Understanding Technology

Introduction

As a computer science student, I am most often found writing code for assignments that are due within the next week. I stand by the saying, “Better get things done early than never,” but I do know that most people procrastinate these coding projects until the very last day. While procrastination is usually frowned upon, some people choose to “procrastinate” for valid reasons. Students like waiting for professors to finish teaching “new concepts” that they must code for before attempting it without this knowledge. While students often try to use technology to search for these “new concepts” before learning them from the professor, they find it easier to wait for the professor to teach them. Why is that? It is a matter of convenience. Rather than “searching” for the answer ourselves, we more often like being “spoon-fed” or handed the answer. We try to utilize the resource of “time” as efficiently as possible to get a certain result with the least effort.

I bring this up to show that how we use technology to our advantage is measured almost solely based on how much time it will save us. Based on our assumption, we either choose to use a tool like ChatGPT to help us understand a concept or wait for our professor to lecture about it. As a computer science student, I use technology in ways that others do not experience and I know, to an extent, how new technologies are created and how they function. I am also prone to look at technology solely based on how efficient it is rather than how it affects me as a human.

In this class, I have learned quite a bit about how people evaluate technology with a completely different perspective than mine— how it affects the human. This was a very new experience for me as while I often hear wild tails about AI gaining consciousness and taking over the world, I know the idea is absurd because of how generative AI is programmed. I never

actually got to look deeper into the more nuanced takes on technology that has been sitting around since before Plato's time till this class. Starting from Plato to Heidegger, I'll be attempting to dumb down their critiques against technology and how I, after taking this class, and with my background as a computer science student would respond to them. Then I'll address the idea of "AI gaining consciousness" that is gaining popularity these days. Finally, I'll end off by discussing a problem that is overlooked by both the Academic and Technological field.

Plato

Plato (let's just assume Socrates is Plato personified for simplicity's sake) lived in Ancient Greece, a land home to rich dialogue and debate, which he was oh so fond of. During this time, the technology of writing was beginning to seep through Greece's habitus, and Plato was already beginning to discover its' drawbacks. In Plato's *Phaedrus,* he compares Lysias's written speech to his own spontaneous speech and begins to point out places where Lysias's arguments are weak. Since Lysias' speech is written, Lysias cannot defend himself against Plato's attacks, and the analysis of Lysias's speech thus turns into a one-sided critique. If Lysias was present, Plato would have been able to debate with Lysias about the merits and drawbacks of the speech but since it was a written speech, that was not possible. In Ong's *Orality and Literacy,* Ong notes that Plato believed writing caused one's memory to weaken. In the past, we had to keep everything in our memory to remember them, whereas now we can "write it down" and not worry about forgetting it. When you have a piece of your memory written down, you subconsciously no longer feel the incessant need to retain it in your memory because that piece of paper acts as an extension of your memory.

Plato was mainly concerned about how writing impacted human nature. He believed that humans should continue to communicate face to face, with the preferred mode of speech being

debate. This is because it engaged our critical thinking skills the most as it allowed us to formulate and utilize our thoughts within a short time frame as we think and respond to others' viewpoints which would often clash with our own. With writing taking over, he feared that our critical thinking skills would severely diminish or become obsolete.

Plato's concern relating to how writing diminished the opportunity and ability to debate is a concern that has come to fruition. We as humans no longer would listen to speeches and debate with the speaker as Plato did, other than on special occasions. However, just because our critical thinking skills weren't being used to debate doesn't mean they were not used at all. With the diverse amount of information there is in the world today, our critical thinking skills are engaged much more uniquely than in the past. For example, students use these skills as they traverse through various subjects—especially in computational and coding classes, and gamers use critical thinking skills when formulating new strategies to reach a certain objective. While Plato was right in that the frequency of debate has diminished, critical thinking skills are still being used today… just not in the way Plato thought.

While Plato's other concern on how writing weakens our memory is also credible, it is not as detrimental to our everyday lives as Plato thought. It *was* and *is* more convenient for us to write down information that would take too much effort to memorize or that we do not want to forget. If we did want to retain information in Plato's time, once forgotten, there would be little hope of remembering it other than praying it'd come back to us in a dream. However, now, if we forget something, we can quickly regain access to it either because it was written down by us physically or digitally or it is in the public domain of the *internet*.

Heidegger

Heidegger was a Nazi that lived during WW1 that had a very peculiar view of technology that he extracted from his interpretation of the Ancient Greek tradition. Heidegger derived his understanding of humans by relating it to Aristotle's concept of *aitia,* or causation. Heidegger believed that a human's purpose is to be a part of a process called causation, which is described as the process through which an object comes into existence. It can be condensed as thus: an efficient takes a material cause and shapes it to fit a formal idea to be of use. We are a part of the process of creating an object, but we are not lording over this process. Heidegger lived during the Industrial Revolution and believed that as these new forms of technology kept causing a surplus of materials, we would begin to view materials based solely on their value to us. This would cause humans to lose their place and causation as they would believe that they were superior to all things and could lord over the process of creation.

Heidegger's concerns have come to light in reality because rather than guiding objects into creation for immediate use, we now stockpile goods for later consumption based on how profitable they are to us. For example, though there is no immediate benefit in investing in the stock market, we still invest because we believe that in the future, the demand will increase allowing us to profit. We view our money in the stock market as "goods" that we store for later consumption when it will be more profitable to us.

Most people in positions of power view material goods and objects based on how profitable they are, and this is seen in their efforts to stockpile as much of a good as possible and sell it when the demand is highest. The view from everything in terms of how profitable it is to us can also be downplayed to the everyday. We often buy more food than we need immediately so we can save it for later because it might not be available later or the price may rise. We also

like making investments in the stock market or real estate, where, while it may not immediately benefit us, we see it as a worthwhile investment as we wait for *when* the price rises, and we are able to make a return on the investment.

Though Heidegger's concerns about how technology has indeed affected humans as he thought, Heidegger's argument loses its validity right at the very end. The reason why Heidegger was concerned about technology was because he believed that the human's purpose was to be a part of the process of creation. When humans began to view objects in terms of supply and demand, Heidegger believed we lost our place in the process of creation and we lost our purpose in life. This is exactly where Heidegger's critique loses its ground. Though the thought of losing our sense of purpose is a frightening prospect, this disaster is staved by people, mainly through religion. Heidegger fails to account for this because Heidegger was an atheist and, as a Nazi, refused to believe that religion could give meaning to someone's life. Other than religion, people also seek purpose in their lives through performing humanitarian acts, recreational activities, and by seeking out hobbies. Thus, while Heidegger was right about technology affecting humans, it wasn't nearly as dangerous as he thought it would be as most humans find their purpose in life, not by being part of the process of creation but through other means.

Chat Box AI

While the prospect of AI developing a personality is indeed a frightening thought, anyone who has worked with AI or knows about what goes on behind the scenes knows that it is impossible. These generative AI can only speak words in the form of tokens through the analysis of countless phrases, words, and articles that the programmer is feeding it. If someone claims that a generative AI displays an *emotion*, that is because the prompter asked questions targeted to "stimulate" a particular emotion. However, *emotion* is not what is actually being "stimulated" by

the AI, but a mimicry of it through the analysis of countless data that is provided. Through the extensive amount of coding to create such an AI, the only way a generative AI can emit a semblance of a *personality* is if the programmer or programmers programmed it to mimic such a personality. For example, take Character AI— nobody claims that they are generative AIs that have developed a personality; This is because you can more easily see how the AIs' responses were created to mimic a particular character. It is easier to see because the number of tokens, words, and phrases that go into these Character AIs is significantly smaller than what is given to AI like ChatGPT or Gemini, but they are essentially the same. ChatGPT and Gemini just have a lot more data on hand and can mimic a wide variety of emotions if needed but attempt to stay neutral and positive just as the programmers have intended them to.

An Overlooked Problem

Through the final weeks of the semester, when reading Dalton and Kolbert, we talked about an overlooked aspect of technology from both the academic and technological sides. Critics of technology from the academic standpoint are concerned with how technology affects humans and base their critiques on that. Critics of technology from the computer science perspective are more focused on the correctness and efficiency of a given form of technology. While both are valid points of concern for new technology forms, they overlook the environmental side of the problem. How does technology affect the environment?

Have you ever noticed how hot your laptop gets after opening a video game, opening a bunch of internet tabs, or even just asking an AI some questions? While you may think it's a minor inconvenience, that extra power tick adds up. All the technology we use takes up power or electricity— something we often take for granted. However, it’s essential to realize that electricity is not just an unlimited resource we can continue to take for granted. From the Energy

Information Administration, we can see that most of our energy comes from burning coal and natural gas, a limited natural resource, and a resource that translates into a lot of carbon dioxide and waste products that pollute the environment in which we live. With the introduction of AI, the amount of electricity that is used to keep the central power plants running behind the scenes and water to cool them down has dramatically bumped our consumption of such resources. It is likely to steadily increase consumption if there are no policies in place to reduce the amount of waste it generates.

Following the technological trends of Plato's time, it is unlikely that these policies will be put into practice or even thought about by the right people (people in power). First, many trees were cut down to create paper to facilitate the new technology of "writing". Then, in the Industrial Revolution, coal, fossil fuels, and natural gas skyrocketed carbon emissions to generate energy to power new technologies. Still, no substantial policies have been implemented to stop the pollution created by these new technologies. Some policies helped mitigate its effects, like forest preserves and carbon taxes, but this did little to decrease the environmental harm wrought. Now, as we continue to use technology, the majority of our energy still comes from nature, as energy consumption continues to increase.

The environmental impact of technology is more frightening than analyzing how technology affects human nature because, whereas we will continue to adapt to technology, Earth can only helplessly deteriorate. What's more terrifying is that the majority of the world either doesn't care or is oblivious to the fact that we are slowly and steadily killing our home. When will people finally come together under a unified purpose to save the Earth from its eventual destruction? I personally don't see this ever happening unless there is a significant adverse change in the Earth's atmosphere that causes people to see Earth's destruction as imminent rather

than eventual, and by then, it will probably be too late. (Which sucks, but is a view that is supported by our past behavior as we rarely focus on the environmental impacts of technology either because we are uninformed, are surrounded by our own personal bubble, or view the world in honeyed glasses only focusing on the present with nary a care for the future.)

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