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The Fear of Things to Come

Science Fiction Before and After World War II

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Ever more increasingly the human experience, is intimately tied to our technology. From smartphones to surveillance states the technology we use permeates our lives. As the nature of our technology changes our relationship with it shifts from suspicion to assured and back again. These shifts are responses to new inventions, social movements, and great conflicts. This paper will explore the intimate link between a society's relationship with technology and how this relationship manifests in the science fiction literature produced by that culture. We need to define science fiction in order to constrain what literature will be addressed in this paper. Science fiction is necessarily a manifestation and extension of a collective understanding of the material world. It is built upon this understanding and when it does contain fantastical elements, like seemingly magical technologies, they are derived from scientific advancement and super intelligent alien species as opposed to gods and ghosts. In this way we can differentiate science fiction from its cousin fantasy. The worlds of these two genres are built upon very different foundations: science fiction takes place in settings built by super intelligent entities and robots while fantasy depends on magic or supernatural forces, often outside of mortal comprehension. As such, science fiction of this form can only begin to exist when individual people see significant change in their quality of life due to advances in the understanding of the natural world. Industrialization was a necessity for the genre to exist. The canon of science fiction literature typically is thought to begin with Mary Shelly's Frankenstein in 1818 (Asimov, 1981). From this starting point I will take a broad overview of the fiction written before, between, and after the World Wars and attempt to characterize these different periods of fiction and find the ways that they are reflective of the anxieties and attitudes of the time.

The works of Jules Verne and his contemporaries provide insight into the attitudes towards technology that were common before the first World War. Verne's "great voyages" of the latter half of the 1800s are emblematic of the fiction of the period. 20,000 Leagues Under the Sea (1870) features the voyage of the Nautilus underneath Earth's Oceans, where it encounters wonder that range from

the lost city of Atlantis to the Transatlantic telegraph cable. The journey undertaken would not have been possible without the submarine and technology is seen as a vessel for human progress, with Captain Nemo using the sub explicitly to escape from the current world. For Captain Nemo, the *Nautilus* can be seen as a private utopia, made possible only through technology. Scientific advances are portrayed in a positive light, enabling Nemo to escape a more brutal world and acting as a catalyst for the unbelievable voyage undergone in the novel. Verne continues the theme of exploration and adventure in *Around the World in 80 Days* (1873). Although not as explicitly a work of science fiction like 20,000 Leagues Under the Sea, since nearly all of the technology on display is contemporary to the novel's writing, it fits well with his other work during this time. The novel is centered around the prospect of circumnavigating the world, faster than ever before possible thanks to new advances in railway and seafaring technology. Verne once again weaves optimism and his positive view of the new industrial world throughout, with the main source of conflict coming from a case of mistaken identity.

Journey to the Center of the Earth (1864) is less an explicit display of technology than Verne's other work; a German scientist, his nephew, and their Icelandic guide Hans travel into the volcanic tubes beneath the Earth's crust. While travelling from Iceland to the Stromboli Volcano in Italy these companions encounter an underground world populated by prehistoric creatures; herds of Mastodons, fighting Plesiosaurs, and giant primitive man all live beneath the Earth. Many of the prehistoric creatures on display hadn't been discovered until 50 years prior to the novels publication, making Journey to the Center of the Earth just as much about the increasing rate of scientific knowledge being acquired as any of his other works. Verne continues these themes in other works like Five Weeks in a Balloon (1863) and From the Earth to the Moon (1865), featuring more explorations of the relatively unknown (at the time) continent of Africa and a journey to the Moon. Technology is at

the forefront of all of Verne's work, from the futuristic *Nautilus* to the extensive display of industrial-era transportation in *Around the World in 80 Days*.

Verne was not the only writer to imagine a utopic future in thanks to technology and industrialization. Edward Bellamy's *Looking Backward 2000-1887* (1888) and its sequel *Equality* (1897) both envision a future populated with electronic payment devices, analogues to the modern television, flying cars, and massive stores (such as Costco) where scarcity and war have been eliminated. More than 160 works of utopian literature were made between 1800-1887, and another 160 between 1888-1895 (Sargent, 1976). Verne and his contemporaries send a clear message in their work during this period: great inventions lead to great triumphs. Whether the realization of a socialist utopia or merely a great adventure, technology is the common thread tying all these achievements together; the industrial revolution is just a stepping stone to a better tomorrow. Man is capable of building a future based on science and reason that is free of war and poverty.

Not only is the fiction of this period often overtly optimistic about the industrialized future, it often closely mirrors contemporary science. The vessel in 20,000 Leagues Under the Sea, the Nautilus, gets its name from one of the first ever working submarines. Mirroring modern developments, the Nautilus is a natural evolution of the H.L. Hunley (very similar to a modern submarine in function) by the Confederate States of America in 1863. Journey to the Center of the Earth is also closely in line with contemporary technologies. The heavy use of train and steamboat travel is reflective of the explosion of those industries in the second half of the 19th century. Verne's exploration of aviation in Five Weeks in a Balloon and From the Earth to the Moon are also responses to the emerging fascination with manned flight which would come to fruition in the early 20th century with the first flight of the Wright Brothers and later the weaponization of airplanes in World War I. Even his least technologically focused work, Journey to the Center of the Earth, is closely tied to advances of the day; the first half of the century saw an explosion in paleontology, especially in

England (Benton, 2000). This close adherence gives much of the science fiction written before World War I a more practical feeling than the increasingly fantastical stories written after World War I. This mirroring of the technological reality of the time is indicative of the perception that these advancements would not just bring a better society, but that the society was near at hand. Utopia was not a far-flung ideal, but an imminent reality. Each of these works is a celebration of these advances, praising them as vehicles which help satiate the human appetite for wonder and improve the quality of life for all.

The fiction after the first World War takes on a distinctly pessimistic tone compared to the fiction produced before the war. World War I demonstrated what else technology was capable of: Verne's submarines and expeditions are replaced in the public consciousness by mustard gas and machine guns. "Exotic weapons" became popular during the interwar period (Fanning, 2010), chief among them the Death Ray. It took on many forms, from a small handheld device that could disintegrate people to larger cannon-like devices used to remotely detonate explosives, and even massive mirrors that orbit the Earth, focusing the Sun's rays on hapless targets below. A revealing divide arises in fiction surrounding the death ray. In much of the American canon, namely in comics like Flash Gordon (1934) and Buck Rodgers (1928) the death ray is utilized primarily by villains, typically mad scientists. Similarly, the British film Q Planes (1939) features Laurence Olivier as a fearless pilot saving fellow pilots capture by Germans armed with a death ray. In these cases, the death ray is used as a tool by malevolent forces.

The Germans envision a different outcome, with several works during the 1920s exploring a world in which Germany uses a death ray-style device to reclaim their strength following World War I. *The Flight to the Sun* (1926) envisions Germans, armed with a death ray capable of disabling aircraft and forcing them to land, allowing Germany to defeat France in a new war without having to kill a single enemy combatant. *The Hour of Revenge. England's Fateful Day: A Picture of the Future* (1922)

imagines a Germany occupied by the victors of the first World War, but a daring German war veteran and his Austrian friend use a death ray to liberate their homeland. *Flames from Space* (1927) also imagines a victorious Germany defeating France, but this time their death ray is a massive satellite equipped with a mirror to redirect the Sun's rays. The German army itself is armed with death rays in *Humanity* (1923) allowing them to defeat the rest of the world's military forces. There are many more examples of similar portrayals of the death ray from Germans throughout the 1920s (Fanning, 2010).

American fiction views the death ray as an afront to their way of life, an obstacle to be overcome by heroes. The German death ray, however, is more revealing. Technology, in this case symbolized by a death ray, is seen as a path to salvation for Germany. Their reverence for the death ray is reminiscent of the fiction before World War I in its use to build a better world, but different in the inherently violent nature of that usage. This reverence for war making technology would later be reflected during the outbreak of World War II, when the German's effective use of technologically superior tanks and the Luftwaffe allowed them to win many quick victories in the first years of the second world war.

The trend exemplified by the death ray, where one piece of technology becomes the singular focus of many works, occurred throughout interwar science fiction. Robots are an additional example of this phenomenon. The term "robot" itself was coined during the interwar period, first appearing in Karel Čapek's 1921 play R.U.R. (Rossum's Universal Robots) (Asimov, 1981). Even in this early imagining of the robot¹, which would come to dominate science fiction to the modern day, they are treated with the same mistrust that most technology is subject to during the interwar period. In the play robots eventually revolt against the humans, killing nearly all of them. Other robots

<sup>&</sup>lt;sup>1</sup> Though Capek's robots are beings of flesh and blood, they serve nearly identical roles to their mechanical counterparts of this era.

appear later in this period. The iconic Maria from Thea Von Harbou and Fritz Lang's *Metropolis* (1927) is perhaps the most recognizable robot in science fiction. Throughout the film Lang and Harbou portray the robot as a source of disruption, at times causing people to murder one another and constantly trying to subvert efforts to overthrow or change the highly industrialized society in the city. Ming the Merciless' Annihilants from *Flash Gordon* (1936) are another example of robotic minions used for a sinister purpose. Robots would appear with increasing frequency as the second world war approached appearing in science fiction magazines like Astounding Science Fiction. Like the death rays of American and Western European fiction, robots are frequently portrayed as a destructive force, antagonistic to humanity and often enforcers for a malevolent entity.

Another notable development in fiction after the first world war is the rise of dystopia. In a stark contrast to the works of Verne, a wave of literature deeply suspicious of technology emerged shortly after the end of the war. Eugene Zamyatin's We (1921) was one of the first dystopias to envision a future built on similar ideals to those celebrated by Verne before World War I, but with a drastically different outcome. The United State (the governing body in Zamyatin's novel) rules over a surveillance state where reason and logic are held as noble virtues. All people are referred to by assigned numbers (our protagonist has the designation D-503) and everything is strictly regimented, with each citizen only receiving an hour of scheduled privacy each day. Zamyatin fears a world too enamored with purely scientific values. At one-point D-503 laments that "it didn't enter the heads of all their Kants to build a system of scientific ethics, that is, ethics based on adding, subtracting, multiplying, and dividing" (Zamyatin 14), a view challenged throughout the novel in its grim portrayal of a future without any "Kants". As rebellious notions develop in the United State the government declares a mental disease called a "soul" is infecting the citizenry, which is later removed using the Great Operation rendering people emotionless and compliant. Even the name of the spaceship that plays a central role to the plot's name is a parody of Verne-esque optimism:

dubbed *Integral* this rocket ship is not bringing explorers to the moon but is rather a tool for the United State to colonize other worlds and bring them under their rule.

A decade later Aldous Huxley wrote *Brave New World* (1932), heavily influenced by Zamyatin's *We*, it is perhaps the most recognizable dystopia of the interwar period. In it a global government called the World State rules the world with seeming benevolence. The World State utilizes sleep learning, the drug Soma which induces a state of euphoria, and embryonic alterations to enforce a strict caste society in which everyone is content with their position in it. The very foundations of the novel are built upon technologies all emerging at the time of its inception: the sleep learning mirroring psychological work being done by the likes of Pavlov and his contemporaries and the embryonic manipulation mirrors the rise of eugenics in America. Unlike Verne, these technological advances are not seen as the path to a free, adventurous utopia but as a means of control. The Soma is emblematic of the growing vision of man as subservient to our own technology that was seen in the strict regulation of schedules in *We. Metropolis* also imagines a future of subservience to machines, with the working class forced to live below the city and work tirelessly at the Heart Machine in order to eke out an existence.

The fear of another devastating war is laced throughout the fiction of the interwar period. The dystopias in *Brave New World* and *We* have both risen from a cataclysmic conflict: The Two Hundred Year's War and the Nine Year's War respectively. *Metropolis* also portrays a struggle between the wealthy and working classes. This idea of an imminent, and even more devastating, war following the end of World War I is consistent with the massive discussions throughout the interwar period centering around how and when the next war would come (Fanning, 2010).

Throughout these dystopias the heroes of the stories show a consistent desire to return to the past, a return to an idyllic society before World War I. John the Savage in *Brave New World* is not a member of the World State, adhering to "primitive" ideals like the sanctity of sex and the necessity

of pain. He spends much of his time abhorring the new technological advances like Soma, all the while quoting Shakespeare throughout calling to a classical (and distinctly non-technological) past. In *Metropolis* Maria, and to a lesser extent Freder, also represent a previous, idealized society. Imagery throughout the film shows Maria surrounded by children, enforcing the traditional role of women as caregivers, while Freder rebels against his father, who is representative of the industrialized society upon which *Metropolis* is built. This desire to return to a past state is reflective of the emergent anxiety following World War I that technology may not be an inherent source of positive progress

Like the fiction before World War I, much of the science fiction written during the interwar period attempts to adhere to contemporary science, but it begins to take on a more fantastical element. Most notably, the claimed invention of a death ray by British inventor Harry Grindell Matthew's in 1923 precedes most of the fiction about the subject in Europe and America, as well as a large number of other inventors and amateur scientists claiming they had invented similar rays. Experiments at Hillersleben by Nazi scientists during the second World War revealed an attempt to construct a massive orbital reflecting dish similar to the one portrayed in *Flames from Space* (Fanning, 2010).

It is important to recognize the work being done in science fiction, and popular publication on general science produced during World War II. The Office of War Information (O.W.I.) began publishing propaganda as the United States entered the war and was the chief producer of war-time information in the United States from 1942 until the end of the war. Employing a large number of advertisers by 1943 the O.W.I. would shape public perception of what the post-war world would bring. Promises of non-spoiling food, atomic power, flying cars, TV shopping, and robotic servants were pushed on consumers throughout World War II (Sandels, 1986). Meanwhile, the Golden Age of Science Fiction brought forth a new wave of technically literate science fiction. John Campbell,

editor of *Astounding Science Fiction*, brought together writers like Arthur C. Clarke, Robert A. Heinlein, Isaac Asimov, and many more who had previous scientific training to begin writing a canon of science fiction (Asimov, 1981). This revival of positivity in both popular science and science fiction can be attributed to a few things; the propaganda was simply a desire to garner further support for the war, while the Golden Age comes on the heals of the New Deal and a sudden uptick in quality of life. This brief revival of positivity would not last — the promises made by the Office of War Information could not be kept. The flying cars never arrived. Instead the public would experience a fatigue with technology and utopia shortly after World War II.

After World War II science fiction exploded in popularity and volume. New, younger writers who would've written for romance, mystery, or drama periodicals before the war, began to write science fiction whose readership remained steady after World War II (Asimov, 1981). The rise of movies and television granted another medium for science fiction. The content of the fiction also began to take on a new form, focusing less and less on practical technologies and death rays. A more human angle is approached in the fiction, asking about society from a more sociological perspective rather than a purely technological one. The fiction looks farther forward into the future as well, and the concept of the alien invader comes in full force. This increase in volume presents a challenge: the science fiction written after WWII is harder to characterize effectively. While consistent themes exist throughout the fiction produced before the second World War, the content produced afterwards is much more variable. Nonetheless it is still distinct from its interwar counterparts, showing a new dismissal of technology altogether and a new search for meaning in the face of the greatest existential threat: the atomic bomb.

A recurrent theme throughout science fiction created after World War II is extraterrestrials coming to Earth, either to invade or to educate. In movies and novels like *Invasion of the Body*Snatchers (1956), The Puppet Masters (1951), and I Married a Monster from Outer Space (1958), alien

invaders come to Earth to possess humans. In *Invasion of the Body Snatchers* and *I Married a Monster* from Outer Space, people in small towns in America are replaced systematically by emotionless aliens. Similarly, The Puppet Masters envisions alien slugs arriving on Earth and controlling the minds whomever they encounter. The alien invaders here align closely with the anxieties produced by the red scare sweeping across America, with the aliens taking the place of communist "invaders" as American citizens are converted to unfeeling shells of their former selves. The invasions of these aliens are systematic of the fear that American citizens were joining communist parties, or that Soviet spies had infiltrated the country. People lived in fear that their neighbors and loved ones weren't who they said they were. This fear was what created the sub-genre of body snatching aliens. These works move away from direct commentary on our relationship with technology, leaving room for a new perspective. The science fiction written after World War II becomes increasingly concerned with contemporary social issues, and less worried about a society's relationship with specific pieces of technology.

Alien invaders aren't always here to control the population, sometimes they are simply here to wreak havoc. In *The Blob* (1958) a strange lifeform falls from the sky and begins to expand, consuming anything and anyone in its path. By the end of the film they have exiled the Blob to Artic circle where it cannot harm anyone, but even this triumphant ending is tainted as the final title card morphs into a question mark. John Carpenter's *The Thing* (1982) also features an extraterrestrial invader which, like the Blob, consumes all the people it encounters. Like the aliens in *Imasion of the Body Snatchers*, it can also take on the form of creatures it assimilates. *The Thing* is emblematic of two themes throughout alien invasion fiction written after World War II: the uncertainty of identity that plagued Cold War America and the threat of humanity's destruction by nuclear war. The attack on small towns throughout America in many of these works is a direct parallel to the perceived threat communism had on the American way of life.

Extraterrestrials take on another role as well: guides for humanity. With the fear of nuclear war ever-present in the post-war reality, fiction searches for a solution to the deadlock between the Soviet Union and the United States. While some found our demise inventible, other envisioned a guiding force that could save humanity. In The Day the Earth Stood Still (1951) the alien Klaatu and his robotic companion Gort arrive on Earth to deliver a message to all of Earth's leaders. Humanity is presented with a choice: continue on their current trajectory or be annihilated. Asimov's Foundation trilogy envisions another society on the verge of collapse. The galactic empire is failing and in order to preserve civilization the Foundation is founded on the edge of the galaxy to preserve knowledge and guide humanity out of the coming age of darkness. Likewise, Clarke and Kubrick's 2001: A Space Odyssey (1968) prominently features great obelisks placed throughout our solar system which act as guides to humanity's evolution. The first obelisk is found by a tribe of apes in Earth's prehistoric past and shortly thereafter the tribe begins to use tools and human evolution accelerates. The next obelisk is encountered at the dawn of the space age spurring an ill-fated voyage to Jupiter. At the end of the film a new entity is created to oversee humanity. Clarke's sequel, 2010: Odyssey Two (1982), and its film adaptation 2010: The Year We Make Contact (1984), makes this theme more explicit. During the height of the Cold War, a joint Russian-U.S. mission is sent to Jupiter to ascertain the fate of the Discovery (the spaceship from 2001). The film culminates in Jupiter's metamorphosis into a new star and the message "ALL THESE WORLDS ARE YOURS...USE THEM TOGETHER USE THEM IN PEACE" is broadcast to Earth. This prompts American and Soviet leaders to broker peace. In each of these instances humans are seen as in need of shepherd to prevent them from succumbing to their own destructive nature. The Cold War and the ever-present threat of the bomb is sewn into the fabric of all the fiction of this era, often presenting the necessity of a guiding force to prevent humanity's demise.

A change in dystopian literature also occurs after World War II. Orwell's 1984 (1949), written shortly after the war, reveals a new view on how a future dystopian society could be constructed. The country of Oceania is a single-state totalitarian society, with a strict divide between the "proles" who make up the numerous working class and party members who participate in running the government. Unlike the dystopias of the interwar period, there is almost no emphasis on the technology of Oceania. Instead the threat of violence and social pressure is seen as enough to maintain control, dismissing the need for Huxley's fetal alteration and Zamyatin's great operation (which was said to cure the "soul" infecting members of the United State). As is characteristic of other fiction written at this time, technology itself is no longer at the forefront. In Orwell's world mankind has created their own dystopia and the comparative lack of futuristic settings and technology throughout this time period of fiction present a future born of devastation, rather than scientific advancement.

To get a glimpse into this more humanist approach we can compare the use of robots: Asimov's short stories and novels written before and during World War II with more modern imaginings of robots and androids like in *Blade Runner* (1982) and *Ex Machina* (2014). Asimov's novels and short stories treat robots as distinctly separate from humanity. His three laws of robotics<sup>2</sup>, which dictate what every robot can and cannot do, are essential to this distinction as an intelligence with inbuilt restrictions cannot be considered human-like. Instead of examining the potential humanity of his robots Asimov examines the consequences of this new piece of technology by addressing the consequences of his three laws and the role that robots would play in human society's development. The portrayals of artificial intelligence in more modern works are

<sup>&</sup>lt;sup>2</sup> His laws are as follows: (1) A robot must not injure a human being, or through inaction, allow a human being to come to harm. (2) A robot must obey the order given to it by human beings except where such order would conflict with the First Law. (3) A robot must protect its own existence as long as such protection does not conflict with the First or Second Laws.

inward looking. The chief question for the replicants in *Blade Runner* and the robot Ava in *Ex Machina* is whether or not the robots are human and what that would mean. This evolving view of robots mirrors an evolving view on technology and its purpose after World War II. While Asimov's robots are reflective of the technology-centric concerns of the interwar period (and during WWII as well), more modern visions are consistent with a broader existential fear. Science fiction began to question the nature of mankind as a whole, not just the nature of our technology.

Throughout the post-war fiction paranoia comes to a fervor, and it can all be traced back to the dropping of the atomic bomb in 1945 by the United States and later the Soviet Union's first test of their own bomb in 1949. From impending threats presented in *The Blob* and *Godzilla* (1954), to more existential threats such as the aliens in *Invasion of the Body Snatchers*, the era is characterized by a turn away from the technological emphasis that dominated the fiction before World War II. The rise of anti-intellectualism following the Second World War can be linked to this absence of technology and science. The science fiction is reflective of a broader cultural attitude and is a powerful tool in tracing the source of these anxieties.

Science fiction provides a guide to societal attitudes towards technology from enamored, to distrusting, and eventually horrified since its inception in the 19<sup>th</sup> century. It is an excellent diagnostic tool which allows us to gain a more complete picture of a society's relationship with its technology. It allows us to observe morphing perspectives after each World War, which in turn reveals what more recent science fiction says about current perspectives on technology. Films like *Her* (2013) and *Ex Machina* present new perspectives on distinct from those before World War I, the interwar period, and after World War II. Technology is pulled to the forefront once again like the fiction before World War II but it takes on a distinctly human form, where the lines drawn between technological intelligence and human intelligence are all but eliminated. The artificial intelligences are portrayed as objects of affection, and the audience is forced to question the validity of these

relationships, something that is scarce in works more closely surrounding World War II. Looking forward, science fiction will continue to be a vital lens through which to view our relationship with technology, revealing our collective anxieties and the fear of things to come.

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