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# Revisiting Predictions about the Future of Human Life in 20th Century American Sci-Fis

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## ABSTRACT

Predictions and illustrations of life in the future are often integrated in works of science fiction, which could not be immediately proven yet possibly fascinating when looked back on several decades later or at the times predicted in the works. Science fiction authors foretell such events by borrowing theories, concepts, or simply terms used by scientists. Those theories, concepts, and terms can be written in scientific journals or in more popular media. American science fiction works, for instance, illustrate the future by their adaptation in the forms of more popular media such as movies, video games, and the works categorized as the subgenres of cyber literature. All of them are discussed in this paper from the lens of New Historicism, which believes in equality between literary and non-literary texts in viewing phenomena that exist in society, one of which is the relationship between science fiction works, their writers, their readers, and society. Technology is seen as a product of society, so it becomes broadly part of culture. Meanwhile, emerging technology is sometimes coincidental and random, so it can also be seen that technology determines people's movements and lifestyles. This study contributes to ongoing discussions on the ethical and societal implications of speculative narratives by highlighting the interconnectedness between literature, science, technology, and society.

Keywords: *american literature; popular media; prediction; sci-fi; technology*

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## INTRODUCTION

Humans have evolved physically, behaviorally, and culturally over time. Ancient humans had substantially different behaviors and cultures from modern humans, which exist today. The problems faced by modern humans can generally be distinct from those in the ancient human environment (Frank, 1962). These ways of surviving and adapting gave rise to what people perceive as technology—the forms of which vary greatly as time changes. As Aldrete (2014) suggested, technology can be straightforward, such as a hand or hammer ax. However, it can also be complex, such as computer systems with gigantic data networks that exist today and are widely used worldwide. This technological development also reflects human imagination and innovation, which can be seen in scientific discoveries and even science fiction. In fact, several literary works in American fiction have been able to make future projections of human life and predict what would happen in the future.

Major eras with rapid technological development and such a revolutionary process have been recognized as supporting such a phenomenon. In the study of literary and cultural history, these eras span from the Renaissance, the Industrial Revolution, the era of Enlightenment of the 18th century, the Romantic movement, the era of Modernism and Postmodernism, to the current era of digital progress or the cyber era.

In a more general scope—outside of American fiction—works of art and literature from the past to the present have recorded and shown reactions to this technological development. Percy Bysshe Shelley wrote in 1811 a pamphlet entitled The Necessity of Atheism as a form of reaction to the dominance of religious doctrine at that time, which tended to limit humans from thinking logically and developing the natural mind. Likewise, Denis Diderot's most famous writing, *Encyclopédie*, published in France between 1751 and 1772, contained extraordinary subjects and entries that showed the power of the human mind in understanding the universe. In "The Dynamo and the Virgin", Henry Adams explored the mechanical developments that occurred in the era of the Great Exposition in 1900, where he was "fascinated" by the dynamo but unable to explain it with certainty.

Fiction and non-fiction work record and actively contribute to directing, enlightening, and criticizing their surroundings. Through science fiction, these works talk a lot about technology and its applications, visioning and predicting new forms of technology, from matters that make sense to ones that seem impossible. From 1931 to 1932, Aldous Huxley wrote his masterpiece, Brave New World, which was quite a sensation. Some of his depictions and ideas are still relevant, and some even look visionary in the present time. Huxley had predicted a dictatorship without brutal violence, completely different from what had previously existed. Even critics call Huxley's depiction a "benevolent dictatorship" (see Parrinder 2018, p. 360, McConnell 1980, p. 179) where the dictatorship that Huxley describes in his work provides pleasures for everyone so that they forget about their condition in the restrictive system. Looking back at the predictions written in literary works is interesting because it can provide insight and lessons that can direct humans to better things, for example, by not causing environmental damage, respecting others, and inspiring discoveries beneficial to others. This research, therefore, seeks answers to the following research questions systematically: 1) What are the examples of predictions made by 20th-century science fiction and its adaptation? 2) What are the impacts and interconnections of science fiction and technology?

This paper refers to the view of New Historicism, which places literary and non-literary texts in an equal position, as Veeser (1989) described them as "circulate inseparably" (p. xi) so that in this case, literary texts and non-literary texts can penetrate one another. Hence, this paper uses literature and references to technology by applying insights from other disciplines, i.e., natural sciences and engineering. Loren Ghiglione, an expert in the natural sciences, has written that science fiction frees the mind from the restriction of existing scientific logic. According to Ghiglione, this scientific logic can make technology only stagnate or develop slowly without breakthroughs and innovations that were not previously thought of. Science fiction can offer bolder thoughts. Sometimes, it does not need to be based on long, complicated records of the latest technological developments. Ghioglione also reminded us

that some of the great scientific discoveries that we currently use, for example, the transistor, which replaced the vacuum tube, or the invention of the phonograph, which later developed into a music player, were born from coincidence (Ghiglione, 2010, p. 140). Thus, from the perspective of New Historicism, science fiction is seen as interconnected with scientific logic, where things that are seemingly too fantastic become worthy of consideration. Henry Petroski, an American scientist, quoted a famous speech by Charles Percy Snow, a chemist who is also a well-known novelist, entitled "Two Cultures" examining the large differences between groups of scientists from natural sciences, engineering, and humanities. According to Petroski, it would be better if these two very different fields could work together to solve the problems of human life. He illustrates the many similarities between a scientist, a technical designer or engineer, and a poet (Petroski, 2005).

## METHODOLOGY

This research is inductive, using qualitative data from literary and non-literary works of the 20th century. This research focuses on American science fiction literature and its adaptations across various media forms. The data consists of textual materials such as novels and essays and visual and digital media associated with science fiction narratives. Additionally, the study may not comprehensively cover all aspects of 20th-century literature or cultural history outside the specific context of science fiction and related media forms. Phenomena are observed in political, social, economic, and cultural contexts, so the New Historicism approach is seen as the most appropriate approach to answer the problems in this research. Technological phenomena that existed when these works were published, along with what was found in the literary and non-literary texts analyzed, constitute the qualitative data of this research. In this case, literary and non-literary texts are treated equally, with equal significance, in their correlation to existing phenomena.

## DISCUSSION

Lombardo (2015) suggests that science fiction, commonly known as sci-fi, refers to a literary and narrative method for depicting the future in which the plot, characters, and settings tend to be unique. He stated that science fiction is a futuristic tale that connects

with the lively conscious activity of the mind of humans, giving significance, drama, and direction for our existence in the future. He also claimed that while not all science fiction is concerned with the future, it is primarily concerned with future possibilities, and through its vivid and indelible characters, science fiction intimately draws the readers and consumers into a highly representational glimpse into the future. The future is generally encountered and sensed on an extensive and intimate level through science fiction narratives (Lombardo, 2015, p. 3). Science fiction can appear in several kinds of forms. It can be in the form of writing, which has existed since the 19th century, and it can also be in the form of motion pictures or movies, which nowadays have become more and more popular. Although science fiction is frequently described as creative and inventive literature, this is not necessarily the case, and discussions trying to identify its fundamental characteristics sometimes come up inconclusively.

Science fiction is partly not true since it is based on the writer's creative thinking, while some are true because it is based on the facts and postulates of science. The emergence of science fiction can be seen as one of the consequences of the industrial revolution (Brantlinger, 1980, p. 31). During that period, there was a change in which the agrarian economy shifted to the manufacturing economy, and machines began to dominate production, displacing human labor. Many technological discoveries were also made by scientists during this period. Their innovations inspired science fiction writers to create their stories.

In writing their narrative, the author of science fiction usually conducts research on existing technology that was developed in their era. They could envision more sophisticated and complex technologies and include them in their works by integrating their research results with their imaginative abilities, which I believe are astonishing. The so-called “inventions” predicted by them throughout their works could frequently occur in the future, as asserted by Bova in Ghiglione (2010, p. 140), that writers of science fiction often anticipated what might arise in the future not because they foresee inventions but because they instinctively believed a form of advancement would eventually come along. They observed and understood

that there was always potential for development and that technology might continue to advance in the future. It might be widely known that technological advancements throughout the Industrial Revolution affected the works of science fiction. Yet, does the development of science fiction also influence the emergence of new inventions? Colatrella (1999) claimed in her essay titled Science Fiction in the Information Age that in our present day, science fiction's possibility has motivated us to think globally and even universally (Colatrella, 1999, p. 556). It encouraged people to think about how the seemingly impossible is not necessarily unattainable.

The stories offered by science fiction writers have motivated many people to find solutions to certain problems and even led to some discoveries that mankind had never anticipated before. The Star Trek movie is the first example of science fiction that has resulted in an adaptation in the form of cellular phones. The portable two-way communication shown in this movie was an example of science fiction work that inspired the production of new technologies (Science Museum, 2018). It argued that in the 1970s, researchers at Bells Lab in the United States started experimenting with cellular phone systems. By the end of the same year, The Bells Labs Advance Mobile Phone System, or AMPS, was established and functioning on a modest scale. It was also stated that Martin Cooper, an American engineer, had been influenced by the communication device in the film and sought to build something similar. He was able to develop the first portable phone that could connect via Bell's AMPS (Science Museum, 2018).

Many new sci-fi-inspired devices have helped bring about improvements and simplicity to society. They have grown and gotten more advanced as they have been transformed, modified, and tweaked to satisfy the demands of humanity. The invention of the cell phone, for example, has altered how people communicate. People no longer had to compose letters, deliver them to the post office, and wait a long time to receive a response as a means of distanced communication. Now, they could just send messages from their phone and receive a response instantly.

The defibrillator is another adaptation of a sci-fi-inspired innovation that has improved human life. According to

Alexandre (2019), Mary Shelly, the author of Frankenstein, described the comprehensive use of electricity to animate a dead being, and she was aware of studies in the electrical resurrection (galvanism). She said Shelly promoted the work that resulted in the creation of the defibrillator, which is used to restore a regular pulse to avoid arrhythmia and an uneven heartbeat. It has aided many doctors in treating their patients, and it is today one of the most important innovations in medicine, being utilized in practically every hospital worldwide. These inventions are now among the most crucial and necessary tools in civilization. Although many works of science fiction have benefited society by influencing technological advancements and improving human life, some have also had negative consequences. As previously stated, an example is the novel The World Set Free (1914) by H.G. Wells, whose vision in the narrative indirectly encouraged the innovation of the atomic bomb.

Leo Szilard, a member of The Manhattan Project, was said to have read his work and realized that nuclear power might be utilized to make a weapon (BBC, 2015). It argued that he was able to create a plutonium implode device along with his other colleagues; the device was additionally utilized to show a bomb test in front of the Japanese ambassador to offer them an opportunity to surrender, but instead, it was dropped on a city. It is demonstrated that science fiction-inspired innovation harms society. People sometimes find the complex and astonishing experiments of technology depicted in science fiction interesting and have begun to strive to verify it in real life. Szilard was influenced by H. G. Wells' book when addressing theories concerning the production of the atomic bomb, and he was successful because he had basic knowledge about it. If people do not know science and want to carry out the experiments presented in sci-fi novels, it may endanger themselves and those around them. While some works of science fiction appear to make sense, the rest were highly harmful if wanted to be done.

The development of technology has brought a massive transformation in almost every aspect of life, one of which is in the field of literature. At first, many people were afraid that the development of technology would bring such a disruption to the world of literature. They thought that the advancement of

technology would take away the interconnection between humans, literature, and literacy. The advancement of technology does not erase the interaction between humans and literature. Instead, it brings new forms of literature combined with technology, which match the needs of people of this generation, called cyber literature. It is a combination of the words cyber and literature. So, the existence of cyber literature could not, of course, be separated from the technology of cyberspace and the work of literature.

Always having been connected, literature and technology create an impactful relationship in the way they inspire each other. For example, looking back to the past, the Industrial Revolution inspired science fiction, one of the most famous genres in literature.

> …that "a lot of science fiction writers like to refer back to [the Industrial Revolution]. They saw the industrial world flourish around them and started to fantasize and speculate about what might happen, and sometimes, these fantasies become real." (Shaeri, 2019).

The invention of machinery, its massive use in the industrial revolution, and its impact in their life has made the authors in the 18th–19th century start to imagine the future life that goes side by side with the development of technology. Further, they put those fantasies of technologies in their work of literature, which often became their form of delivering social critiques toward some important issues in that era. Those technologies mentioned in the novels that were only imagined at that time apparently continue to inspire people to create the real-life version of the technology. For example, there is a saying that the cyberspace used now might be inspired by the Matrix, which is the cyberspace mentioned in the famous novel *Neuromancer* by William Gibson, an American-Canadian writer.

> The idea of the Matrix is arguably based on an 8-bit arcade video game. But, the Matrix in Neuromancer is more versatile than an 8-bit decrypted arcade game. It is the Matrix where everyone is connected, where every piece of information is stored and where even artificially intelligent non-living simulated characters reside (Islam, 2021, p. 32).

Based on the quotation above, it can be seen that the depiction of the Matrix in Neuromancer could be said to be almost accurate with the cyberspace we have now, like the internet and the World Wide

Web that are used today. The invention of cyberspace in the history of humankind is one of the biggest game changers, including in literature.

Cyberspace and the continuing development of technology provide a new medium for the development of literature. The existence of this new media contributes to two important things. The first one offers the reader a new way of reading a work of literature, and the second one provides a medium for developing new genres of literature, cyber literature. Cyber Literature could also be understood as literature that comes in a digital form or one that is written and published with the help of computers (Viires, 2005). The genre of cyber literature itself could cover many kinds of literature. Both the professional ones that has been checked by the editor and published under the name of a certain media or publisher like Webtoon, and the unprofessional ones like fanfiction and Alternate Universe.

Among all the various types of cyber literature, one of the most famous forms of cyber literature nowadays is Alternate Universe, or AU. Alternate Universe is another form of fanfiction mostly published on social media platforms like Instagram and Twitter. The AU author usually creates a story based on a person or character that has existed as the face claim of the characters in their story. What makes alternate universes different from some other types of cyber literature, or even any other type of literature, is that alternate universes mainly use screenshots of fake chats between characters as the medium of telling stories.

Literary works continually give some space for the exploration of ideas. Another example is Max Headroom, a British and the USA television series and video game in the 1980s featuring artificial intelligence (AI) as an investigative reporter. The real (human) reporter, Edison Carter is injured and unconscious, so they download Carter's mind and copy it to the Headroom. After this process is done, they put this copy into the AI. In 2000, the British news agency Press Association presented Ananova.com as "the world's first virtual newscaster" (Ghiglione, 2010, p. 142). According to Donna Haraway, science fiction writers are "anthropologists of possible selves…technicians of realizable futures" (Ghiglione, 2010, p. 140). It means these writers are willing

to sacrifice their rationality and common sense for irrationality. Surprisingly, irrationality and barely possible things have become more than possible sometimes (Ghiglione, 2010, pp. 140-141). In addition, Heinz C. Luegenbiehl mentions a discussion about the prediction of technology or science in a literary work through a journal article, "1984 and the Power of Technology", while discussing George Orwell's *1984* (Luegenbiehl, 1984).

Furthermore, science fiction in video games has also been developing rapidly. Thanks to technological advancements in the video game business in the past sixty years, it is now possible to immerse oneself in futuristic science fiction (Hayot, 2021). Taiwanese game developer Rayark's music rhythm game Cytus is a unique example of how science fiction and deep gameplay may coexist in interactive entertainment. In the far-off future society depicted in this game, robots endowed with human memories fight to restore their humanity. Human memories are transmitted to these robots by technical developments and preserved as music at a location known as Cytus. A compelling and immersive playable tale is produced by combining narrative, graphic design, and gameplay aspects with the power of digital technology. This immersive feature invites players to consider the potential and ramifications of a technologically driven civilization while letting them explore the futuristic setting. Through exploring science fiction themes such as artificial intelligence, transhumanism, and the nature of consciousness, Cytus encourages players to consider the limits that exist between humankind and technology. Players are given an immersive experience that allows them to form a strong bond with the futuristic world of Cytus, through to the mix of an engaging story and dynamic gameplay.

The core idea of Cytus is a futuristic yet dystopian world, set in the 22nd century and told with elements of science fiction. Players are drawn into a world-building experience that highlights the dystopian science fiction storytelling in the game as they set out on the protagonist's journey. The plot of Cytus centers on a future world in which sentient beings—robots, actually—serve as the final living examples of the human spirit after a pandemic wipes out all human populations. But humanity persists in a distinct form.

The problem of limited storage space arises with the technology that may transfer memories to these robots, causing old memories to be overwritten gradually.

The robots transform human emotions into music and store them in the location called Cytus to preserve the vanishing human memories. These songs give the robots in Cytus a way to feel human emotions and cling to the idea that they are all made of souls. The dystopian topic of technological domination and its effects are portrayed in this plot. One of the best examples is the idea of mind transfer, which allows for transferring consciousness into a computer. It goes beyond the apocalyptic scenarios in which machines compete with people—in fact, in some scenarios, humans are gradually becoming robots.

A common theme of dystopian literature, such as Cytus, is the fear of mechanomorphism—the idea that people would eventually become machines—caused by autonomous technology (Beauchamp, 1986, p. 60). The transhumanist idea adds even more to Cytus'' immersive experience. Transhumanism is in line with the notion that technology may enhance human potential. According to Moravec (1990), advances in artificial intelligence and technology may make it feasible to transfer the mind from the brain into a new artificial body using computer code (Schmeink, 2016). Putting the mind within a synthetic body makes one wonder where the lines between technology and humanity should be drawn. By transferring human awareness into robots, Cytus explores transhumanism by obfuscating the line between humans and machines. Cytus encourages the players to contemplate the potential implications and moral issues surrounding the fusion of people and robots by exploring transhumanist concepts. The essence of human identity and what it means to be a person "trapped" in a body made of flesh and blood are discussed in this theme (Moravec, 1990).

As a reflection on the origin of consciousness and the moral issues surrounding the creation of sentient beings, the protagonist, Vanessa, initially exhibits no emotions. What it means to be conscious and sentient is questioned by Cytus's depiction of a character searching for her emotions or human-like attributes. Are machines inherently incapable of feeling, or are artificial entities capable of acquiring awareness and subjective experience of their own?

Vanessa realizes a sobering fact as she finally comes to terms with her feelings and memories: the Operators have created a robot and implanted a human consciousness within a robotic body. She is overcome with tremendous melancholy upon realizing that she has outlived all her loved ones.

Cytus helps highlight the interconnection between science fiction and technology. One inspires the other, usually creating a breakthrough in the fictional world, possibly leading to an actual adaptation of real-life technology. It is illustrated in the recurring concept of artificial intelligence (AI) in Cytus' story. At its release, the advanced AI depicted in Cytus seemed purely fictional, existing solely within the game's narrative. However, with rapid advancements in AI technology today, the world is witnessing AI systems becoming increasingly sophisticated and capable, mirroring the futuristic visions once imagined in Cytus. This blurring of boundaries between fiction and reality underscores the profound impact of science fiction on technological innovation.

## CONCLUSION

Science fiction is a literary and narrative approach to envisioning the future. Science fiction and its adaptations are works influenced by technological advancement during the Industrial Revolution. Conversely, it also influences the emergence of new inventions many years later. One notable example is found in the iconic Star Trek movie series, which famously introduced the concept of handheld communication devices resembling modern cellular phones. Another example is Mary Shelley's seminal work, Frankenstein, which brings up the concept of using electricity to animate or revive life. It also becomes a compelling instance of science fiction inspiring real-world innovation: the defibrillator—a life-saving medical device. Shelley's exploration of galvanism or use of electricity to stimulate muscles, laid the groundwork for later developments in medical science. Today, defibrillators play a crucial role in emergency medical care, demonstrating how speculative fiction can spark advancements in life-saving technology.

Furthermore, William Gibson's science fiction novel Neuromancer popularized the concept of cyberspace, a possible inspiration for the development of the internet. Gibson's vivid depiction of a

virtual reality network known as the Matrix resonated with audiences and contributed to discussions about the future of digital connectivity.

An interconnection between science fiction and technology exists, as they mutually inspire each other. Science fiction works are not necessarily theoretical and fanciful, yet they may come true at some time with certain consequences. On one hand, science fiction has brought advantages to society because its invention has made human life easier. On the other hand, it also harms society because the narrative depicted there gave people hope that anything is possible, and it caused people to begin experimenting with things to prove that theory, which may endanger not only themselves but also those around them. Whereas some science fiction works seem plausible, others are dangerous to attempt.

H.G. Wells' novel *The World Set Free* (1914) is a chilling example of fiction inspiring the development of destructive technologies. Wells' narrative envisioned a world where atomic energy was harnessed for destructive purposes, indirectly inspiring the innovation of the atomic bomb. Within science fiction, there is a concurrent investigation of technology's transformational and uplifting potential, together with a critical analysis of the errors that have led us to this place. At times, we are attracted to and repulsed by the violent parts of the technology we use. While science and technology astonish and enthrall us with their beauty and power, they also raise concerns about the potential harm they may cause to people, society, and civilization.

In addition, it could be seen that both technology and literature, especially science fiction, have a huge impact on each other's development. In the case of cyber literature, the invention of cyberspace (believed to be inspired by science fiction work like Neuromancer) has pushed many writers to develop cyber literature as a new genre of literature. The final result of the massive demand for this cyber literature then again inspires a new kind of technology to facilitate both the reader and the author to read and create their work of literature easier and better than before.

Furthermore, Rayark's music rhythm game, Cytus, explores societal concerns about the advancement of autonomous technology and the concept of mechanomorphism. Its depiction

of advanced AI seemed like pure fiction confined to the game's storyline when it first came out. With AI technology advancing rapidly, we are seeing AI systems that resemble Cytus' futuristic vision. This blending of fiction and reality shows how much speculative narratives can influence real-world technology. So, it can be concluded that since the past, technology and literature have always inspired each other, and always will.

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