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**Virtual Afterlife**

Do you know what happens after death? An estimated 55 million people die yearly, as of 2018 (Ritchie, 2019). Death is final and the lives and memories of the dead are lost forever. This does not have to be the case. The brain is made up of 100 billion neurons. Each neuron is capable of having 10,000 connections (Collins. 2012). The connectivity of the neurons in the brain is called the connectome. There are many efforts by scientists to capture and collect the electrical signals in the brain to compose the memories and consciousness of the human. One such effort, called OpenWorm Project, was completed on a roundworm (Fessenden, 2014). This effort successfully collected 302 neurons of the roundworm, simulating each neuron in computer software. The simulated brain was able to control a Lego robot by moving it forwards and backward based on the capabilities of the roundworm's brain.

The brain of a roundworm, while not simple, is not as complex as the brain of larger animals and humans. The efforts of mapping out the tens of thousands of connections for each of the 100 billion neurons is not a simple task. As one can imagine, the task of capturing the human connectome in the brain would be a huge undertaking. Interestingly, the brain is not the only part of the body that can shape the mind of a human. The human gut is home to approximately 100 trillion bacteria with a variety of cultures each with a distinct function (Wanucha, 2018). There is a highway consisting of nerve cells that connect the brain to the gut, called the gut-brain axis. The gut-brain axis is responsible for transporting the compounds produced by certain bacteria that help regulate emotions. Emotions are a function of humans to express themselves. Emotions help shape the consciousness of a human, so including the gut-brain axis in efforts to capture

human consciousness is another priority for scientists.

**Issue**

The efforts by scientists to capture human consciousness could pave the way for a virtual afterlife. An afterlife where the living can communicate with the dead, where the dead can continue to contribute ideas to society, and an afterlife where millions of people could live in a peaceful simulated world. Although this sounds like a paradise created by humans, some may argue that it is not right to do. Additionally, some may not trust the government or business to handle the memories and consciousness of millions of people, should scientists succeed in mapping out the brain connectome.

**Stakeholder 1: People for the technology**

There are many stakeholders in support of digitizing human consciousness. One of which is those who want to be able to communicate with future generations after death. These stakeholders use claims of value stating that family members would not have to deal with the negative emotions associated with the loss of a loved one.

Additionally, another stakeholder in favor of this technology would be human preservationists. Human preservationists use claims of value stating that this technology would aid in preserving human ideas better than books or any other form of media can.

Finally, another stakeholder in favor of this technology would be people that live in poor countries. These people would favor this technology and would use the claim of value to state that their lives will potentially be better after their death since they could live in a virtual paradise free from poverty and pain.

While these stakeholders are different groups of people, their support for the use of this technology groups them into a single group. Their claims are all claims of value in valuing the enjoyment of life and providing a better way to enjoy and live life.

**Stakeholder 2: People against the use of this technology**

Alternatively, a stakeholder against the use of digitizing the human consciousness is the group of people that follow Libertarianism. Libertarianism is a political philosophy that aims to provide the most amount of freedom and autonomy to an individual ("libertarianism", dictionary.com). Libertarians' claim of value is that uploading the consciousness of a person will restrict their free will. Even though they have the option to keep their consciousness "alive" in a digital format, they would be subject to the terms and conditions of the company/agency providing the consciousness hosting service.

Moreover, another group of people that would be against the use of this technology are Christians. Christians use the claim of value in their opposition to this technology, stating that it is against their religion. Christians believe they have a body and soul. They believe the soul will go to heaven and leave the flesh behind. But, the line between what is the soul and flesh is becoming more and more blurred as science finds answers about the brain. There is some debate amongst Christians about whether the brain or thoughts are part of the flesh or soul (Hauser, 2013). If Christians identify that consciousness is part of the soul, Christians would not want the technology to digitize it since that would mean a copy of a soul would be denied heaven. It would be against Christians' morals and values to allow a part of the soul to stay on Earth.

**Argument Question**

The technology of digitizing human consciousness would be a great technological advancement from human preservation. It can be used to strengthen relationships in families after death and allow scientists to continue contributing to human advancement after death. But with a documented history of misuse of power and authority, should we trust that this technology will be used correctly and ethically by the government? Will the enormous amount of data of the billions of humans be safe in the hands of government agencies?

**Stakeholder 1 Positions and Ethical Frameworks**

The group of people that support the use of this technology employs the ethical framework of Utilitarianism to support their claims. Utilitarianism is an ethical framework that focuses on bringing out the most benefit to the most amount of people possible. Those that support this technology believe that it will provide comfort to family members in mourning of their loved ones. Furthermore, the more this technology is refined and researched, the more accessible and cheaper it could potentially be for those in poorer countries. By providing this service to as many people as possible, there would be less sorrow and more hope in their life. Finally, utilitarianism is used to support this issue since mankind will benefit from keeping intelligent thinkers on the cloud to continue providing ideas for the advancement of humanity. This is another way to provide the most amount of help to the most amount of people.

**Stakeholder 2 Positions and Ethical Frameworks**

The various groups of people against this issue are, among others, Libertarians and Christians. Libertarians use the ethical framework Lack of Autonomy & Rights to base their

opposition of mind digitization. The Lack of Autonomy & Rights (or Respect for Autonomy) framework means that there needs to be respected for self-rule or self-determination (Alzheimer Europe, 2009). Libertarians believe in total autonomy, free from obligations and regulations. Since the mind would be uploaded on a foreign storage drive, likely owned by the business offering the service, they believe the digitized person would become held to the laws and rules of the service provider. There would be no true autonomy in a digital world since they would lack the functions to produce emotions that make them human. If the digitization effort cannot include an emulation of the gut-mind axis to help regulate emotions, then the digitized consciousness would be incomplete and incapable of being human.

Additionally, Christians do not support the use of the technology and would use the ethical framework of Divine Command Theory which states an act is right if it is in accordance with God. Christians believe that dying will release the soul back to heaven. Christians argue that since God has called the soul back to heaven, allowing a part of the soul to stay on earth, as some Christians argue the soul and consciousness are connected, is a sin and goes against the will of God.

**Student Position**

I believe this technology has the potential to create good for humanity. Not only will it allow for people to live past their death, but providers of this service could also simulate a more comfortable world for the dead, one without pain or sadness. Unfortunately, as history has shown, I cannot, in good faith, trust the government or business to protect the information of those who uploaded their consciousness. There is room for greedy business practices, and those who upload their consciousness would probably never escape the misfortunes of the world, and

be forced to live in a bad simulated world. Additionally, I do not believe technology will keep up with the demand of hosting the vast amount of data that would be needed to store the information of someone's consciousness. There is too much data to store and there would be questions about what part of the human connectome to leave out, which science does not have the answer to, yet. As I have shared earlier, the human connectome is not isolated in the brain, the gut is home to trillions of bacteria that affect the emotions and thus the consciousness of humans. I think to keep a carbon copy of human consciousness, we would need to make sure everything that makes someone human would be copied, too. This would mean incorporating the gut-brain axis into the data. It would be unethical to create a copy of human consciousness without all aspects that make us humans. While I do not support the use of this technology in the near future, I believe we should focus on funding the research into this technology and passing world laws to protect the data of those who choose to upload their consciousness. I believe there also needs to be a way for those in the virtual afterlife to choose if they want to be removed from the servers permanently and finally die. Giving that option to those in the virtual afterlife would preserve their humanity and their sense of free will.

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