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The Nature of Consciousness

Who am I? Am I merely what my experiences, my reactions, my thoughts, my feelings, my actions and their consequences make me, or am I something more — something which is, somehow at the same time, both inseparably linked to all these yet exists as a separate entity that remains untouched and untainted by any of them? This very question has occupied the minds of thinkers ever since the rise of civilization, posed alike by the sages who wrote the Vedas and the modern human mind grappling to come to terms with the looming possibility of machines achieving, or at least managing to simulate convincingly enough, the very same quality to which their species has long proudly held the claim of sole proprietorship.

The ancient Indian philosophers believed consciousness to be something separate from the body, the mind, and the spirit — the very thing that they believed inhabited our bodies, reaped the fruits of all the good and bad karma we accumulated, and either went to other worlds or reincarnated. This distinction made their version of spirituality all the more complicated. To them, consciousness is a property of Brahman, the supreme entity (or non-entity, *per definitionem*), and it is the essence of existence to which all living beings must eventually return. Then, one might ask, how is it possible for two people to have separate consciousnesses? And they would answer: it is all the game of Māya, the dark force of nature that blinds human consciousness to its true nature. The exact logistics of that might be beyond the scope of this essay, but we shall return to this viewpoint later, so keep it in the back of your mind.

From a purely materialistic point of view, one would be tempted to say that we are nothing more than the results of chemical reactions, and that the electrical impulses passing through our neurons manifest as what we perceive as consciousness. From this perspective, it would not be at all questionable that machines can develop consciousness; it is only a matter of time. Our brains — the neural frameworks that enable us to have cognizance, respond to stimuli, and develop an internal model of the big wide world around us — are formed while we are foetuses. These structures take shape, following instructions encoded in DNA that took billions of years to evolve, with certain instincts like self-preservation and reproduction pre-programmed, while many other capabilities — socialization, civilization, language use, mathematical skills, almost everything that makes us modern human beings — are learned from outside sources after birth, through the years in which our brains still have time to grow, learn, and form new neural pathways. This process of learning and reprogramming of neural pathways does not stop but continues in one form or another even after our brains have fully developed.

Let's say somebody builds a machine — a humanoid (or shaped like any other animal, for that matter) robot with a self-learning neural network for its brain — that has some sort of preliminary and rudimentary pre-programmed set of behaviours similar to those in the brain of a newborn human baby. And this machine is allowed to interact with the world, observing, gaining knowledge and experience, interpolating and extrapolating, making mistakes and correcting them with the help of external guidance and support — much the same way a human baby grows. Can the electrical impulses that make up its awareness of itself and its place in the world be called consciousness?

To answer that question, let us first define what we mean by the term 'consciousness.' For this essay, I will define the following characteristics for a mind to be considered as having consciousness:

1. It should have a sense of self — what am I?
2. It should have an internal model of the external world — where am I?
3. It should be able to gain information via external senses — sight, sound, smell, taste, touch — and interpret how that information relates to the above internal model of the world. For example, "I can hear the sound of a fire engine in the distance." Here, the sound is the external information, and its source and distance are particulars that relate it to the mind's world model.
4. It should be able to make intelligent assumptions based on the information it receives, drawing on its knowledge and skill to form correct associations

between facts or concepts (in other words: intelligence), and take decisions based on such assumptions. For example, "The smoke alarm is going off, so I should go and check the stove."

With that in mind, from the materialistic perspective, the answer to the question of whether a machine can be conscious seems to be an emphatic yes. Because there is practically no difference between how the brains of the human baby and the machine 'baby' develop, if they're able to reach step 4 of the consciousness process by going through steps 1 to 3, then there is no practical difference between a mind that was created through organic processes and one that was built from semiconductors.

And yet, that answer seems somehow deceptive in its simplicity. Before we go deeper into the how and why, let us consider another thought experiment, one that is based on a fairly common trope in fiction and cinema: the body swap. The premise is quite simple: two individuals (often from opposite sides of the gender spectrum) swap their centres of consciousness with each other's body. For our example, let us consider a woman (we will call her Alice) and a man (named Bob, of course). One fine morning, for whatever reasons, Alice wakes up in the body of Bob, and vice versa.

Now, in the case of literary fiction and cinema, this scenario is usually overplayed for the purpose of maximum drama or humour: they would not know each other's close friends, relatives, schools/workplaces, and they would find it difficult to adjust to living in their new bodies. But I believe if such a thing were to happen in reality, it would not be at all like in books or movies. All their experiences, knowledge, thoughts, memories, secrets — everything is stored in their brains. And their brains are part of their bodies. So, in the case of a consciousness swap, neither Alice nor Bob would have to relearn everything about their new bodies from scratch — all that information is already available to them, including even things that would be part of muscle memory, like driving, swimming, or playing badminton.

So, what changed? As I mentioned above, it is just the centres of their sense of self — the place from where they see the world — that get swapped. Alice, who is now in the body of Bob, would remember being in her previous body; and so would Bob, just the other way around. That is a dangerous assumption, I know, because if everything we know as consciousness made up entirely of electrical impulses and grey matter, then neither Alice nor Bob would ever even know anything happened, and would go on about their lives as usual. But in that case, the concept of a body swap would not even exist in

theory, unless we are talking about transplanting brains. But — if there really is something more, if there really is an entity that is separate from all the physical matter and biochemical processes that make up the observable part of human consciousness, then — if those entities get swapped, then they would know, wouldn't they? They would know that they are no longer seated where they used to be until yesterday. They might become instantly familiar with the new brain and the new body, thanks to the harmonious coupling between consciousness and brain, but — here I go again, treading dangerous ground — they would also have to retain some imprints of the memories that they identified with while in the previous body, wouldn't they?

That will be the most important question as far as our thought experiment is concerned. Since we have already considered the situation when the answer is no, let us think about the other possibility. And there, we can see that a clear distinction between consciousness and mind has to be in place, for the mind is the part that has all the experiences, thoughts, and feelings, and those are all stored in the brain. Since the brain is part of the body, the mind also, however intangible it may be, can only be considered as intrinsically belonging to the body. But the consciousness, in this case, would be something that sits behind the mind, experiencing the world through it, as if from behind a glass window. Consciousness may be intricately entwined with the mind so that both may appear practically one and the same, but the former is still neither a part of nor a product of the latter, but something with its own existence and identity that doesn't belong either to the mind or to the body.

In other words, if a body swap occurs between Alice and Bob, and they both realize that it happened, that would have many implications, including but not limited to:

1. Consciousness is something that is tightly coupled with mind but has its own separate existence.
2. Said coupling can cause the mind to leave an impression of itself on the consciousness, which may or may not be ephemeral in nature.
3. Since consciousness is not a part of the physical realm, it may be able to exist outside the body, implying the possibility of a life after death, or even reincarnation.
4. If that is the case, then it would also follow that artificial consciousness — no matter how similar to the organic one in appearance (see the definition of consciousness given earlier) — can never be real.

I see that we have now reached the controversial realm of metaphysics, and I apologize to you, the scientifically minded reader, for tricking you into following me here. But, in my defence, it was bound to happen, due to the very nature of the topic of our discussion. Anyway, now that we are here, let us remember that earlier paragraph about ancient Indian philosophy. While it would still be difficult from this point to arrive at their belief that consciousness, no matter which body it occupies, belongs to one supreme entity, our body swap thought experiment has helped us identify the thought process that led to the conjecture that it is something closely tied to but at the same time entirely separate from the mind.

And this is where we hit the proverbial fork in the road. You have two options, two distinct beliefs to choose from: either that consciousness is merely a function, a byproduct, a happy (or perhaps unhappy) coincidence of physical existence; or that it is something else, something beyond our understanding of the physical world, that can neither be created through artificial means nor perhaps be destroyed either, but just exists in a realm that is closely related to yet out of the reach of physical reality. The first one opens up possibilities such as mind upload, artificial consciousness, human/machine conflicts — all of which fall under the category of science fiction at the time of writing of this essay, the year 2025 CE. The second one raises questions about the very nature of reality, existence, and even the meaning of life (and of death) — questions that humankind has sought answers to since the beginning of civilization and will continue seeking even in the days when the aforementioned figments of imagination turn into reality.