and *me*) are naturally turned on and off by the building blocks of matter and energy. If we understand how that occurs, then we can probably figure out how to turn these experiencers on and off ourselves, and devise a way for mind uploading to be effective. Not only could we upload ourselves, but we could bring back any conscious experiencer that ever lived in the past. Maybe we could even create an infinite amount of conscious experiencers. It may be possible to actually create something like an immortal sea of infinite consciousness that we can be a part of, even if it doesn't naturally exist!