Emily Chen
Writing Portfolio

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Creative Writing Pieces

The Truth of Teleth

Aaron Flemmin, Chief Explorer of Earth's Space Exploration Team

Report on Teleth:

After the floating debris damaged my ship's right wing, I decided to land on the nearest planet. I found a small, clear area on the outskirts of a city to land on. After checking that the atmosphere had a considerable amount of oxygen, I removed my gear and exited the ship. An alien stood in front of the ship's entrance. He looked like a human man, although his eyes were unusually large. He started to speak to me, but I could not understand his language.

"I'm sorry. I don't understand." I replied but realized that he probably could not understand me.

He then said, "Please state the purpose of your arrival."

"One of my ship's wings broke while I was traveling. I was wondering if any of your fine people would be kind enough to fix it for me." I responded, shocked that he could communicate with me in my own language.

"You speak the truth. I will inform someone about your ship. For now, please follow me." He noticed my hesitation to trust him. "I apologize. I did not introduce myself. My name is Psyon. I am the goyerne of the city Tika. I was informed about an incoming spaceship that was going to land around this area. Do not worry. You may leave your spaceship here. No one will tamper with it without your permission."

I still did not know whether or not I could trust the alien, but he seemed cordial and harmless. "I shall introduce myself as well. My name is Aaron. I am employed by the Earth's Space Exploration Team to study different life forms on planets all over the galaxy."

Psyon nodded as if he were agreeing. “You speak the truth. Now that we have been acquainted, I hope you will come with me.” He began to walk away and motioned me to follow.

The city of Tika was no different from the large cities one would find on Earth. There were many skyscrapers, stores, billboards and bright lights. The atmosphere felt very familiar and comfortable. However, there was one building that particularly stood out. It was a small, dilapidated gray building labeled with the words: *Truth Rehabilitation Center.* Psyon noticed my curiosity. “I would stay away from there if I were you. You do not want to be in there.”

We reached a luxurious apartment in the middle of the city. Two aliens were standing outside of the building. Without hesitation, they grabbed my arms and handcuffed me. “What’s going on? What are you doing to me?” I shouted.

“Calm down, Aaron. We simply need to ask you a few questions.”

“Then why am I getting arrested?” I tried to break free from the shackles. “Let me go!”

“We will bring him back in an hour if he speaks the truth, Goyerne Psyon.” One of the aliens said. Psyon nodded and entered his apartment.

I was led further into the city until we reached a building that looked like a court. They ordered me to stand in front of a large podium. A stern-looking alien stood behind the podium. Four equally stoic aliens sat next to him. “Welcome to the planet Teleth, guest. I am Jujor Ren. As jujor, I am here to judge whether you are harmless to our society. Please state your name and your purpose.”

“My name is Aaron Flemmin. I am an explorer from Earth. My ship broke down, and I am looking for help to fix it.” I replied, confused about the situation.

Jujor Ren nodded and looked at the aliens next to him. They nodded as if they were agreeing with something I said. “You speak the truth. Do you have any other intentions?”

"No, I just want to get my ship fixed. I don't have any ill intent." *Even if I did have ill intent, why would I tell them?*

The aliens nodded again. "You speak the truth. Have you ever caused any damage to other planets?"

"No, I don't recall ever harming any."

"You speak the truth. Have you ever participated in any act of conquest?" These questions seemed to follow a similar theme.

"No, I am just a traveler."

"You speak the truth. Are there any weapons on your ship?"

"No, there aren't any weapons." *Why did he keep repeating "you speak the truth"?*

"You speak the truth. Lastly, how long do you expect to stay here?"

"I will leave immediately after my ship is fixed."

Jujor Ren nodded along with the rest of the aliens. "You have passed our examination. We will now return you to Goyerne Psyon."

The two aliens escorted me back to Psyon's apartment. Psyon had a smile on his face. "I presume that he passed the examination?"

"Yes, Goyerne Psyon. He has been labeled safe by Jujor Ren and his committee." One of the aliens responded. "As usual, the jujor has requested that you briefly explain the law of our land to the alien and report him to the rehabilitation center if he breaks the law."

"You speak the truth. I will do so if such a situation occurs. Thank you very much." He dismissed the aliens and turned towards me. "I have already contacted our best engineers and mechanics to fix your ship. With your permission, they will immediately begin working on it.

The repairs should take about six hours." I granted him my permission. "I will let them know. Before that, I must relay to you the law of our land."

"I understand. I also have some questions about Teleth."

He invited me inside his apartment. "Please make yourself comfortable. As you already know, I am the goyerne of Tika. I suppose the equivalent word for goyerne in your language is 'leader' or 'supervisor.' Those with high ranking jobs, such as goyernes and jujors, are responsible for learning about the cultures of other planets. Goyernes are not only expected to protect the people and enforce the law, but they are also responsible for learning how other aliens function. We study these alien customs in order to improve our own society. Thus, I have knowledge about many of your planet's different countries and their laws and languages. I hope that answers some of your questions. Now, I shall speak about a few Telethian laws that are imperative to know. If you injure someone intentionally, you will be immediately deported. If you kill someone, you will be sent to the *Fields*, where you will spend the remainder of your life working. If you steal, you will lose all of your property. There are security drones that watch over everyone, so these crimes rarely occur. Most importantly, our fundamental law, called *Verisitas*, states that you may speak nothing but the truth. To not speak the truth indicates that you are withholding information intentionally. As a result, you will be considered a threat to society. Thus, if you do not speak the truth, you will be sent to the Truth Rehabilitation Center."

"*Verisitas.* How can you know if I am telling the truth? What if I came here to annihilate your entire planet?"

Psyon was shocked that I even asked him that question. "I apologize. I thought you would have noticed by now. We Telethians are able to know if one intentionally chooses not to tell the truth. If someone chooses to be untruthful, we begin to hear a disturbing clanging noise

and see red flashes. It is a very uncomfortable experience, but it does not last long. I have been trained to endure the sensation; however, it is definitely a feeling one cannot miss or ignore. Furthermore, jujors are given special bracelets that vibrate if someone does not tell the truth. That is why you were sent to the jujor. It is an examination we require all aliens to take to assure the safety of our society."

It seemed ridiculous, but I was not about to risk my life by telling a lie. "I understand."

"Do you have any questions?"

"No, I think you have answered any concerns I have."

Psyon was pleased and handed me an earpiece. "This translates the Telethian language into your own language. It will be easier for you to travel if you have this." He sensed my curiosity. I had never seen such a device before. "It is nothing special. Do not worry. We give this device to all our visitors. Think of it as a gift." I put on the earpiece. "I will contact the head engineer immediately. Then, I will show you around Tika."

Psyon brought me to a few places: a fancy restaurant, the library and a few stores. He explained the history of Teleth and showed me some of its unique planetary commodities and technologies. He then requested that I tell the Earthlings that the Telethians would love to trade with them. While all the Telethians were friendly, I felt very uneasy. After Psyon mentioned the drones, it was impossible to ignore them. They were everywhere. You were always watched.

On our way back to his apartment, we passed by what seemed to be a couple's quarrel. The exchange was between two Telethians. At first, the conversation seemed friendly, although I could not hear the words they were exchanging. Suddenly, the female Telethian screamed and ran off crying. The male Telethian did not look surprised. He simply ran after her. No one around them seemed to notice the altercation.

“What happened?” I asked Psyon. “That Telethian started screaming...”

“Oh, you mean that little argument? Small altercations like those happen very often. Pay them no mind. It is absolutely necessary. The male Telethian was just telling the truth.”

“Did you catch what he said?”

“I believe that he replied negatively about her personality after she asked for his opinion about her.”

“That’s rude. Why didn’t he just lie?” I mumbled under my breath. Then, I remembered that he couldn’t.

“Pardon me?”

“Sorry, I was just…” I stopped myself from continuing my thought. I was about to lie to him. “I momentarily forgot about your laws. On my planet, we would not tell the truth in that situation. It would be considered a rude comment.”

He was a little taken aback, but his face showed understanding. “Ah, I see.”

A Telethian ran towards us. “Goyerne Psyon! We have a problem!” Alarmed, Psyon followed the alien to a large crowd of people. Psyon and I squeezed our way into the crowd. A group of Telethians were restraining a single Telethian man who struggled against their grip.

“What is going on?”

“Goyerne Psyon, this man has violated *Verisitas*.”

Upset, Psyon walked up to the restrained Telethian. “Citizen of Tika, did you violate our fundamental law *Verisitas*?”

The Telethian stared directly into Psyon’s eyes. “No, I did not.” Suddenly, the Telethians that were restraining the alien released him and began to hold their heads in pain. They screamed, “Savage! He’s a savage!” Psyon was also experiencing some sort of irritation. The

alien smirked and ran away. Psyon, who was able to endure the pain, ran after him. I stayed and waited for Psyon's return.

After a few minutes, Psyon returned with the alien. The Telethian's hands were tied behind his back. "I am sorry that you had to witness that. These situations happen so rarely. Unfortunately, I must bring him to the Truth Rehabilitation Center for his crime."

"Can I come along?" I asked. I wanted to see this rehabilitation center.

"I do not recommend it, but if you wish to see it, you may come."

We entered the Truth Rehabilitation Center. The building had a pungent smell—a mix between the smell of a dumpster and the odor of corpses. There were only a few dim lights that lit the narrow hallways. It was as if we had entered an abandoned haunted house. Psyon talked to the receptionist and filled out a few forms. Then, three large Telethians took the alien away.

"What are they going to do with him?" I asked Psyon.

"He will begin the reeducation program. If he does well, then he will be released in a few days. We must assure that he is of no harm to our society."

"Can I see what goes on in the reeducation program?"

"We do not allow visitors to witness the reeducation process; however, I can show you around a few places."

Psyon led me to an area filled with jail cells. There were a few Telethians inside each cell. Many of them looked deformed. Their eyes were soulless and their greasy uncut hair framed their boney faces. Their emaciated bodies looked like a collection of skeletons. There were a few healthy Telethians inside the jail cells who stayed away from the deformed ones. One Telethian stuck his head between the jail bars and cried out, "Freedom of speech! I want my freedom of speech! I can choose not to speak the truth!"

A guard ran over, struck him on the head with a baton and yelled, “Follow the rules! Do not become a savage!” He pointed to a wall of text in front of the cells.

Truth Rehabilitation Center Rules

Our fundamental law Verisitas states:

No Telethian may speak anything that is not the truth.

If you choose not to follow Verisitas, you will no longer have Telethian rights until reeducation is a success.

Do not break the rules:

No speaking unless directed to.

No standing unless directed to.

No eating unless directed to.

No drinking unless directed to.

No smiling, no laughing.

No crying, no sighing.

No coughing, no sneezing, no burping.

No noise.

No movement.

NO QUESTIONS.

The more rules you choose not to follow, the longer you do not return to civilization.

Do not be a savage. Do not be uncivilized.

Psyon noticed my discomfort with the words on the wall. “We adhere to strict rules here so that these misled Telethians can return to society as good and moral people. Every day we hold reeducation classes where we teach these misled souls how important *Verisitas* is. Then, we

ask if they will follow *Verisitas* if we release them. If we detect that they do not respond truthfully, they cannot leave and are confined. In these cells, they must abide by those written rules. Two days in confinement is usually enough for the Telethian to change his or her mind; however, there have been a few cases where the Telethian dies due to continual failure to follow the rules. Unfortunately, this is absolutely necessary. If they cannot follow such *simple* rules for a few days, how can we trust that they will follow Teleth's fundamental law for a lifetime?"

"I understand," I said dryly, feeling sick to my stomach. The stench was unbearable. I felt the jailed Telethians' soulless eyes staring at me. The atmosphere was too oppressive. "I apologize, but I would like to leave here now."

After leaving the facility, I took a deep breath. This was what freedom smelled like. Something started ringing. Psyon took out a device from his pocket. A holographic screen appeared before him. I flinched. I had only seen this kind of technology in the movies. A Telethian appeared on the screen. "Yes, what is it?" Psyon asked.

"The ship has been fully repaired. The visitor may leave anytime he wishes to."

We returned back to my ship. The wing was completely fixed. I thanked each of the engineers and mechanics. They could not understand me, but they could sense my gratitude. Before boarding the ship, I thanked Psyon personally. He requested that I should visit again.

I signed off the report and handed it to the ambassador of the Space Exploration Team.

"Thank you for your report, Mr. Flemmin. I am sure you are tired from your trip. Why don't you go back home and see your family?"

After the long trip, all I wanted to do was sleep. Exhausted, I returned home. My wife greeted me at the door. "I heard your ship malfunctioned, and you landed on an unknown planet. I'm so glad you're safe. Was everything okay? Were the aliens friendly? Were you scared?"

“The aliens were nice. I wasn’t scared.” *Verisitas: No Telethian may speak anything that is not the truth.* I should not lie to them. “Honestly, some of their rules are pretty intimidating. They take everything you say very seriously. Freedom of speech is sometimes compromised. If you break their rules, they strip you of your rights. I was pretty scared and anxious.”

My wife seemed surprised by my response. This was the first time I ever expressed fear to her. “Well, I’m glad nothing bad happened to you, honey.” She responded with a gentle smile.

Curious, my son ran up to me and pulled on my shirt. “You were scared, dad? Tell us what happened!”

Stranger

She followed me. She followed me with her head down, weeping and crying. I had never met her before, but she seemed vaguely familiar, like a cousin I met just once. She could not utter words…at least not when prompted.

All she did was cry.

"Who are you?" I asked her. The sound of her sobs filled my ears.

There was no response.

She was a child, a pest who constantly followed me wherever I went. I began to question my sanity when I told people about this girl. "She's standing beside me. All she does is cry and cry." I would say. They looked at me like I was crazy.

"There's no one beside you."

Was I hallucinating? Have I gone mad? There was clearly a girl standing next to me, weeping all her sorrows. How could they not see her? How could they not hear her? Her tears were like rain and her sobs were like thunder. Everywhere I went, she followed—on the bus, on the train, in the city, in my apartment. I could not escape her. My lullaby to sleep became her weeps.

Perhaps I, the narrator, should introduce myself. I am Lisa. I have a degree in accounting, I used to be an accountant, and I live by myself in an apartment. One year ago, I found myself devoid of aspirations and dreams. The lone life had left me estranged from others, although I still maintained a few social connections. My routine life had become mundane. Every day was the same thing over and over again. Rinse and repeat. I had become apathetic. I had become stoic…perhaps existentialist.

One day during that dark period of time, I woke up and found this wretched girl standing by my bedside crying. Frightening, right? I remember that day well. I woke up screaming and ran out of the bedroom. As I said before, *she* is a follower. I ran. She followed. I realized that there was no way to escape this freak of nature. At this point, you may be thinking… "Clearly, there's something wrong. Maybe you're hallucinating."

I thought so too…but this girl was tangible. I could feel the hair on her head, the wetness of her tears and the ratty clothing she was wearing. I was scared out of my mind. Who is she, and why does she keep chasing after me? What have I done to this girl?

For months, this little girl hounded me. Not once did she leave my side. I would say "she's been good company" but that would be an outright lie. My every day had become worse because of her existence. My routine was not only mundane, but it was also a burden to me. All I wanted was the peaceful and tranquil life that I had luxuriously enjoyed before this had all happened.

Then one day…the **truth** was revealed to me.

It had been 18 months since her arrival. She spoke. Yes, she uttered words. I heard her voice. Hastily, I asked her, "Why? Why are you doing this? Who are you?"

She replied, "I am you." She was no longer crying. Instead, her swollen eyes stared deeply into mine. It was as if she could see into my soul.

At first, I was so shocked by her response that I could not respond. I was frozen, and I could not think. What was she doing to me?

She sniffled, and I snapped.

Enraged, I yelled at the top of my lungs. After months and months of tolerating her agonizing weeps, that is all she reveals to me? Her answer was ridiculous. "Why? Why? WHY?"

She replied, “I am you. I am the *you* who you locked away. I am the *you* who has abandoned all hope and all desire for improvement. You created me out of the burden of isolation you bear. I am the part of you that you do not wish to reveal.”

“That’s absolute blasphemy!”

“I have been a vessel all this time…something both real and unreal at the same time. Once you open up…once you revive yourself from this pit you are stuck in, I will disappear, and you will be free.”

“This is ridiculous.”

Everything she said sounded absurd, but I desperately wanted her out of my life. I did what I was told.

At first, it was difficult. It had been so long since I had a real conversation with somebody. My few friends were shocked when they received a phone call from me, but they were ecstatic and agreed to meet with me. I genuinely enjoyed speaking with them. Jenny, in particular, suggested that I should pursue a career that I was truly interested in. I took her advice seriously, and now I am writing stories for a magazine.

Honestly…I am happy. My life is not as mundane as before. It feels as if a storm has ended and sunlight is finally piercing through the dark clouds. The gloom that overshadowed my life has dissipated, and the heat of the sun is beginning to warm the ice that has frozen my dreams.

And as promised, she faded away from me in an instant.

Was she really a part of me? A vessel displaying the monster I had become?

Was I hallucinating?

Was this all a dream?

Machines

In that world, there are no light bulbs, no automobiles and no telephones. During the day, men and women do nothing but toil for food and water. When night arrives, they do not work because there is no light to illuminate the darkness hindering their sight. Thus, there is no time for invention. There, no one experiments. Physics, chemistry and biology do not exist in their vocabulary. No one wonders why two different falling stones reach the ground at the same time. No one wonders why wood burns and blackens when it contacts fire. No one knows about the cells that constitute all animals. There are no institutions for astronomy and geology. Nobody knows about the planets or the stars, and nobody wonders how mountains were formed. There, men and women do not question their existence, and they especially do not wonder about the natural world.

Consequently, the men and women there are very fit; however, they do not live long. Without automatic vehicles to facilitate traveling, computers to keep them sedentary and machines to assist their work, they are always physically active. Despite their fitness, they die young because there is no medicine to cure even the mildest illnesses. In regard to specialization, there are no more than a few occupations that men and women can undertake. There are no doctors, no nurses, no chemists, no botanists, no engineers, no researchers, no astronomers and no zoologists. They neither have the curiosity nor the drive to fathom the existence of those occupations and their purpose. Without clocks or even sundials, they do not quantify the passing of time; they simply work until the sun sets. As a result, the people of that world do nothing but work and sleep. Nobody seeks knowledge. Nobody questions nature. Nobody dares to explore the unknown.

***Pathways* by Emily Chen**

- Link to my book: https://www.amazon.com/Pathways-Emily-Chen-ebook/dp/B014242SAY/ref=sr_1_1?ie=UTF8&qid=1543566225&sr=8-1&keywords=emily+chen+pathway

Blurb:

Choices—we all make them. Each choice you make, minor or major, leads to a distinct consequence. How do we make the right choices? We all experience pressure to make decisions from our family, our friends and even our environment.

At the end of the day, the final decision is yours.

This is the story of a girl who lives a lie.

This is the story of Alyson Mayson, everyone's perfect role model. She's mature, intelligent and beautiful.

But it is all a lie she hides under her flawless persona.

What will happen if her lies are revealed? How will she act? How will the consequences of her actions affect her? What path will she take?

(Warning: Contains topics relating to depression and suicide)

Literary Research Papers

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Professor Shirley Samuels

ENGL 3030

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The Significance of Literacy in the Attainment of Freedom

Almost all American slaves lacked the opportunity to gain an education. Consequently, numerous of them accepted the oppressive system they were forced into because they believed that enslavement was a natural and inherent system of social order. However, slaves who had the lucky opportunity to attain literacy soon learned that slavery in the United States was a system controlled solely by white Americans. Therefore, literate slaves used their reading and writing abilities to free themselves from slavery and joined the abolitionist movement to free other slaves. Frederick Douglass is a slave who accomplished the feat of escaping with the help of his literacy. John Burt, a professor at Brandeis University, strongly believes that literacy propelled Douglass in finding his own identity, freeing himself from the chains of slavery and enabling him to become an influential abolitionist. Moreover, Harriet Jacobs is also a slave who employed her literacy to free herself from slavery. Despite their different backgrounds and circumstances, Douglass and Jacobs heavily depended on their literacy during their journey for freedom. Thus, as seen in Frederick Douglass and Harriet Jacobs's escape from slavery, literacy greatly facilitates in freeing slaves from bondage.

Laws against Educating Slaves

Why is literacy such a rare ability among slaves? American slaves had very little or no opportunity to seek an education. Some states declared that educating slaves was unlawful behavior. For instance, South Carolina passed a law in 1740 that fined those who taught slaves:

> Whereas, the having slaves taught to write, or suffering them to be employed in writing, may be attended with great inconveniences; Be it enacted, that all…persons whatsoever, who shall hereafter teach or cause any…slaves to be taught to write, or shall use or employ any slave as a scribe…shall, for every such offense, forfeit the sum of one hundred pounds, current money. (South Carolina Act of 1740).

The law notes that teaching slaves how to read leads to "great inconveniences," which likely implies that educated slaves will learn the dreadful truth of slavery and try to escape from the system that binds them. Thus, to prevent slaves from rebelling against their enslavers, South Carolina penalized anyone who dared to educate a slave. Virginia passed a similar law in 1819 that established the need to "inflict corporeal punishment on the…offenders" who associated with "meeting or assemblages of slaves, or free negroes or mulattoes…or at any…schools for teaching them reading or writing" (Virginia Revised Code of 1819). Slaveholders not only feared educating slaves, but they also feared educating free Black people and mulattoes. It is likely that they thought that free Black people would disseminate knowledge to slaves, or they believed that literacy would fuel the abolitionist movement. Consequently, many slave owners told their illiterate slaves that free Black people suffered in the north; thus, remaining enslaved was better. Unable to learn about the truth behind slavery, slaves born into the system were uninformed about the cruel abduction of their people and the white Americans' sole control over the American slavery system.

The slaveholders' fear of educated slaves is evident in Frederick Douglass's Narrative of the Life of Frederick Douglass. In his narrative, Douglass explains that his mistress, Mrs. Auld, taught him how to read; however, her husband, Master Hugh, immediately stopped his

education. After Master Hugh reprimanded Mrs. Auld, Douglass delineates the drastic change in Mrs. Auld's behavior:

> Nothing seemed to make her more angry than to see me with a newspaper. She seemed to think that here lay danger. I have had her rush at me with a face made all up of fury, and snatch from me a newspaper, in a manner that fully revealed her apprehension. She was an apt woman; and a little experience soon demonstrated, to her satisfaction, that education and slavery were incompatible with each other. (Douglass 52).

In this passage, Mrs. Auld clearly demonstrates her newfound reluctance and fear of educating slaves. Douglass notes that "nothing seemed to make her more angry" than when he attempts to read. To contrast her current behavior with her past behavior, he cites an instance when she rushed at him "with a face made all up of fury…in a manner that fully revealed her apprehension." Her kindness and willingness to teach have completely vanished and have been replaced with anger and hostility. Moreover, Douglass says that Mrs. Auld became apprehensive, showing her inability to act against her husband and society's will. Douglass illustrates her uneasiness by stating, "I was most narrowly watched. If I was in a separate room any considerable length of time, I was sure to be suspected of having a book" (Douglass 52). Thus, Douglass was always under surveillance so that he could never attain literacy. Furthermore, Douglass's statement that Mrs. Auld soon found that "education and slavery were incompatible with each other" is interesting. The word "incompatible" is a strong word that implies that slaves and literacy cannot coexist with one another. In an instant, Mrs. Auld, who was willing to teach Douglass how to read, has been taught to believe that literate slaves cannot exist. Consequently, her complete transformation in thinking and mindset illustrates how much norms dictate American society.

Regardless, Douglass continued his learning by trading bread for knowledge. As a result, Douglass learned how to read without his masters knowing. How did this newfound literacy lead to his freedom? After attaining literacy, Douglass is agonized by his desire for freedom and his inability to escape. To show how deeply affected he is by literacy, he explains that he "would at times feel that learning to read had been a curse rather than a blessing" (Douglass 54). Literacy fueled Douglass's hatred for his slave owners. In response to reading the "Columbian Orator," Douglass states, "the more I read, the more I was led to abhor and detest my enslavers. I could regard them in no other light than a band of successful robbers, who had…stolen from our homes, and in a strange land reduced us to slavery" (Douglass 54). Through reading, he is able to gather his thoughts about the human rights he has been stripped of. By learning about how the whites abducted and enslaved his people, he began to see the extreme evil in the system he was trapped in. Before reading "The Columbian Orator," he did not know about the grievous atrocities that his masters were supporting, so he did not hate or disobey them. After reading these documents, he could do nothing but abhor and detest his masters. These words "abhor" and "detest" are extremely powerful words that transcend far beyond hate. In an instant, he sees his enslavers in a completely different light, sparking his desire for freedom.

Aside from fueling his immense hatred for his enslavers, the power of literacy taught Douglass to think for himself. This ability to think for oneself is what Professor Burt refers to as the identity of "selfhood," which is "an identity governed from within by need and desire" (Burt 1). Now literate, Douglass is able to fathom the idea of freedom, a concept that he did not really consider seriously before. While this is a breakthrough for slaves stuck in the system, he has difficulty accepting his free thinking. This is evident when he states, "Any thing, no matter what,

to get rid of thinking! It was this everlasting thinking of my condition that tormented me. There was no getting rid of it" (Douglass 54). Clearly, Douglass is facing an internal conflict. The idea of the perpetual enslavement of his people has been ingrained in his mind his entire life, but he understands that he should free himself from this oppressive and morally wrong system. Thus, his internal conflict illustrates how society has taught slaves to believe that enslavement is a natural system of oppression. Additionally, he struggles greatly with wanting to escape but not knowing how to escape. In any case, Douglass could no longer forget about the idea of freedom. He uses the words "eternal wakefulness" and "disappear no more forever" (Douglass 55) to underscore how determined he is to free himself from the system. He even says that no matter where he goes, freedom was "heard in every sound, and seen in every thing" (Douglass 55). Moreover, he states, "I saw nothing without seeing it, I heard nothing without hearing it, and felt nothing without feeling it." (Douglass 55). Through the use of parallelism, he further emphasizes how much the concept of freedom has overcome him. Thus, reading gave Douglass the ability to think for himself and a sense of selfhood.

Moreover, reading permitted Douglass to transcend his status as an ignorant slave. Douglass understands that there is a stark difference between him and other slaves after he is enlightened about the atrocities of slavery. Having found his "selfhood," Douglass can no longer rid himself of the knowledge and truth he learned from his books. Aggravated by his inability to escape, Douglass says that he sometimes envied his "fellow-slaves for their stupidity" (Douglass 55). Instead of using the word "ignorant" or "naïve," he decides to use "stupidity" to describe his fellow-slaves who lack knowledge about the truth behind slavery. Although there is no ill intent behind his words, Douglass seems to imply that slaves who are ignorant about the origin and atrocities of slavery are stupid. Yet, Douglass knows that his fellow-slaves are not incompetent;

they just lack the opportunity to attain literacy. Douglass continues by stating that he "often wished himself a beast" (Douglass 55). Although Douglass's enslavers still treat him as if he is subhuman, he understands that his literacy has given him the knowledge he needs to transcend his status as a mindless tool. In particular, Douglass learned that "slavery is wrong according to the masters' own precepts, and that the masters themselves…understand that slavery is wrong and can possibly be persuaded to do something about it" (Burt 14-15). Thus, literacy was essential in paving Douglass's path to freedom. Without it, Douglass likely would not have learned that the system he was confined in could be changed.

Frederick Douglass and the Effects of Writing

While learning to read played a significant role in Douglass's journey to freedom, writing pushed him past freedom and towards abolitionism. Writing provided Douglass the voice he needed to disseminate his views. Professor Burt strongly believes that writing had a significant impact in Douglass's path to freedom and abolitionism. Burt states that from writing, Douglass "discovers it is possible to meet the master not only in the self-defeating arena of conflict over power or feeling, but also in the far more promising arena of public and articulate conflict, conflict in which both sides have to search for arguments which will tell against each other" (Burt 15). The "self-defeating area of conflict" describes the slave's individual conflict with his masters. Although he can physically fight and resist against his enslavers, as seen in his fight with Mr. Covey, Douglass is unable to address the oppressive system as a whole; he can only save himself from bondage. Through writing, he can enter the "far more promising area of public and articulate conflict." Thus, Douglass can address multiple opponents directly on a level playing field by writing about his opinions, experiences and arguments. Moreover, Douglass knew that texts "have some permanence and can be read by anybody" (Burt 15). Douglass likely

learned about the powerful influence of writing from Lloyd Garrison's *The Liberator. The Liberator* sought for the "immediate end to slavery and equal rights for all people…It advocated nonviolence, declaring that revolution would be achieved through moral suasion alone" (Stauffer 13). Douglass read the *Liberator* religiously, inspiring him to join the abolitionist movement. Consequently, he founded his own newspaper *North Star*, which disseminated his views on abolitionism. Thus, writing became Douglass's outlet for expression. He is able to disseminate the information and beliefs he fostered from his reading to the masses.

Writing gave Douglass a voice; however, it also gave him the opportunity to influence change. According to Professor Burt, writing enabled Douglass to become "Frederick Douglass the citizen, not only the bearer of desires, wishes, and capacities of force, but also the bearer of desires and duties, someone capable of appearing in the public area and arguing with someone else on common grounds of persuasion" (Burt 16). Through reading, Douglass is able to foster the will for freedom that eventually frees him from the enslavement; however, writing lets him take a step forward in changing policy to free other slaves. Burt asserts this when he writes, "Writing…delivers us into a world governed by values which neither we nor our enemies are fully in possession of, but which give us hope of persuading each other and living together as we ought" (Burt 17). White men essentially dictated the political and social system of the United States during the eighteenth and nineteenth century; however, they do not own and control the written word. Because they are not "fully in possession of" the ability to persuade and argue through text, anyone has the ability to change the system. Thus, as long as he can write, a person of any status has the power to persuade his opponents. Using knowledge from the texts and articles he read and his eloquent writing abilities, Douglass helped pave a path to freedom for slaves without the means to escape.

Harriet Jacobs and Literacy

While literacy played an essential role in Frederick Douglass's fight for freedom and abolitionism, literacy was important in the stories of other slaves. In particular, literacy was a crucial aspect in Harriet Jacobs's escape to freedom. Harriet Jacobs and Frederick Douglass had completely different upbringings. Douglass lost all familial connections early in his life; thus, he relied on himself when escaping enslavement. Jacobs's escape is largely attributed to her family and friends' assistance. Furthermore, Jacobs's mother's mistress taught her how to read at an early age. In addition, no one prevented Jacobs from teaching herself how to write. On the contrary, Douglass's masters prevented him from attaining literacy. Thus, he honed his reading skills by bribing young literate white boys to teach him and learned to write secretly with "the board fence, brick wall, and pavement...and…a lump of chalk" (Douglass 57). Thus, Douglass and Jacobs had significantly different opportunities and experiences. Regardless of these differences, literacy was vital in facilitating Douglass and Jacobs's escape from slavery.

In her narrative, Incidents in the Life of a Slave Girl, Harriet Jacobs explains how literacy affected her life as a slave. While she lived in Dr. Flint's house, literacy was a burden. For instance, Jacobs states, "One day he caught me teaching myself to write…Before long, notes were often slipped into my hand. I would return them, saying, 'I can't read them, sir.' 'Can't you?' he replied; 'then I must read them to you.'" (Jacobs 50). Dr. Flint utilized her literacy as an alternate means of harassing her. Instead of explicitly confronting her, Dr. Flint believed he could discretely send messages to Jacobs because she could read. To escape his notes, Jacobs had to feign the inability to read by saying, "I can't read them;" however, her lie did not stop him from reading his letters to her. Despite her lies, Dr. Flint was highly aware of her ability to read and write. For example, Jacobs writes, "he knows I could write…and he was now troubled lest I

should exchange letters with another man" (Jacobs 63). Clearly, Dr. Flint fears her literacy because of how much power she holds with a pen. However, he continued to "thrust a note" (Jacobs 63) into her hand to passive-aggressively respond to her disobedience. Thus, during her time under Dr. Flint's roof, her literacy proved to be a way of soliciting more harassment from Dr. Flint.

However, her ability to write became extremely significant after she fled from Dr. Flint's household. Jacobs wrote a myriad of letters while she hid from Dr. Flint. When she was confined in the garret of her grandmother's house, she thought of an elaborate plan to divert Dr. Flint's attention from her hiding place. To trick Dr. Flint, Lydia explains, "In order to make him believe that I was in New York, I resolved to write him a letter dated from that place" (Jacobs 193). Moreover, she would employ one of her friends to find a way to mail the letter from New York and continue to send letters from different locations. Jacobs confirms that her ruse worked when she states, "One of my letters…was dated from Canada; and he seldom spoke of me now. This state of things enabled me to slip down into the storeroom more frequently" (Jacobs 214). Thus, Jacobs's literacy was successful in diverting Dr. Flint's suspicion. Furthermore, her friends' correspondence played an important role in ensuring her safety. For example, while she was in Boston, Jacobs states, "I received a letter from one of my friends at the south, informing me that Dr. Flint was about to visit the north" (Jacobs 260). Because of Jacobs's literacy and friends, Jacobs could keep track of Dr. Flint's movements in the south and act accordingly. Therefore, Jacobs's literacy proved extremely beneficial in her escape from slavery.

Thus, Jacobs mostly utilized her ability to write to communicate with people from afar. When her children and her brother were sent to the north, Jacobs would send letters to make sure that her family was safe. As a result, she could live more peacefully knowing that her loved ones

were treated well. Additionally, after Dr. Flint passed away, she sent a letter to his daughter asking for her freedom. Consequently, she was able to communicate safely with his daughter without directly confronting members of the Flint family. Furthermore, while she was in the north, Jacobs often read the newspaper and received mail from her friends to monitor her enslavers and their allies in the south. Thus, Jacobs's literacy was a key factor in ensuring her and her children's freedom. If she could not write or read letters, she most likely would have been caught by Dr. Flint and his family.

It is evident that literacy played a vital role in the lives of slaves who could read and write. Even though Frederick Douglass and Harriet Jacobs were slaves with completely different circumstances and backgrounds, they both utilized literacy to free themselves from slavery. From reading books, Douglass attained "selfhood" and found his desire for freedom. Furthermore, writing gave him the opportunity to educate others about the atrocities of slavery. For Harriet Jacobs, writing letters and reading the newspaper and her friends' correspondences enabled her to monitor Dr. Flint's movements and her family's wellbeing. It is no surprise that enslavers feared educated slaves. Literacy grants incredible power to slaves. Literacy enlightens slaves that slavery is a system instilled and controlled by the whites; thus, change can occur. Furthermore, literate and free Black men, like Douglass, could assert their influence by writing in support of the abolitionist movement. Consequently, literacy is an extremely powerful tool. Literate slaves can use their reading and writing abilities to escape from their enslavers; however, they can further employ their literacy to free other slaves by publishing their experiences and writing for the abolitionist movement.

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The Influence of Enlightenment Ideologies on Notions of Race and Class

"Equality of opportunity is not really a theory of equality but one of justified and morally acceptable equality." –Isaac Kramnick

"A state of equality, wherein all the power and jurisdiction is reciprocal, no one having more than another; there being nothing more evident than that creatures of the same species and rank, promiscuously born to all the same advantages of nature, and the use of the same faculties, should also be equal one amongst another without subordination or subjection" –John Locke

Grand balls and operas, busy salons, prestigious universities and luxury stores —this was the "City of Light" known as Paris, France. However, beyond the light of Paris, France, lied darkness. Behind the glory of Paris was a city of filthy roads and squalid tenements. Unable to attain food, the people of Paris would raid bakeries for bread. This was the true state of French society during the late eighteenth century. Amidst the light and darkness was the dissemination of Enlightenment thought, which traveled through the salons. These Enlightenment philosophers sought to fix the terrible French political and social system. The Enlightenment ideals were used for both good and evil. Although Enlightenment ideals are perceived as progressive, many of them endorse racism and imperialism. However, many of the oppressed have used Enlightenment ideals to fight back against their oppressors. These conflicting interpretations of the Enlightenment works fostered violent revolutions in France and its colonies. As seen in the French and Haitian Revolutions, the Enlightenment texts played a significant role in endorsing

class stratification, racism and imperialism; however, they were also imperative in inciting the oppressed to fight against injustice.

The Enlightenment and Class Stratification

Immanuel Kant is an Enlightenment thinker whose work implies natural class distinction. In Kant's "What is Enlightenment?," it is difficult for the reader to conjecture whether Kant believes that everyone has the ability to achieve enlightenment. For instance, Kant states, "There are only a few who have succeeded by their own exercise of mind" (Kant 2). Thus, Kant implies that there are only a few people who have the capability to think for themselves and reach enlightenment. Thus, Kant seems to lack faith in the public's ability to attain enlightenment. He writes that "the public can only slowly attain enlightenment. Perhaps a fall of…tyrannical oppression may be accomplished by revolutions, but never a true reform in ways of thinking. Rather, new prejudices will serve as well as old ones to harness the great unthinking masses" (Kant 2). Kant essentially implies that when the public revolts against "tyrannical oppression," a new dictatorial government is implanted; therefore, real change does not occur. He further suggests that the public is prone to "new prejudices" and will unlikely overcome their fixation on these prejudices. Consequently, Kant implies that there are too many people who are deeply rooted in prejudice; thus, the public as a whole lacks the ability to obtain enlightenment.

Additionally, Kant seems to suggest that only the educated, or the privileged, can attain enlightenment because they are aware of the prejudices that consume man. Although Kant speaks as though everyone can achieve enlightenment as long as he is released "from his self-incurred tutelage," (Kant 1) it seems as if only those privileged enough with the time and money to receive an education can achieve enlightenment and think for themselves. As a result, people of the poor working class, who have little time to study and learn, do not have the means to reach

enlightenment. Thus, while Kant celebrates individualism, his writing underscores the natural manifestation of class distinction based on privilege.

The French Revolution and the Fight for the Erasure of Class

Believing in the natural occurrence and justness of social stratification, the privileged maintained France's stratified class hierarchy. Thus, the poor suffered greatly from the oppression of the upper class. During the eighteenth century, France's social hierarchy was divided into three estates: the clergy, the nobility and the working class. The clergy and the nobility, which made up about 2% of the French population, lived lavish lives while the working class starved on the streets. Thus, the working class sought to overthrow the monarchy. To justify their actions, they cited Enlightenment ideals, particularly those echoed in Rousseau's "Discourse on the Origin of Inequality" and "The Social Contract." In "Discourse on the Origin of Inequality," Rousseau expresses his discontent with the large discrepancies between the rich and the poor. To ameliorate the imbalance between classes, Rousseau delineates his vision of an ideal government in "The Social Contract." For example, Rousseau states, "Each of us puts his person and all his power in common under the supreme direction of the general will, and, in our corporate capacity, we receive each member as an indivisible part of the whole" (Rousseau 433). Thus, Rousseau promotes a government in which class disappears and everyone's opinion will be heard and accounted for. He believes that every person has his own natural rights that cannot be stripped away by higher powers. As a result, everyone is an essential "part of the whole" and necessary for the "general will." Although Rousseau later promotes a majority rule since there is no way that every single person can agree on one topic, these enlightenment ideologies resonate deeply with the oppressed French citizens.

In the first phase of the French Revolution, the representatives of the third estate in the Estates-General formed a National Assembly that sought to reform France's political system. The Estates-General, which consisted of representatives from all three estates, was dominated by the first and second estates. The third estate had little representation; thus, their voices were barely heard. After receiving no help from King Louis XVI, the National Assembly wrote the "Declaration of the Rights of Man and Citizen," delineating John Locke's definition of natural rights. In "The Second Treatise of Civil Government," Locke asserts that the "state of Nature….teaches all mankind….that, being all equal and independent, no one ought to harm another in his life, health, liberty or possessions" (Locke 396). Thus, Locke, like Rousseau, believes that class stratification should disappear; the monarchy and the landlords have no right to strip the lower class of their "life, health, liberty or possessions." The National Assembly strongly emphasizes this point in the first four points of its declaration. The first point directly states, "Men are born and remain free and equal in rights" (Locke 467). Therefore, it is evident that the National Assembly strongly utilized Locke's beliefs in writing its declaration of rights. Moreover, the National Assembly, inspired by Rousseau, incorporated his belief that "the law is the expression of the general will" (Rousseau 467). Consequently, the National Assembly clearly desired to create an ideal republican nation, completely demolishing the class distinctions present in their society.

However, the second phase of the French Revolution destroyed the ideologies pushed by the National Assembly. Maximilien Robespierre rose as the leader of the second phase through his eloquent and radical speeches. His leadership led to the dreadful Reign of Terror, a time in which the guillotine killed countless French citizens. In particular, Robespierre "used Rousseau's language, and exploited—while distorting—several of Rousseau's ideas in the course of his

reign of terror" (Cranston). In his speech, "The Political Philosophy of Terror," Robespierre masterfully delivers his justification for terror by describing his desire for a true democracy. For instance, Robespierre states, "What is the goal toward which we are heading? The peaceful enjoyment of liberty and equality, the reign of eternal justice whose laws have been described…in the hearts of all men" (Robespierre 1). Using the words, "liberty," "equality" and "hearts of all men" echoed in Rousseau's work, Robespierre paints an ideal picture of what the French men want from the revolution. Robespierre continues to hail democracy in his speech by repeatedly stressing the words "equality" and "virtue." Robespierre then justifies the use of terror by stating, "Terror is nothing but prompt, severe inflexible justice…It is less a special principle than a consequence of the general principle of democracy applied to our country's most pressing needs" (Robespierre 3). Thus, Robespierre persuades the French people to use terror by calling violence a "justice" and simply a "consequence" of creating democracy. By describing terror as a virtuous tool, Robespierre can convince the people without mentioning the ensuing violence that follows terror. To further his argument, Robespierre says, "To punish the oppressors of humanity is clemency; to pardon them is barbarity" (Robespierre 3). By using the word "clemency" and accusing the act of pardoning as "barbarity," he justifies terror as an act of kindness or forgiveness. Even though terror itself is a form of oppression, Robespierre convinces the French people that terror is a tool that cleanses the country of oppression. Through the Reign of Terror, Robespierre was able to assume a dictatorial role, returning France to its original oppressive rule.

The Haitian Revolution and the Fight against Class

Taking place simultaneously with the French Revolution, the Haitian Revolution commenced due to class distinctions as well. Unlike the French's social hierarchy, the classes in Saint-Domingue's social hierarchy were not determined by esteem and wealth. Instead, class

stratification was based on race. Like the French, Saint-Domingue was divided into three distinct classes: the white plantation owners, the free mulattoes and the Black slaves. The whites were essentially the ruling and aristocratic class in Saint-Domingue; thus, the mulattoes sought for equal rights while the slaves sought freedom (Rand 1-2). Vincent Ogé, a free mulatto in St. Domingue, began to rebel against Saint-Domingue's class hierarchy when he wrote to the Provincial Assembly of St. Domingue. In his letter, he writes, "I require you to promulgate through the colony…to all free citizens, the right of admission to all offices and functions…if…you do not satisfy my demand, I am not answerable for the disorder into which my just vengeance may carry me" (Beard 47). As a free man, Ogé was angered that he did not have the same privileges as the white plantation owners. Thus, his letter, resonating with Rousseau's notion of equality for all men, promotes the eradication of class in St. Domingue. Moreover, Ogé's comment of "disorder into which my just vengeance may carry me" embodies the anger he and other mulattoes have been withholding and foreshadows the ensuing violence to come. The Provincial Assembly ignored Ogé's words, leading to Ogé's insurrection against the whites. However, Ogé's plan failed, and he was consequently executed. The social hierarchy remained in Saint-Domingue until Toussaint L'Ouverture rose to fight against the French.

Inspired by the French Revolution, Toussaint L'Ouverture, a free Black man, fostered the support of angry mulattoes and slaves and led the Haitian Revolution to victory. Literate, L'Ouverture was familiar with the works of Enlightenment philosophers. Rousseau's beliefs are clearly evident in the Saint-Domingue Constitution 1801, a document that L'Ouverture greatly contributed to. In the section "Title II," the Assembly writes, "No other distinctions exist than those of virtues and talents, nor any other superiority than that granted by the law in the exercise of a public charge. The law is the same for all, whether it punishes or protects" (Saint-Domingue

Constitution). This provision indicates that all men are free, regardless of their status, wealth or race, echoing Rousseau's belief in the equality of all men. However, in section "Title VIII," Toussaint L'Ouverture establishes himself as the sole ruler of Haiti "for the rest of his glorious life" (Saint-Domingue Constitution). Consequently, the entire document, which hails egalitarianism and freedom, contradicts itself. By proclaiming himself as Haiti's ruler, L'Ouverture brings about inequality once again by granting himself immense political power.

Exercising his executive power, L'Ouverture delineates a series of policies he would like to enact in his "Dictatorial Proclamation." In his last policy, he writes "My regulations…shall be executed exactly as stated. All military commanders are enjoined to execute it rigorously and literally in all that is not contrary to the present proclamation" (L'Ouverture 6). Utilizing the language of a king or dictator, Douglass implies his power to rule by asserting that his policies should be "executed exactly as stated" and "rigorously and literally." As a result, social inequality reappeared after L'Ouverture claimed dictatorship over Haiti. Fearing colonization once again, L'Ouverture begins to revive Haiti's economy by coercing Haitians to work in the fields again. Thus, despite his belief in the equality of all men, Toussaint L'Ouverture single-handedly contradicts his values by establishing himself as the sole leader of Haiti for life.

Applying Enlightenment Works to Racism and Imperialism

Although many Enlightenment thinkers underscore the use of reason and science, numerous of their works promote blatant racism. This is seen in Immanuel Kant's work "On the Different Races of Man." Kant believes in the necessity of races; thus, he categorizes people based on their skin color. What is interesting is that he reasons that people cannot be categorized by the color of their hair. Consequently, Kant is simply promoting his own social construct that people behave differently based on the color of their skin. As a result, Kant generalizes entire

groups of people, propagating horrible stereotypes. For example, he writes, "the Negro is…strong, fleshy, supple, but in the midst of the bountiful provision of his motherland lazy, soft, and dawdling" (Kant 46). Essentially, Kant assumes an entire population's physical features and personality solely on geography and skin color. In this case, he believes that all Black people are "lazy," "soft" and "dawdling." Thus, it is evident that he finds Black people inferior to white people. Although he promotes reason and science, Kant clearly imbues his assertions with his own biases and opinions. Responding to Kant, Johann Gottfried Herder argues, "Neither the blood, the brain, nor the seminal fluid of the negro is black, but the reticular membrane beneath the cuticle, which is common to all, and even in us…is more or less coloured" (Herder 75). Herder illustrates that Kant's categorization based on skin color is his own social construction. The color of blood, brain and seminal fluid in the human body is "common to all;" thus, there is no logic in categorizing people based on skin color. Consequently, Herder proves that race is a social construct that promotes illogical discrimination.

Aside from Kant, David Hume blatantly believes in racial distinctions. In his work "Of National Characters," Hume directly states, "I am apt to suspect the negroes and in general all other species of men to be naturally inferior to the whites. There never was a civilized nation of any other complexion than white" (Hume 33). Hume bluntly states that all non-whites are inherently inferior because no other race has the capability of building a "civilized nation." This is an ironic statement since Europeans depend on many Asian and African countries for their goods and inventions. Thus, Hume clearly bases his racism on his Eurocentric views of the world. James Beattie refutes Hume's belief in white superiority by proving Hume's lack of reasoning. Beattie states, "To suppose him [a black slave] of an inferior species, because he does not thus distinguish himself, is just as rational as to suppose any private European of an inferior

species, because he has not raised himself to the condition of royalty" (Beattie 36). Beattie analogizes racial distinctions to class distinctions. Using Hume's logic, poor whites would be considered inferior because they were not born as aristocrats or royals. Furthermore, Beattie states that Europe was a "savage" nation 2,000 years ago. Thus, Hume's assertions are flawed and biased. Beattie logically proves that Hume's beliefs are not rooted in truth and reason—two essential Enlightenment ideologies.

Embodying white superiority ideologies, Marquis de Condorcet preaches universal egalitarianism and equality between nations; however, his writing inherently implies the need for imperialism. In his work "The Future Progress of the Human Mind," Condorcet writes that he desires for "the abolition of inequality between nations, the progress of equality within each nation, and the perfection of mankind" (Condorcet 27). From this statement, it is clear that Condorcet not only promotes Rousseau's belief in egalitarianism within a nation, but he also stands against colonization since it would impede his desire for "the abolition of inequality between nations." However, Condorcet subtly pushes for imperialism in his essay. This is evident when he states, "we shall become for them [Africans and Asians] the beneficent instruments of their freedom" (Condorcet 28). By writing that the Europeans will be the "beneficent instruments of their freedom," Condorcet implies that the French and Anglo-Americans are superior nations that have the capacity to grant enlightenment to other nations. As a result, it is necessary for these European nations to colonize "lesser" nations to ensure equality among the nations. Thus, Condorcet's biased, Eurocentric perspective contradicts Enlightenment thought. Even though Condorcet asserts that Europeans will no longer present themselves as "tyrants or corrupters," (Condorcet 28) his beliefs resonate greatly with the white man's burden. Consequently, Condorcet seems to believe in the need to imperialize non-European countries.

Imperialism and Racism in Haiti

Employing the ideology of the white man's burden and white superiority, imperialists colonized numerous non-European countries. France, in particular, colonized civilizations in the Caribbean, Africa and Asia. However, instead of "civilizing the savages," the French integrated the colonized into their society by coercing them into slavery. Saint-Domingue particularly struggled with race and imperialism. As discussed before, Saint-Domingue's social hierarchy was divided into three classes: white plantation owners, free mulattoes and Black slaves. Despite their freedom, the mulattoes did not have the same rights as white French citizens because of their mixed blood. The whites saw the mulattoes as Black; therefore, they thought of them as an inferior race. Thus, even though Enlightenment philosophers pushed for equality and freedom, racism inherently persisted in their writing, pervading European society.

Although slaves in Saint-Domingue received the worst treatment and were considered property, mulattoes were bothered the most by the French's racial prejudice. Even though they were free by law, their freedom was extremely restricted. For instance, mulattoes had to "enlist for a mandatory three-year term in the military establishment known as the marechaussée...Upon completion of this term, Mulattoes were then forced to serve in their local militia without compensation" (Rand 2). Their duties at marechaussée were to "arrest fugitive Negroes, protect travelers and…collect taxes" (Rand 2). Thus, they had no choice but to spend a great deal of time in marechaussée without any compensation or benefits. Even though marechaussée was a military establishment, the French basically hired the mulattoes as free laborers. Furthermore, the French required the mulattoes to "provide their own supplies" and dictated that they "could only be released from this service if it was deemed that their presence was no longer necessary" (Rand 2). Consequently, mulattoes were essentially slaves to the French. The whites strictly determined

what the mulattoes could do. Additionally, mulattoes could not vote or hold office. They could own land; however, there were laws that restricted their ability to use the land. Thus, although the whites did not own mulattoes, the laws created by the whites, controlled them. Angered by their restricted freedom, mulattoes sought egalitarianism in Saint-Domingue.

Thus, the Haitian Revolution continued until the National Convention agreed to abolish slavery in Saint-Domingue. After Saint-Domingue's economy plummeted due to L'Ouverture's revolts, the Jacobins, led by Robespierre, decided to end slavery in all French colonies. The Jacobins felt obligated to do so since they strongly believed in Rousseau's ideal egalitarian society. Furthermore, the enslavement of a people defies Locke's belief that "no one ought to harm another in his life, health, liberty or possessions" (Locke 396). Consequently, the Jacobins had no choice but to grant freedom to slaves. When establishing the Saint-Domingue Constitution, L'Ouverture made sure that racial discrimination was extinguished. In the section, "Title II," L'Ouverture writes, "There can be no slaves on this territory; servitude has been forever abolished," and "All men can work at all forms of employment, whatever their color" (Saint-Domingue Constitution). Thus, despite his proclamation as the sole ruler of Haiti, L'Ouverture effectively eradicated racial discrimination and bondage in Haiti.

Conclusion

It is evident that both the oppressors and the oppressed utilized Enlightenment ideals to justify their actions. During the late eighteenth century and early nineteenth century, class stratification and racism were inextricably related struggles. With class and racial discrimination comes violence, or rather, a revolution for freedom and equality. However, as seen with Maximilien Robespierre and Toussaint L'Ouverture, revolution can often lead to a new

dictatorial leadership. Consequently, violent revolution may not be the correct answer to the fight against oppression.

France and its colonies were not the only countries who utilized Enlightenment to combat inequality. In the late eighteenth century, the colonized America rebelled against their oppressive British monarch. Similar to the French's third estate, the American colonists lacked representation in parliament and the king treated them unfairly. As a result, they declared war on Britain to gain their freedom. The American revolutionists strongly believed in John Locke's theory of natural rights. This is directly evident in the preamble of the revolutionists' Declaration of Independence:

> We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, liberty and the pursuit of Happiness. That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed (Declaration of Independence).

The notion that "all men are created equal" and have "unalienable Rights" is undeniably taken from Rousseau's "The Second Treatise of Civil Government." The ideas of "life, liberty and the pursuit of Happiness" resonate with Locke's belief in man's natural right to his "life, health, liberty or possessions" (Locke 396). Furthermore, the preamble establishes a republican government in which men attain "their just powers from the consent of the governed." This notion echoes Rousseau's desire for the rule of the general will in "The Social Contract."

As a result, the Enlightenment works not only played a significant role in justifying oppression, but they were also essential in fostering revolution among the oppressed. The French

Revolution and the Haitian Revolution are just a few revolutions that have heavily relied on Enlightenment ideologies.

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Literature Reviews

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Gender Exclusivity in Video Games Through the Lens of Gender in Technology and Gender Socialization

Introduction

Video games are widely popular among both children and adults worldwide. However, many people view video games as a male-dominated activity. While well-known video game companies generally target their games towards boys, as they are the largest demographic that plays video games, the games do not necessarily exclude female players. In actuality, women account for approximately 40% of gamers (Paaßen et al. 422). Yet, why is the gaming community extremely male-centric, and why do people deem gaming as a masculine activity? The answers to these questions lie in the relationship between gender and technology, the impact of media on facilitating the perpetuation of certain gender stereotypes and gender roles in video games, and the continued reinforcement of gender norms and gender scripts by individuals in the realm of technology and video games.

Women in Technical Fields

Women in the United States currently play a limited role in the technology industry. In large technology companies, such as Apple, Facebook, Google, and Microsoft, women hold approximately 20-23% of the technical jobs (Harrison 2019). Within the video game industry, women represent fewer than 20% of the workers with only 3% working as game programmers (Terlecki et al. 25). These statistics are unsurprising as women have continually been excluded

from technical and engineering roles for centuries. During the late nineteenth century, male professionals began associating the role of engineering with masculinity. In particular, the belief was that men were compatible with technological pursuits because of their educational qualifications, bodily prowess, and individual achievement (Wajcman 144). Based on this belief, women, who rarely had the opportunity to engage with technology or receive a proper education due to their household obligations, were "incompatible" with these technological pursuits. For instance, when the automobile started to become prevalent in the United States, it immediately "became the province of men" (Kline and Pinch 779). Men would maintain and repair the automobile; therefore, they were the ones improving their technical skills. While some women operated automobiles, many never learned to drive them because men did not want them to tamper with them (Kline and Pinch 779). As a result, some women never gained any experience with the machine, and men continued to be the image of technical competence.

We see the perpetuation of male dominance in technical fields even when there is an effort to be more inclusive of women. For instance, the Fixers' Collective, a social experiment in which fixer volunteers teach attendees how to fix any broken items, hosts a monthly women-focused series on home repairs (Young and Rosner 323). Although the series' purpose was to teach women about home repairs, the fixer volunteers, who were mostly men, were fairly unsupportive when working with the female attendees. There were many incidents where the men completed the entirety of the repair work despite the attendees wanting to fix the items themselves. Moreover, some male fixers gave unnecessary discouraging criticisms while the female attendees fixed their items (Young and Rosner 325-328). Consequently, the men's behavior in the workshops reinforces the notion that men should be in charge of technical work and that women cannot accomplish equally quality work. Thus, because of this exclusivity,

women often do not feel welcomed in technical fields and do not attempt to engage in such a hostile environment.

Even efforts that actively seek to dispel male exclusivity in technology have had difficulty appealing to women. For example, organizers of the Pandora Radio Project purposely recruited women and people of color to show their technical expertise during barnraising events. However, the women they recruited sometimes felt essentialized; one woman, in particular, felt that she was "extra-visible...like she was a part of Pandora's display of their activist vision" (Dunbar-Hester 127). Because of the ingrained culture of white male exclusivity within technology, it is incredibly difficult to establish efforts that welcome women into the technology industry but ensure that they do not feel essentialized. Due to the difficulty of these efforts, the notion of white male hegemony in technology continues to persist.

Effects of the Lack of Women in Technical Roles

How does the lack of women in the technology and video game industry affect the games produced and the demographics of video game players? One effect is that the developers of these video games will design video games without the input of people with different identities and perspectives. As a result, these developers will likely abide by their gender scripts and create games that appeal mostly to boys, which will subsequently deter girls from playing the games. For instance, a large proportion of popular games depict men as powerful heroes and women as sexualized side characters or damsels in distress. We can evidently see men as the target audience for popular games, such as *Grand Theft Auto,* where the male protagonist has the ability to engage in sexual activities with female characters and then kill them (Dill and Thill 853). In less extreme examples, game developers have characterized female characters as damsels in distress. As seen in nearly all the Mario Brothers games, the main character Mario's

purpose in the game is to venture all over the world to save Princess Toadstool/Peach (Dill and Thill 851). Thus, girls likely become non-users of video games because they have no incentive to play them; they can rarely embody a hero that represents them since the characters who look like them are either highly sexualized or portrayed as helpless characters. Therefore, games could attract more female video game players if the games featured more androgynous characters and/or portrayed women in a more positive light.

Furthermore, women are often not the protagonists in video games and are usually never playable characters in the game. In a 2007 study on character depiction in video games, Miller and Summers found that "men were the primary playable character in 51% of the games evaluated, while women were the playable character in 26.5% of games" (Friedberg 23). By portraying women as solely supporting characters and non-playable characters, these games encourage the belief that women work best in supportive occupations rather than in leadership and decision-making positions (Friedberg 44). In addition, Friedberg attributes the lack of playable female characters to the "dearth of women in visible fields like science technology" (Friedberg 40). Specifically, the lack of women in programmer and developer roles in gaming companies leads to fewer protagonists that are representative of women. This is because game developers generally design and create games based on gender scripts that delineate men as leaders and women as caretakers and their notions of entertainment. Since males dominate the game development industry, they will continue to create games that cater to the interests of male gamers.

Another effect of the exclusion of women in the video gaming community is the lack of visible representation. Role models have been shown to make a positive impact on "motivation, goals, and behaviors by making respective domains, goals, and behaviors both more attractive

and attainable" (Paaßen et al. 428). With very few women visibly performing their gamer identity or game developer identity, young girls are less likely to engage in an activity or environment that rarely include people who look like them. Furthermore, young girls may have the impression that video games are inaccessible to them since they often do not see other girls succeed in the video game industry by overcoming the culture of exclusion. Therefore, it is essential for willing women to perform their gamer identity visibly to show young girls that gaming is not an activity exclusive to men.

Media's Impact on Gender in Video Games

While the culture of male exclusivity in the technology and video game industry has contributed to the lack of women in these fields, we should not blame men for the persistence of this toxic culture. Socialization is a significant factor that greatly affects the norms that everyone adopts, regardless of gender. From a young age, we become socialized into a society based on our upbringing, the environment we grew up in, the people we associate with, our personal experiences, and the media we consume. Especially with the ubiquity and power of social media platforms today, children often develop and adopt beliefs from the content they see on these platforms. For instance, video game walkthroughs with commentary called "let's plays" have become very popular among video streaming platforms, such as YouTube and Twitch. Female gamers play a very limited role on these platforms. Out of the 100 most subscribed gaming channels on YouTube, only two channels featured a female host with one of these channels featuring a female co-host alongside a male co-host. Therefore, only 2% of these channels consist of a prominent female gamer. Online game reviews have become increasingly influential in recent years as well. Among traditional reviewing sites, only 28 out of the 200 reviewers

female, comprising 14% of the staff (Paaßen et al. 427). Based on these statistics, it is evident that there are only a handful of female role models in the gaming industry shown in the media.

Aside from illuminating the lack of female visibility in video games, the media often disseminates harmful stereotypes about women in gaming. One gender stereotype in gaming is that women only play games casually and only play simple games on "inferior" platforms, such as their smartphones, whereas men play competitively and engage in complex games that require more skill (Paaßen et al. 422). While this stereotype is not true, the media often buttresses this ideology. Competitive gaming and speedrunning are huge communities within the realm of gaming. Speedrunning, in particular, is a form of extreme gaming where people play through a video game as quickly as possible by exploiting bugs and glitches and exercising their expertise in the game's mechanics. Although people in competitive gaming and speedrunning participate in different events, many popular streaming sites, such as YouTube and Twitch, showcase these events live. In the speedrunning events *Awesome Games Done Quick 2015, Summer Games Done Quick (SGDQ) 2014, and SGDQ 2015*, less than 2% of the total participants were women with 0 women participating in *SGDQ 2014* (Paaßen et al. 424). Thus, it is not unreasonable to conclude based on these events that very few women participate in extreme gaming. Consequently, this lack of visible female representation within these competitive and extreme gaming communities continues to reinforce the stereotype that women only casually play simple games.

Furthermore, social media platforms have given extremist male video game players the opportunity to broadcast sexist opinions about women in the video game community. In the past few years, some male gamers have posted videos communicating their belief that "video games are created by men for men" (Paaßen et al. 422). These videos have been viewed over 2.3 million

times; thus, many people have heard their vocalizations. While the majority of male gamers do not share the same beliefs as these particular gamers, the publicization of their sexist opinions likely deters women from participating in both the game development industry and the gaming community. It is clear that the media can be an effective tool for showcasing positive female participation in video games, yet the media has generally deterred women rather than welcome them into the gaming community. Therefore, since women have very little incentive to play video games or join the gaming community, they continue to be non-users.

Because of the perpetuation of these stereotypes and norms, some men have been socialized to believe that women cannot be as skilled as men in video games. According to Terlecki et al.'s study, men felt more skilled at video game playing than women even though some of the men and women felt that they were "moderately" skilled (Terlecki et al. 29). The researchers speculate that the belief that women are less skilled may be due to women's under-involvement in computer science and video game development, the male participants' absorption of media messages, or personal experience (Tarlecki et al. 29). Studies have also shown that stereotype threat, the harmful effect that negative stereotypes can have on a group member's performance, can cause women to perform worse when playing video games. For example, a previous study has shown that women reminded of their gender identity before a cognitive ability test tend to perform worse than women who do not receive the reminder (Paaßen et al. 426). Similar to the Fixers' Collective, where the male fixers doubted the women's ability to create quality technical work and verbally expressed unneeded criticism, many of the men in the gaming community have created a hostile environment that precludes women from feeling accepted and comfortable. Consequently, it is evident that the perpetuation of these stereotypes

and norms can greatly deter women's involvement in technology and video games and can affect their performance when participating in these industries.

The Dichotomy between Gender Identity and Gamer Identity

The notion of "gamer" identity has also prevented women from engaging in the gaming community. Gaming culture has often been associated with the "nerd" identity, which people generally describe as "overly intellectual, obsessive, and socially awkward," a characterization often reserved for men rather than women (Paaßen et al. 424). In addition, the perpetuated notion that "the construction of men as strong, manually able and technologically endowed, and women as physically and technically incompetent" require women to sacrifice some part of their feminine identity when they want to involve themselves with a technical activity (Wajcman 144). One study found that women in the gaming industry have internalized a more androgynous gender identity, and a different study found that women in technology roles, in general, identify more strongly with their profession than their gender. Furthermore, several studies have found that women in technological fields tend to identify less with their gender than in any other field (Paaßen et al. 424-25). Since many people associate gaming competency to technical prowess, many women have been essentially socialized to choose either their gamer identity or their gender identity. The dichotomy between gender and gamer identity thus reinforces female invisibility in the gaming community and young girls' belief that gaming is an exclusively male activity.

Lastly, the definition of a "gamer" has also perpetuated a culture of male exclusivity within the gaming community. As aforementioned, according to polls by the Entertainment Software Association, 40% of all gamers are female. The Entertainment Software Association defines gamers as "anyone who engages in video gaming—independent of genre, platform, time-

investment, or other features" (Paaßen et al. 422). However, many people in the gaming community do not consider anyone who engages in video games as "gamers." Often, people in the gaming community, regardless of gender, only consider people as "gamers" if they play complex or competitive games, visit video game conventions, and have distinguishable playing and buying habits. Furthermore, gamers often associate lower gaming skills to those who do not play hard-core games (Paaßen et al. 423). Thus, even though there are numerous women who play video games, many people in the community will not acknowledge them as gamers because they do not align with their very specific definition of "gamer." Many women playing video games have also adopted this definition of "gamer" and therefore do not identify themselves as gamers, maintaining the separation between gender and gamer identity. Moreover, many women do not play popular "hard-core" games because they often contain a violent male protagonist and sexualized female characters, which generally do not appeal to female players. However, by not playing these types of games, people often view these female gamers as having less skill than male gamers. Because of these superficial definitions of gaming, women and young girls often do not feel welcome into the gaming community since people within the community immediately categorize them when they try to engage with other people who play games.

Improvements in Gender Representation in Video Games

Despite the challenges of female representation in video games, popular game companies have begun to acknowledge the sexist connotations of the damsel in distress trope and the inadequately clothed women as well as the abundance of male protagonists in their video games. While there has not been a large influx of powerful female protagonists, there have been visible improvements in giving women a more active role in video games. The *Legend of Zelda* franchise's *Breath of the Wild (2017)* has been praised for its progress towards female

empowerment and gender inclusivity. For example, the game's developers decided to portray *Princess Zelda* as a willful, independent princess who attempts to pave her own destiny regardless of the obstacles ahead. This differs from previous games where the male protagonist *Link* simply saves *Princess Zelda*, the helpless damsel in distress. Moreover, *Princess Zelda* no longer dons a dress and wears royal jewels; instead, she wears clothing appropriate for her archaeological research, showing that she is also a woman in science (Huntley and Goodfriend 234). Now, female players can view *Princess Zelda* as a positive role model they would like to become instead of a side character who simply waits to be saved. Another game that encourages female empowerment is *Celeste (2018).* In the game *Celeste,* the main character Madeline is the only playable character in the game. As a result, *Celeste* players are able to control and embody a female protagonist with athletic prowess, immense bravery, and great tenacity.

In addition, developers of "hard-core" games, which rarely contain playable and non-sexualized female characters, have also given women more agency in their video games. For example, the game *Uncharted: The Lost Legacy (2017)* was the first game in the *Uncharted* series to remove its long-standing protagonist Nathan Drake and replace the male protagonist with the very capable female protagonist Chloe Frazer (Pacheco). The *Uncharted* developers also did not sexualize Frazer, dressing her in appropriate attire for her mission. Another example of a "hard-core" video game that has greatly undermined the damsel in distress trope is *Hellblade: Senua's Sacrifice (2017)*; this game is unique because the protagonist is not only female, but the female protagonist also has to save a man in distress (Pacheco). Thus, *Hellblade: Senua's Sacrifice* has completely flipped gender roles, giving women the power to become the heroes and placing the men in passive roles. In addition, developers of the *Tomb Raider* series, which has always featured female protagonist Lara Croft, have reconsidered the character's

problematic sexualized design from previous games. Since 2013, *Tomb Raider* developers have redesigned Lara Croft so that she is wearing the appropriate clothing for her adventures. Consequently, male players of these games now have to embody capable, non-sexualized female protagonists, and female players are able to become a protagonist who shares a similar appearance and identity as them.

Instead of featuring women as protagonists, some video game companies have decided to make their protagonists gender-fluid to be more inclusive of non-binary genders. For instance, *Undertale*, one of the highest-rated games in 2015, featured a gender-neutral protagonist *Frisk*; the other characters in the game only use the pronoun "they" when referring to the protagonist, allowing players to truly embody the protagonist and project themselves onto the hero of the story. Acknowledging the importance of giving all players the opportunity to identify with the story's hero, Eiji Aonuma, the director of *Breath of the Wild*, purposely made the story's hero *Link* more androgynous in appearance (Erickson 17). Pokémon, a popular franchise among young children, has also begun to employ gender-neutral protagonists. In past Pokémon games, the game forces players to identify as a girl or a boy. However, in the popular smartphone application *Pokémon Go*, players no longer need to identify their gender and can customize their character to look like them (Denham). The most recent Pokémon installment *Pokémon Sword and Shield* was the first game in the main series that does not prompt players to identify their gender; instead, players simply choose the avatar they would like to play as. Therefore, game developers are not only improving female representation in video games, but they are also accounting for other gender identities that have rarely been acknowledged in video games.

Conclusion

The lack of female representation in technical roles can have a significant impact on technologies, such as video games. When there are only a few women working as programmers and developers in the video game industry, the task of creating inclusive games falls to the male developers. Since game developers are mostly white men who design video games based on their own experiences and perspectives, many of the video games they produce mostly cater to white male gamers. Furthermore, with little female representation in these technical roles, young girls do not have role models to inspire them to overcome the culture of male exclusivity in these technical environments. However, given the hostile attitude of those in the gaming industry and community toward women, it is unsurprising that there are only a few women who are willing to work in the field. Additionally, the media has shown its powerful influence in perpetuating male exclusivity within the video game community by disseminating gendered video game stereotypes and harmful gendered rhetoric. With very few vocal women in the video game industry, the gaming community, and in the video games themselves, many women feel uncomfortable and unwelcome and thus become non-users of video games, reinforcing male dominance in the community.

Acknowledging the dominance of male protagonists in their games, many video game companies have improved female representation in their video games by replacing male protagonists with powerful female protagonists or by adopting a gender-neutral protagonist; however, it is important to note the issue of intersectionality as well in both the video game industry and the video games themselves. People of color and members of the LGBTQ+ community also face adversity in the gaming community as they also lack representation in the technology and gaming industries. For instance, in 2017, women represented 26% of the

computing workforce, but only 5% of the computing workforce were Asian women, 3% were Black women, and only 1% were Hispanic women ("Intersectionality in Tech 101" 5). Based on the aforementioned statistics of women working in the video game industry, it is likely that these demographics are lower in the video game industry. Consequently, women of color are even less likely to see people who look like them in video games. Regarding LGBTQ+ people in video games, there is sometimes explicit homophobic rhetoric in video games, such as a mother calling her son gay just because he did not have a girlfriend (Shaw and Friesem 3885), causing great discomfort among LGBTQ+ players. While it is important to consider the lack of female representation in the technology and video game industries, it is also essential to consider other marginalized identities, such as race, class, and sexual orientation. If developers absorb the perspectives of people with different social identities and employ their ideas, perhaps they can produce video games and other technologies that are more appealing and accessible to a greater population of people. Hopefully, with a more diverse population of users, the culture of white male heteronormative exclusivity in the technology and video game industries will fade.

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The Intrinsic and Extrinsic Factors that Fuel Science Learning Motivation

Science literacy can greatly assist people in making informed decisions that can affect not only their own well-being but also the health and well-being of their family and their community. For instance, individuals need to be informed about the natural environment in order to effectively address issues about pollution and climate change. Some may pursue careers in science to address such issues, and some may seek resources to learn more about a scientific topic simply because they are curious. However, not everyone is motivated to learn about scientific knowledge and processes outside of the formal school environment. Thus, what motivates individuals to learn science on their own time? While there are countless factors that contribute to science learning motivation, researchers have found that science learning motivation can be attributed to one's own intrinsic desire to learn, familial influence, and one's social identities.

Intrinsic Motivation

While formal schooling is an important source of science learning, a majority of science learning happens outside of the school environment. Adults interested in science reported that they learn new scientific knowledge via books, life experiences, television programs, and visits to the museum and science centers (Falk et al., "Investigating public science" 465). However, what drives someone to further their scientific knowledge? Most evidently, an individual needs to have an interest in the subject. In a study that surveyed adults from communities worldwide,

participants who really liked science and technology were significantly more likely to participate in scientific activities outside of the school environment and pursue science-and-technology vocations and avocations (Falk et al., "Correlating Science Center Use" 21). Consequently, one needs to value and enjoy science first to willingly spend time and effort to seek resources and further their science education outside of school.

Yet, simply enjoying science does not motivate people to seek resources outside of the school environment. According to a study on hobbyist learning, hobbyists pursue an interest on their own time because they seek personal enrichment, self-gratification, and/or self-actualization. Therefore, people are not necessarily motivated to learn about science just because they are interested in the subject; instead, their desire to learn may be attributed to the desire to achieve self-gratification or mastery in a subject (Liu and Falk 350). In addition to personal enrichment and self-gratification, people may pursue an interest because they want to satisfy identity-related needs and thus find other like-minded individuals to reinforce and learn more about their specific interest (Liu and Falk 351). As a result, both interest and self-fulfillment are important factors in pursuing learning outside of the school environment.

Lastly, the drive to reach a goal is a factor that motivates learning outside of school. For instance, some youths do not have an implicit desire to learn science for leisure; instead, they are motivated to learn science in order to pursue science careers (Basu and Barton 481-482). The goal also does not need to be specific; some pursue an interest to reap the long-term benefits of learning a new skill, and some individuals' goal is to simply have fun with their interest. However, it is the goal that motivates them to put in the time and effort to learn more (Liu and Falk 350). It is also important to note that one needs to be able to afford time and effort to pursue an interest on their own time. Not everyone has the time and resources to pursue an interest even

if they have the drive to do so. Hence, science learning outside of the school environment may be contingent on one's access to resources, such as time, physical space, and material resources.

Familial Influence

Parents can play an essential role in supporting youths' science education and encouraging their children to learn science outside of school. Several studies have shown that there is a strong relationship between parental attitudes towards science and a youth's general interest in STEM (Falk et al., "Understanding youth" 380). Outside of the school environment, many children see the value and application of science in their everyday activities. Specifically, these youths report that they utilize science when performing activities at home, such as mixing playdough, foods, beverages, and items from science kits, and when performing activities in their natural environment, such as hiking, camping, and fishing. Additionally, youths find themselves immersed in science when speaking with family and friends about science outside of school and when visiting science centers and museums with their family (Zimmerman and Bell 35-36). It is clear that most of these activities involve guidance or supervision from adults; therefore, at least one parent or guardian is essential in fostering a science learning environment for their children outside of school.

As a result, parents themselves need to value science education in order to cultivate a science learning environment for their children. Thus, parents' attitudes towards science and education, in general, can greatly affect their child's motivation to pursue science. In a case study that interviewed Malaysian parents who highly encouraged science learning, the parents stated that "science is important because science qualifications widen one's job prospects" and that science constantly makes their children think and allows them to appreciate the knowledge "left behind by scientists in their respective fields" (Halim et al. 191-192). Although most parents in

this case study believe that science is valuable due to the career opportunities science affords, their reasoning was sufficient enough for them to pay for tuition classes that focused on science education, bring their children to science centers, and provide their children with resources to supplement their science learning. Furthermore, the parents stated that they motivate their children to engage with science-related media, such as books and television programs, to promote interest in science (Halim et al. 193). Consequently, these children, whose parents highly encourage science education, have ample resources for facilitating their science learning. It is clear, however, that the parents not only value their children's science education, but they also have the monetary resources to buttress their children's science learning. Thus, while encouragement is essential, time and money are also necessary to support science learning outside of school.

Evidently, the Malaysian parents in the aforementioned case study are not representative of every parent in the world. There are many parents who do not prioritize science education and therefore, in many cases, their children do not feel motivated to learn science. In an interview with Miguel, who was interested in science but felt that he was unable to pursue science in his youth, Miguel believed that his "own cultural upbringing...emphasized qualities of schooling different from those valued in school." Because of the differences between what his family valued and school valued, his family "was not able to give [him] guidance in school" (Barton and Yang 880). Moreover, he stated that he learned as a child that "school was merely used as a social meeting place for [him] and many of [his] peers" (Barton and Yang 880). Due to this belief, one of the reasons Miguel felt that he was unable to pursue his interest in science was that his family did not prioritize schooling and thus did not actively provide any support or encouragement to pursue his interest in science. Miguel also noted that both his family and the

other adults in his life, such as his teachers and counselors, reinforced his belief that he did not belong in formal science culture (Barton and Yang 882). Miguel's wife additionally described having received "little guidance and encouragement from those in teaching and administration positions in high school" (Barton and Yang 779). Without parental support and resources within and outside of school, Miguel, his wife, and likely many others who grew up similarly to them were unable to attain a quality science education and partake in opportunities to further their science learning.

Aside from familial encouragement, resources are necessary to facilitate one's science learning outside of school. As most households generally do not carry scientific equipment that schools have, parents must provide the resources to support their child's learning outside of the school environment. For example, parents may bring their children to science museums and science centers to buttress the science they are learning in school. However, simply perusing the exhibits at these institutions does not improve youths' science learning. Instead, youths seem to retain more information when their parents actively engage with them as they are observing the exhibits. In a study that evaluated youths' ability to identify fossils after observing them with their family, findings showed that young children could identify fossils at rates comparable to older children, who easily identified all of the fossils, if their parents actively engaged with them and that they could only identify about half of the fossils if their parents were less actively engaged (Crowley and Jacobs 349). Active engagement in these studies consists of parents asking their children questions about what they observe, encouraging them to take initiative in sharing their observations and preexisting knowledge, and explaining the science behind the exhibits by relating them to their children's experiences.

It is important to note that parents do not need to be science experts in order to facilitate their children's science learning. For example, in one case study, a father with a graduate-level education in biology only used the museum texts when interacting with his children even when the exhibit pertained to the field of biology (Zimmerman et al. 498). Consequently, as long as the exhibits have textual content that parents can digest, they can engage in educational conversations with their children about the exhibits. Moreover, even if parents have difficulty understanding the exhibits, they can still attempt to engage with their children by relating their observations to their personal experiences (Crowley and Jacobs 340), sharing their "own knowledge, languages, or cultures" to make meaning out of the exhibits (Dawson 998), or by encouraging their children to explain the exhibits to them using their preexisting knowledge (Archer et al. 933). Hence, parents, regardless of their expertise in science, can still facilitate their children's learning outside of the school environment.

The Impact of Social Identities: Cultural Background and Socioeconomic Status

We have established that parents play a role in encouraging youths' science learning motivation; however, we cannot assume that all parents have the time and money to support their children's science education. In regard to intrinsic motivation, individuals likely cannot further their interest in science if they lack the resources to pursue that interest. As a result, one's socioeconomic status may be a barrier to science learning. Furthermore, one's cultural background can also affect an individual's opportunities to pursue science as some believe that they do not belong in science fields because of their cultural identity (Barton and Yang 882). Consequently, an individual's social identities can make a significant impact on one's ability to pursue science.

It is evident from the previous discussion on familial influence that science museums and centers are excellent resources that can help foster a child's science education. However, these institutions are not flawless resources. Particularly, many museums and science centers do not account for visitors' cultural backgrounds and socioeconomic status. In a case study on low-income and ethnic minority families' museum experiences in the United Kingdom, all of the interviewed families mentioned discomfort with their museum visit. One of the main reasons for their discomfort was the language barrier. Because all of the exhibits' texts were in English, families whose first language was not English struggled to comprehend the exhibits they visited. For instance, one father, whose native language was not English, believed that he was unable to assist his daughter during activities because he could not read and understand the texts. In the post-visit interview, he stated: "...my English is not sufficient...You have to read when this event happened, yet I have no English. I cannot say much about it" (Archer et al. 927). Due to this language barrier, the father stayed silent during the activities, and as a result, his daughter was often unsure of what to do without his guidance. Instead of asking her father, she sought guidance from the observing researcher, who had the linguistic capital to assist her. In addition to the texts, interactive computer exhibits only offered highly detailed English audio and text instructions that the exhibits delivered simultaneously, which led parents to depend solely on their children for translations (Dawson 991). Because the museum did not account for differences in visitors' linguistic capital, many parents felt helpless since most of the museum's resources precluded them from supporting their children's learning. As aforementioned, parental guidance and engagement can significantly improve a child's science learning experience; however, if parents feel unconfident and believe that they cannot facilitate due to the

inaccessibility of the texts and information, they will not be able to provide the best learning experience for their children.

Even if the parents' native language is English, the exhibit texts were still difficult to understand due to the advanced terminology and scientific jargon found in the texts. One mother in the case study, who was a native English speaker, correctly identified an object as a birthing stool by observation, but after reading the exhibit text, which referred to the birthing stool as a "parturition chair," she decided she was incorrect as the text made no reference to childbirth or women. Since the text did not provide a definition for the term "parturition chair" or an explanation of the object's purpose, the mother felt that she was incorrect, undermining her pre-existing knowledge and her ability to learn from the exhibit (Archer et al. 927). Thus, it is clear that even if English is one's native language, it can still be incredibly difficult to understand the texts if the language used is not accessible to the common person. Therefore, this use of advanced language and scientific jargon reinforces differences in class and academic and linguistic capital.

Aside from the language barrier, the feeling of otherness significantly affected disadvantaged families. All of the families in the case study shared the feeling that they were constantly scrutinized and that they did not belong at the institution. One issue that contributed to this feeling of otherness was the museum staff's behavior. For example, one museum facilitator only spoke to the observing white researcher "as a proxy for the whole family," underscoring families' feelings of difference (Archer et al. 925). In a different case study on disadvantaged families during a science center visit, a facilitator created an uncomfortable environment for one of the families as he continually "posed questions about the science center and scientific information that participants could not answer" and provided fast explanations about the

interactive computer exhibits, leaving "little space for the participants to ask questions or understand what his instructions meant" (Dawson 995). The facilitator's behavior illustrates how the unspoken assumptions made about visitors can create difficult visit conditions for those who differ from the "ideal" or "expected" visitor that the staff "was trained for and accustomed to working with" (Dawson 995-996). Thus, instead of catering his guidance to the family's needs, the facilitator gave cursory explanations of the exhibit, expecting the family to already understand the scientific concepts presented. In addition to the staff's behavior, these institutions often contain unwritten rules and norms that are unbeknownst to the families. Families reported that they did not feel comfortable during their visit because they were constantly anxious about whether they could touch certain exhibits after they "were told off by museum staff" (Archer et al. 926). Therefore, in order to avoid scrutiny and attention, families were extremely wary of their own behavior during their visit, which made their experience unenjoyable.

While the behavior of the institution's staff and the institution's unwritten norms contributed to the families' feelings of otherness, the main reason the participants felt othered was the visible lack of diversity at the institutions. The visitors at these museums and science centers were primarily white and middle-class. One participant commented that "it was like there was a lot of posh people, not really like other kind of races" (Archer et al. 925). Because the people around them did not look like them, families felt that they did not belong. Even outside of these institutions, the lack of representation in science fields also reinforces the feeling of not belonging. In the aforementioned interview with Miguel, Miguel continually emphasized that "it's the other people that go into those things [like science]," implying that people from his cultural background have no place in the field of science (Barton and Yang 882). Consequently,

the lack of racial diversity in science institutions and in the science field hinders ethnic minorities from furthering their interests and knowledge in science.

Lastly, socioeconomic status plays a huge role in families' access to resources. While some museums and science centers have free entry fees, there are considerable hidden costs. Numerous participants noted the implicit costs associated with visiting these institutions, such as transportations costs, food and beverage costs, and the high prices found in gift shops. Some participants expressed their distaste of seeing donation boxes full of money since their presence implied that the visitors could afford to donate to the institution (Dawson 996). Furthermore, participants noted that there was an opportunity cost associated with visits as they had little free time and could be working instead to support their families (Dawson 997). Thus, the hidden costs that come with visiting museums and science centers highlight the inaccessibility of resources for families of low socioeconomic status.

Although it is evident that having social identities that are not of the dominant culture can pose great challenges and barriers to those who want to pursue science, these social identities can also empower youths to further their science learning. In an ethnographic interview with ethnic minority students from low-income families, many of the students used the issues in their communities as their motivation to pursue careers in science. For example, one student stated that attaining a good education and pursuing a science career will allow him to remove himself from the violence in his community (Basu and Barton 479). Another student, who also noted the violence in her community, enjoyed science a great deal and wanted to become a doctor because she "like[d] helping people help themselves and stay healthy." She thus took her science education seriously so that she could hopefully attend Stuyvesant or Brooklyn Tech—two highly selective, science-oriented schools (Basu and Barton 478). Although these youths come from

disadvantaged backgrounds, they clearly value their education and take their science studies seriously so they can achieve their goals. Regarding parental influence, some parents use their hardships as motivation to encourage their children to pursue science learning. In a case study on disadvantaged families during an aquarium visit, the parents, who acknowledged their lack of linguistic capital, encouraged their children to teach them about the exhibits by prompting them with questions and praising them when they explained the concepts to them (Rahm and Ash 54-55). One pair of parents acknowledged the difficulty of visiting the aquarium; however, they prioritized and valued their child's education so that their child can have a brighter future. The child of these parents acknowledged her parents' hard work to provide her a good future and therefore seized upon these learning opportunities so that she could become a pediatrician in the future (Rahm and Ash 55). Despite the myriad of obstacles in their way, children of low-income and ethnic minority families can be motivated to engage in science learning outside of school and pursue science careers if given the opportunities to cultivate their interests and dreams.

Conclusion

It is evident that intrinsic desire, familial support, cultural background, and socioeconomic status play a significant role in motivating science learning. In regard to intrinsic desire, the curiosity to learn more about science and the desire to achieve self-gratification and mastery are huge motivators of learning outside of the school environment, but the ability to engage in science learning on one's own time is often contingent on the fact that the individual needs to be able to devote time and effort to satiate one's curiosity. Moreover, familial support can greatly affect youths' motivation to learn science and further their science education. Families can provide supportive environments by providing resources, such as books and media, to feed their children's interest and actively engaging with them at museums and science centers.

This support, too, can be costly and burdensome to parents who may not have the time and monetary resources to enrich their children's science education. Lastly, an individual's cultural background and socioeconomic status can be both a hindering and empowering factor in an individual's motivation to learn science. However, the issue does not lie with an individual's social identities; rather, the issue lies with the educational institutions that do not account for those who are not part of the dominant heteronormative, middle-class, white culture. Learning institutions, such as museums and science centers, need to evaluate how their exhibits exclude visitors from various cultural backgrounds and those who have limited monetary resources. Nonetheless, some youths have found the drive to work past these obstacles, hoping to use science to create a better future for themselves. Thus, science learning is highly complicated, but it is indeed possible to motivate science learning outside of school given access to resources that can facilitate the science learning process.

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Technical Writing Samples

(Policy Memo Writing Exercise)
TO: New York Senator Chuck Schumer
FROM: Emily Chen
SUBJECT: Net Neutrality Reform
DATE: March 2, 2018
SECTION: 202

I. INTRODUCTION

This policy memo will delineate the arguments for and against net neutrality as well as its advantages and disadvantages. Net neutrality is a policy that prevents internet service providers from controlling what websites and content their clients can access, ensuring equality of access among internet users. By rescinding net neutrality, internet service providers can control the speed of their internet service and block any content that they do not want their clients to see. As a result, the eradication of net neutrality affects anyone who utilizes the internet. Internet service providers will have more freedom in selling their products, such as creating packages that permit access to certain applications. In return, users may have to pay more for specific services, content and better internet speed. Companies who depend heavily on the internet may have to invest more money in guaranteeing quality service on the internet. Thus, it is evident that changes in net neutrality greatly affect a myriad of different people.

In Section II, I will discuss net neutrality in more detail, providing its history and the conflicts that have emerged from the changes in net neutrality. In Section III, I will discuss the principle concerns of the proponents and opponents of net neutrality. In Section IV, I will discuss possible policy suggestions that can assist in mitigating the proponents and opponents' concerns. Section V will provide a conclusion of all the topics that I have discussed. Lastly, Section VI will list the sources I used for this policy memo.

II. BACKGROUND

In 1999, the Federal Communications Commission (FCC) Chairman William Kennard began the idea of net neutrality when he suggested that broadband networks should not be treated the same as old telephone networks. Kennard believed that the government and policy-makers should not try to intervene in the marketplace; however, he called for vigilance due to the lack of information about the future of broadband. Michael Powell, the FCC Chairman in 2002, explicated that broadband should be classified as an "information service" not a "telecommunications service." As a result, cable broadband services should not be considered a public utility. Although Powell did not believe that broadband was a public utility, he believed that there were certain freedoms that needed to be preserved regarding the internet. Powell instantiated the "Internet Principles," which stated that everyone should have the freedom to access content, run applications, attach devices and obtain service plan information (Powell, 2004). Thus, the broadband industry could not preclude clients from accessing certain websites and utilizing certain applications.

On June 27, 2005, internet service provider Brand X sued the FCC, claiming that broadband should be classified as a "telecommunications service" not an "information service." Internet

service providers argued that they should be able to utilize cable networks, just as telecommunication companies can utilize telephone lines. The court ruled that the FCC had the right to uphold its classification of broadband; thus, broadband remained an "information service." On September 23, 2005, FCC Chairman Kevin Martin created a "Policy Statement" based on Powell's "Internet Principles;" the policy states that consumers are entitled to access the lawful internet content of their choice, run applications and services of their choice, connect their choice of legal devices that do not harm the network and to competition among network and content providers.

Despite these protections to the consumers, the FCC accomplished little in establishing policies between internet service providers and web-based companies. Later that year, CEO of AT&T Ed Whitacre commented that web-based companies, such as Google and Yahoo, were freeloaders on his company's infrastructure since they consumed a significant amount of their service without extra payment. In 2007, consumer advocates accused Comcast of slowing down users who used BitTorrent, violating the FCC's policy on internet freedom. Comcast argued that BitTorrent caused a considerable amount of traffic; thus, they needed to slow down BitTorrent to ameliorate this traffic. In 2008, the FCC handed Comcast a cease-and-desist order; however, the U.S. Court of Appeals rescinded the order since the FCC did not have the authority to hand out the order.

In 2010, the FCC created the Open Internet Order, which solidified net neutrality rules as official FCC regulation. The Open Internet Order prohibited blocking and slowing down access to legal content and required broadband providers to be transparent about their network management practices. However, the FCC did not actually receive permission to regulate broadband until 2014 during the court case Verizon Communications v. FCC. In 2014, President Obama supported reclassifying broadband as a telecommunications service. The FCC reclassified broadband as a telecommunications service in 2015 (Reardon, 2015). However, after continued debate, FCC Chairman Ajit Pai repealed net neutrality in 2017.

III. PROMINENT ISSUES

A. The Relationship between Website Hosts and Internet Service Providers

Internet service providers grant their clients a specific amount of bandwidth—a "certain amount of data per unit of time" (Dellinger, 2017). Popular websites, such as Google, Facebook and YouTube, consume a considerable amount of their internet service provider's allotted bandwidth. When the FCC reclassified broadband as a public utility, internet service providers could not charge these website hosts extra to utilize their resources. Thus, many internet service providers argue that these large companies are exploiting their infrastructure. As a result, they believe that these large content providers and video streaming businesses should pay extra to subsidize the amount of data they consume and guarantee better quality for their customers (Hathaway, 2017).

On the other side, these large internet-based companies argue that they are the "content delivery servers;" internet users depend on free and undeniable access to their websites. As a result, many internet-based companies want to prevent the FCC from permitting "fast lanes," where some companies can pay to have their content prioritized, while other companies' content will be accessed at slower speeds (McMillan, 2014). Kyle Wiens, co-founder of website iFixit.com, a business that sells replacement parts and tools, comments chat he is worried that there will be a

fast lane he cannot afford access to because his company is not large enough (Fowler, 2017). Consequently, there is a clear conflict between the interests of the internet service providers and internet-based companies.

B. The Government's Role in Regulating the Internet

The United States government and in particular, the FCC, have a significant role in regulating internet service providers when net neutrality is in place. Proponents of net neutrality believe that the government should have authority in controlling the internet to prevent capitalist internet service providers from breaching Michael Powell and Kevin Martin's ideas on internet freedom. In particular, consumers are concerned with the possibility of internet service providers blocking certain legal content and slowing down their service for those who choose not to pay an extra fee. For instance, many supporters of net neutrality fear that an internet service provider may begin selling certain popular applications in a bundling system, such as a "premium social media package" (Collins, 2017). Internet users would have to purchase these bundles in order to access commonly used applications. Numerous consumers are also concerned that the end of neutrality will lead to the demise of the first amendment because broadband companies can control the users' access to certain content. Without net neutrality, internet service providers can choose what kind of news, information and entertainment they want to propel (Kennedy, 2017).

However, the government's control over the internet prevents competition among internet service providers. Currently, large companies, such as Comcast and Verizon, dominate the industry, preventing smaller internet service providers from gaining more customers. For instance, Elizabeth Bowles, president of Aristotle, an Arkansas-based broadband provider with approximately 800 customers, says that the end of heavy government regulation would relieve the expensive regulatory burden put on her small company (Newcomb, 2017). Furthermore, when internet service providers create new business models or a new technology, they have to submit their proposal to the FCC for approval; the FCC has the authority to "decline the request for an opinion," accept the proposal or ask for more information. The FCC's decisions on the matter cannot be appealed, making it especially difficult for internet service providers to alter their company model (Skorup, 2016).

C. The Question of Creativity and Progress Regarding Internet Infrastructure

Net neutrality supporters believe that rescinding net neutrality will hinder improvement in internet infrastructure. Since there are only a few large broadband providers that dominate the industry, repealing net neutrality will give these large companies the agency to control the market. Since most internet users depend highly on these very few broadband companies, consumers will likely stay with their current internet service providers. Consequently, these companies may not seek further improvement because they are aware that consumers will unlikely switch to a different provider (Forbes Technology Council, 2017).

The repeal of net neutrality may, however, incite further creativity and innovation. The rescinding of net neutrality principles prevents the FCC from controlling companies' new business ideas and technological innovations. Furthermore, small internet providers, who suffer from the heavy cost of government regulation, can produce their own innovations to the market, inciting competition. Consumers of the internet can benefit from broadband companies'

competition if they compete by improving upon their competitors' internet infrastructure and technology.

IV. POLICY RECOMMENDATIONS

A. Establishing Explicit Fee for Content Providers

To mitigate tensions between content providers, particularly those whose business depends on video streaming, and internet service providers, I suggest that broadband providers charge content providers a small additional fee if they consume a certain amount of bandwidth. Large website hosts do utilize a considerable amount of an internet service provider's limited infrastructure. Therefore, a small fee is reasonable compared to the amount that the companies make through sponsored advertisements. However, I emphasize that this fee should only apply to content providers that consume more than a specified amount of data. It would be unfair to charge small, startup content providers if they only utilize a small amount of data; charging small companies will impede competition and innovation since they will not be able to afford to enter the market. Furthermore, charging an additional fee to large content providers can induce creativity. If companies had to pay an extra fee to ensure quality content for their consumers, they will likely develop new software, technologies and applications to ensure that their clients will continue to pay for their products.

B. Maintain the Policy on Internet Freedom for General Consumers

To ensure the safety of the first amendment and protect the right of every American's ability to access legal content, I propose that we continue to enforce Michael Powell's "Internet Principles." The internet is a ubiquitous consumer good that many Americans depend on for their occupation and lifestyle. To restrict access to certain websites or applications would affect the livelihoods of thousands of Americans as well as breach the first amendment—the right to speech and the press. Following a utilitarianism approach, I believe that the FCC can still enforce that broadband companies cannot block legal websites or applications and slow the transmission of legal data. Moreover, the FCC must still enforce the following notions from Michael Powell's "Internet Principles" (Powell, 2004).

1. Consumers should have access to their choice of legal content.
2. Consumers should be able to run applications of their choice.
3. Consumers should be permitted to attach any devices they choose to the connection in their homes.
4. Consumers should receive meaningful information regarding their service plans.

C. Permit Companies to Appeal the Federal Communications Commission's Decision on New Business Plans

To ensure continued innovation, the FCC's power should be redefined. In particular, the FCC should permit broadband companies to appeal its rejection of new propositions and business alterations. The FCC should not take a dictatorial role in internet regulation; rather, it should act as a mediator to guarantee that internet service providers are not exploiting internet users. Consequently, if the FCC rejects a company's new business proposition because it is ethically unsound or exploitative, the company should have the opportunity to revise its plan and submit the proposition again for review. By allowing companies the right to appeal FCC decisions,

companies can improve upon their current business model and implement new technologies as long as they lie within ethical guidelines, stimulating competition and innovation.

I also propose that there should be an accessible formal document delineating the FCC's specific jurisdiction and powers. The FCC currently holds an obscene amount of power over the internet and its functions. The FCC should not be an omnipotent arbiter, but it should still have the authority to keep broadband companies in check. Therefore, the FCC's role in regulation should be reduced in order to stimulate greater innovation and idea production.

V. CONCLUSION

The vacillation between the classification of the internet as an "information service" and a "telecommunications service" has sparked a clear divide on the matter of net neutrality. Net neutrality thrives on the notion that the internet is a public utility; thus, internet service providers do not have the authority to inhibit users' access legal content and to implement paid prioritization. However, internet service providers see net neutrality as a way for the government to stringently regulate their business.

To mitigate the Federal Communications Commission's control over the internet and ensure the principles of internet freedom, I propose the need for a transparent document that clearly describes the role of the FCC and a company contract that states that internet service providers cannot block legal content and slow down data transmission. Furthermore, I suggest a policy that mandates large content providers to pay an additional fee if they exceed the consumption of a certain amount of bandwidth. This will address internet service providers' argument about infrastructure exploitation and may also stimulate innovation and competition among content providers. While these proposals may not solve all the issues regarding the net neutrality battle, I believe that they may help in alleviating the tensions between proponents and opponents of net neutrality.

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Crowdsourcing to Support Visually Impaired People
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As our society's population consists mostly of sighted individuals, many tasks depend heavily on one's ability to see. For instance, sighted individuals can easily identify objects by reading labels and, most obviously, by seeing the object itself. Moreover, they have the luxury of accomplishing seemingly trivial tasks, such as taking photographs and choosing an aesthetically pleasing outfit. Furthermore, many ubiquitous modern technologies are inaccessible for visually impaired individuals because their affordances require users to engage visually with a digital screen. Thus, to assist visually impaired people in accomplishing tasks that sighted individuals can perform, researchers are working to design and create technologies that are useful and easy to use for visually impaired people. In particular, researchers are developing smartphone applications that utilize crowdsourcing to assist visually impaired individuals.

Crowdsourcing is the outsourcing of tasks to a group of people. We refer to this group of people as the crowd. Although artificial intelligence and machine learning are capable of performing tasks humans can accomplish, many tasks still require human intelligence. Crowdsourcing then becomes a powerful tool for gathering human intelligence. The crowd usually consists of a large number of workers recruited through an open call. They can complete tasks that the person requesting the work—the requester—cannot or does not want to do on their own. Because requesters generally ask for crowdsourced work through online crowdsourcing services, workers can work from all over the world at any hour of the day. Thus, through crowdsourcing, visually impaired users can post questions related to a photo via an application and the application then disseminates their question to crowdworkers who respond to those questions.

How can we use crowdsourcing to assist visually impaired individuals? Researchers have developed smartphone applications in which visually impaired people upload photos with questions to the application, and the application collects answers from real-time crowdworkers. One of the applications that researchers have developed to assist visually impaired people is *VizWiz. VizWiz* is a smartphone application in which users take a photograph and verbally ask a question associated with their photo. The application then transcribes the question into text and posts the question and photo to Amazon Mechanical Turk, an online crowdsourcing service (Bigham et al. 333). Crowdworkers respond to the question and the application sends the responses to the user.

Users want to receive responses quickly, but there is no guarantee that a worker will be available to answer them at any given time. To address this issue, the creators used TurKit, an API for Mechanical Turk, to build quikTurkit. The quikTurkit approach greatly reduces the latency of worker responses by queueing workers before they're needed. When a user begins taking a photo, quikTurkit starts to recruit workers and keeps them busy by asking questions from previous users. Therefore, when the user posts the photo and question, someone is already present to answer (Bigham et al. 335-337).

Friendsourcing can also improve response times and the quality of responses. Friendsourcing is the gathering of information from a network of people that one is friends or acquainted with. For instance, Visual Answers, a social microvolunteering application for Facebook, employs

friendsourcing by posting questions from the *VizWiz* application to the Facebook pages of volunteering users so that the volunteers' friends can respond to *VizWiz* users' questions (Brady et al. 1058). As a result, response time to these questions may be faster because Visual Answers disseminates the *VizWiz* users' questions to more people. Furthermore, Visual Answers can likely gather better quality responses because the users' friends are incentivized to help their friends, support the causes their friends care about, and publicly show their altruism and their support for a good cause (Brady et al. 1056).

It is evident that *VizWiz* was a helpful application for people with visual impairments; however, there were still issues with *VizWiz*, such as the users' difficulty with taking clear photos and the application's inability to transcribe questions accurately (Bigham et al. 337). Despite these limitations, this application often helped visually impaired users; the users almost always received an accurate response to their questions and thus did not have to rely on sighted individuals in their physical proximity.

The researchers have acknowledged the difficulties visually impaired people had with taking clear photos and have developed another smartphone application *EasySnap* to help visually impaired users take clear photos with their phones. *EasySnap* gives audio feedback to the user when they are taking photos; this audio feedback includes audio instructions and pitch signals that guide users on how they should move their camera to better capture the image (Jayant et al. 205-208). While *EasySnap* does not rely on crowdsourcing, integrating *EasySnap* with *VizWiz* would greatly help *VizWiz* users because crowdworkers would be able to more quickly and more accurately identify objects in the photos *VizWiz* users upload.

In addition to using *VizWiz* to identify objects, *VizWiz* users have been utilizing the application for fashion advice. Fashion is an important form of communication; the clothing that someone chooses to wear often reflects who they are and how they want to be perceived. Visually impaired people face challenges when choosing outfits because they cannot distinguish details, such as colors or stains. Additionally, visually impaired participants reported that sighted individuals sometimes "looked upon them with pity" due to the fashion errors they made (Burton 315-316). To mitigate these challenges, researchers asked visually impaired participants to seek fashion advice from volunteers via *VizWiz*. At first, *VizWiz* users asked basic questions with objective answers, such as the color of the clothing or the patterns on the clothing. As their trust in the platform grew, they started to ask for opinions and advice. For example, users would request help with matching clothes for outfits (Burton et al. 139-140). Consequently, *VizWiz* has not only been effective at helping users identify objects without relying on sighted individuals nearby, but it has also been useful as a platform to give users advice about visually-dependent matters.

In a similar fashion, *VizMap* allows users to accurately locate themselves within buildings by taking pictures of the surrounding environment. *VizMap* uses videos from on-site volunteers to create a virtual 3D map of areas with low GPS reception. Crowdworkers are then recruited to annotate distinguishing features on the map. Once a map has been created for an area, a user's photos can be compared to the map to identify all surrounding points of interest and help locate the user through verbalized directions (Gleason et al. 1).

Researchers also sought to improve crowdsourcing work for people with visual impairments. *BSpeak* is a mobile implementation of a crowdsourcing market with built-in accessibility features, such as verbal instructions and larger UI elements, that allow visually impaired workers to perform audio transcription tasks. As it is difficult for visually impaired workers to perform a number of jobs in the job market, expanding accessibility within the crowdworking community with *BSpeak* has given visually impaired individuals the opportunity to work whenever they want to supplement their livelihood (Vashistha et al. 1).

By integrating existing technologies with crowdsourcing, researchers and developers have been able to create applications that help visually impaired users. Through crowdsourcing, visually impaired individuals are able to gain information about objects they cannot identify without relying on sighted people nearby. Furthermore, because of the large number of workers available on Amazon Mechanical Turk and social media platforms via friendsourcing, visually impaired people can receive a response in a timely manner. In the future, developers could integrate technologies like *EasySnap* with crowdsourcing applications to address difficulties with taking clear photos. Thus, crowdsourcing embedded in technologies can greatly support visually impaired people.

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Inexpensive and Quick — But is it Quality? Replicating and Extending the Evaluation of Non-Expert Annotations for Natural Language Tasks

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ABSTRACT
This paper replicates and extends the findings from *Cheap and Fast — But is it Good? Evaluating Non-Expert Annotations for Natural Language Task* by comparing the accuracy of expert and non-expert human annotations in three natural language tasks: word similarity, sentiment analysis, and word-sense disambiguation. Our findings indicate that non-experts generally agree with experts. Although non-experts do not perform as well as experts individually, non-expert results can sometimes be as good as expert results when we consider an aggregate of answers.

Author Keywords
Natural language processing; Linguistics; Crowdsourcing

INTRODUCTION
Recruiting experts to perform tasks can often be costly in both time and resources. Thus, crowdsourcing can be an excellent tool for recruiting workers quickly without large monetary expenditures.

However, quality is important; consequently, we assess whether non-expert work is comparable to expert work. We define experts as individuals with three or more years of experience in the linguistics major. Specifically, we ask non-experts and experts to perform natural language annotation tasks and compare their accuracies. We accomplish this by replicating and extending the study in *Cheap and Fast — But is it Good? Evaluating Non-Expert Annotations for Natural Language Tasks.* Based on our findings, we confirm that individual non-expert annotations have a Pearson correlation to the gold label that is 0.18 less than that of individual expert annotations for word similarity tasks. However, when we aggregate non-expert annotations, the aggregation of these annotations can outperform individual expert annotations in Pearson correlation to the gold label by .08.

The main contribution of this work is confirming whether the aggregation of non-expert annotations could be as accurate as the expert annotations in three linguistic categories.

RELATED WORK
Annotations from volunteer contributors have been used in a number of studies for natural language processes, such as word embeddings (Bolukbasi et al., 2016) and detecting deceptive opinion spam (Ott et al., 2011). The researchers of these studies use annotations as standard benchmarks so that they can measure the efficacy of their machine learning models.

Researchers have also explored Amazon Mechanical Turk (AMT) and other crowdsourcing platforms in assessing whether crowdsourced annotations are comparable to those of linguistic expert annotations (Snow et al., 2008). They found that non-expert annotations are nearly as accurate as those of experts. Together, non-expert and expert annotations are more accurate than either individually.

Our paper attempts to replicate their study on two linguistic categories: word similarity and sentiment analysis. We extended their study on word-sense disambiguation to include a variety of different words in different contexts.

DATASET CONSTRUCTION AND TASK DESIGN

For non-expert annotations, we used AMT (https://www.mturk.com/) for our performance tasks. We created three different tasks on AMT: word similarity, sentiment analysis, and word-sense disambiguation. There were 30 HITs for each task, and five different non-expert workers completed each task. The word similarity task requires non-experts to rate the similarity of two words from a scale of 0 to 10, where 0 means "not similar at all" and 10 means "highly similar." The sentiment analysis tasks ask non-experts to read a headline and then rate the joy, sadness, surprise, anger, and disgust of the headline from a scale of 0 to 100, where 0 is "not at all" and 100 is "highly emits this sentiment." Non-experts also had to rate the polarity of the headline from a scale of -100 to 100, where -100 is "extremely negative," 0 is "neutral," and 100 is "extremely positive." For the word-sense disambiguation task, non-experts read a sentence and defined a given word in the sentence; non-experts were able to choose a definition from three given answer choices.

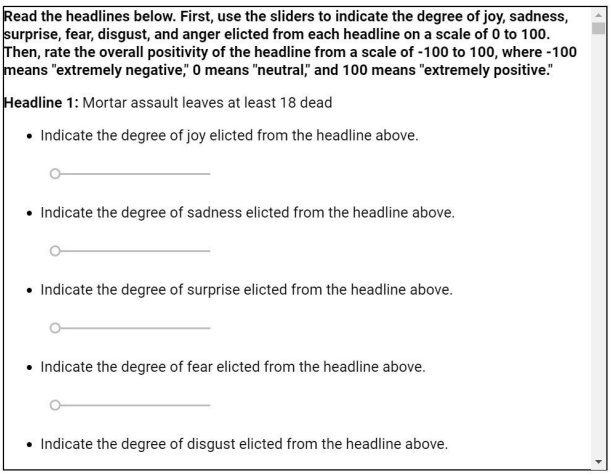

Figure 1: Screenshot of a HIT on MTurk for the sentiment analysis task

For expert annotations, we used a Google Form (http://forms.google.com/), which asked the same questions given to non-experts. We requested that all expert volunteers fill out the form in its entirety; however, since 90 questions are a significant number of questions, we gave volunteers the option to opt-out after each section. We also randomized the sections to account for volunteers who would choose to opt-out. By randomizing, we ensured that volunteers do not just fill out the same first section and no other sections. Three experts filled out the form in its entirety.

Methods of Analysis

We deployed the AMT tasks and the Google Form and analyzed the data using Pearson correlation via Microsoft Excel. We used the results from the paper *Contextual correlates of semantic similarity* (Miller and Charles, 1991) as the gold label for the similarity task. We then compared accuracies between the non-experts and experts for the word-sense disambiguation task using expert answers as the gold label.

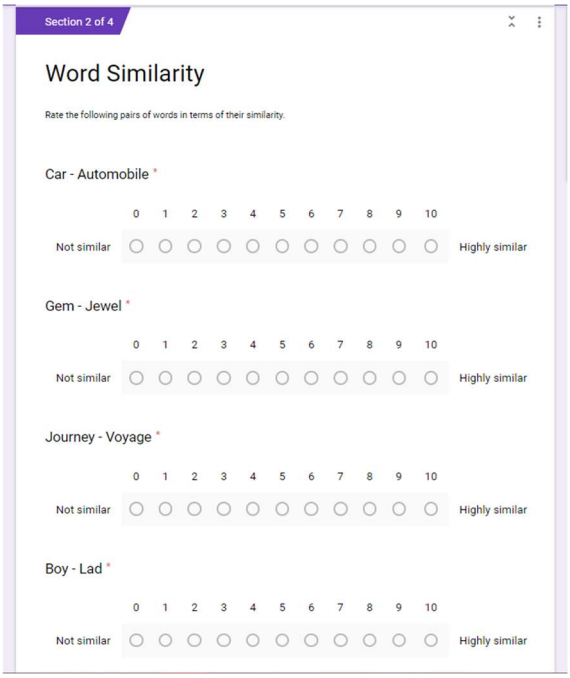

Figure 2: Screenshot of the Google Form sent to experts for the word similarity task

RESULTS

Word Similarity

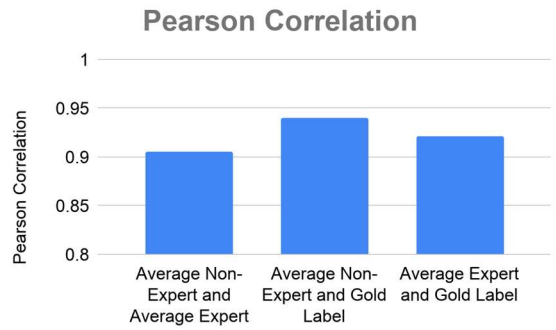

Figure 3: ITA between experts, non-experts, and the gold standard for the word similarity task

We calculated the inter-annotator agreement (ITA) between experts, non-experts, and the gold standard labels found in *Contextual correlates of semantic similarity* (Miller and Charles, 1991) by averaging their ratings and finding the Pearson Correlation between the averages. The Pearson Correlation between the average rating of non-experts and the gold label was 0.94. The correlation between the average expert rating and the gold label was 0.92, and the correlation between the average non-expert and the average expert rating was 0.90.

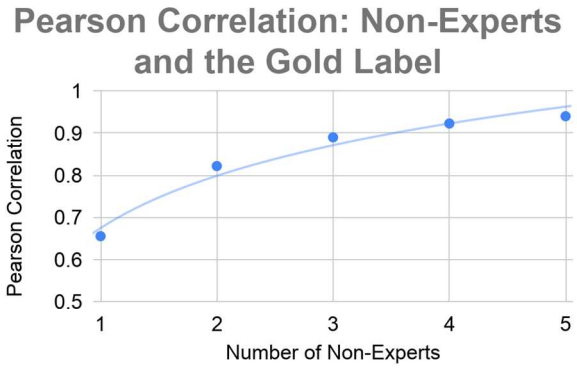

Figure 4: ITA between differently-sized subsets of non-experts and the gold standard for the word similarity task

We also averaged the ratings from every possible subset of non-expert annotators and computed the ITA of that subset with respect to the gold labels. Then, we averaged the ITAs for each subset size (e.g. two annotators, three annotators, etc.) and plotted them in Figure 4. The average ITA was 0.89 for a subset of three non-experts, 0.92 for four, and 0.94 for five. For comparison, the average ITA for a subset of one expert was 0.86.

Sentiment Analysis

We calculated the ITA between experts by finding the Pearson correlation between one expert's ratings and the average of the ratings of the other two experts. We report the average of these Pearson correlations in Table 1 under "E vs E," separated by emotion. We also calculated the ITA between each non-expert and the average of the experts and have reported the average in Table 1 under "NE vs E." Then, we found the ITA from all experts and non-experts' ratings and reported the averages under "E vs All" and "NE vs All" in Table 1. We organized the ratings by emotion with the average for all emotions, not including positivity, recorded as "Avg. Emotion." Lastly, we record the average of all of the Pearson correlations for emotions and overall positivity in Table 1 as "Avg. All."

Emotion	E vs E	E vs All	NE vs E	NE vs All
Anger	0.522	0.709	0.555	0.637
Disgust	0.407	0.641	0.430	0.547
Fear	0.496	0.682	0.392	0.472
Joy	0.531	0.698	0.506	0.641
Sadness	0.667	0.808	0.507	0.568
Surprise	0.076	0.462	0.185	0.446
Positivity	0.709	0.811	0.670	0.780
Avg. Emotion	0.450	0.667	0.429	0.552
Avg. All	0.487	0.687	0.464	0.584

Table 1: Average ITA between experts, non-experts, and all ratings for the sentiment analysis task

Word-Sense Disambiguation

In this task, we used the expert answers as the gold standard label. If one of the expert answers disagreed with the other two, we took a majority vote and used the most common answer as the gold label. There was no situation in which all three experts disagreed.

We then took a majority vote of the non-expert responses, breaking ties randomly, and compared them to the gold labels. This majority vote agreed with the expert responses in 22 out of 30 word-sense disambiguation tasks.

DISCUSSION

Word Similarity

We found that there was a high Pearson correlation between non-expert answers and expert answers in the word similarity task; thus, it is evident that non-experts, on average, agree with experts. There was also a high correlation between non-expert answers and the gold label answers. Our correlation of 0.94 was slightly lower than that of the original study, which was 0.952. However, the original study achieved a correlation of 0.952 with 10 non-expert annotators; at 5 non-expert annotators, their correlation was at around 0.94, just like ours.

It is important to note that the Pearson correlation increases when aggregating more non-expert answers. For instance, the correlation between any one non-expert's answers and the gold label is generally low, whereas the correlation was very high at 0.94 when comparing the aggregation of five non-experts' answers to the gold label. In fact, while the correlation of three non-expert answers was lower than the correlation of three expert answers, the correlation of all five non-expert answers was higher than the correlation of all three expert answers. Consequently, it is evident that non-expert annotations for the word similarity task can be as good as the answers given by experts and the gold label when considering the totality of the answers and not the answers individually.

Sentiment Analysis

In the sentiment analysis task, neither expert ratings nor non-expert ratings had a high correlation with each other. The best average ITA was the ITA between experts and all ratings at only 0.687. These values are generally in line with the values in the original study we replicated, which were also between 0.4 and 0.7. Our experts had a lower ITA with each other than their experts, possibly because we only had three experts while they had six. However, just as in the original study, the experts still performed better overall than the non-experts; the experts had a higher ITA with the other two experts and with all the ratings than the non-experts did.

Word-Sense Disambiguation

For the word-sense disambiguation task, we found that non-expert annotations were not as

good as expert annotations. Non-experts did not agree with the experts for 8 out of 30 questions. In some cases, the non-experts were very far off from the true answer. For instance, the word "robust" in the given context had the definition: "strong and effective in all or most situations and conditions." However, only one of five non-experts chose this answer. The majority of them chose the definition: "strong and healthy; hardy; vigorous," which was vastly different from the correct answer. There was also a case where the experts may have been incorrect. We, the authors, agreed that the word "maintain" in the sentence "Maintaining pace of realisation" has the definition: "To continue or persevere in." The non-experts generally agreed with us, but two of the experts chose a different answer. However, this was the only case where we did not agree with the experts.

In the original study, participants only needed to disambiguate the word "president". With 10 non-experts, the majority vote agreed with experts 99.4% of the time. In the one case where they disagreed, the expert-created gold standard was wrong. In contrast, our five non-experts only agreed with the experts 73.3% of the time. This discrepancy was not due to our smaller sample size, since in the original study, accuracy plateaued at over 90% with just four annotators. Instead, it was probably a result of asking annotators to disambiguate a wider variety of words, many of which were more challenging than "president."

Limitations

Regarding limitations, only three linguistics students volunteered to respond to the Google Form. There were a few disagreements in the responses. One of the experts did not grow up in the United States and mentioned that he had some difficulty with the questions because he was not a native English speaker. Furthermore, we speculate that some tasks were too hefty for one crowdworker to accomplish. Since we asked 30 questions at once for the word similarity and sentiment analysis tasks, some crowdworkers may have found the task increasingly tedious and mundane.

FUTURE WORK

Possible directions for future work could include annotation comparisons on less formal linguistic categories, such as sarcasm and humor detection.

CONCLUSION

Crowdsourcing can be an effective tool for gathering information cheaply and quickly. It took only a few dollars and minutes for crowdworkers to complete all the tasks, whereas finding experts to complete the tasks was significantly harder and stressful. However, we found that the quality of the annotations from non-experts was not necessarily as good as the answers from experts. In the word-sense disambiguation task in particular, the non-experts agreed with the experts only 73.3% of the time and sometimes chose answers that differed greatly from the experts. At least for the sentiment analysis and word similarity tasks, the non-experts agreed with the experts. Despite non-experts performing worse individually, they can sometimes perform better in aggregate. In the word similarity task, the aggregated non-experts agreed with the gold label more than individual experts.

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