From fiction to reality

-What we can learn from urban environments out of science fiction film-

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Abstract

Film can be more than just entertainment for architects and designers. It serves as a platform for experimentation and inspiration, particularly in science fiction where futuristic urban environments are often depicted. These depictions offer various scenarios from which we can learn, as our world and views on urban environments continue to evolve. Science fiction presents us with fictional scenarios that allow us to experiment with newly discovered ideas, aided by advancements in technology that facilitate larger and more complex structures.

While we currently experiment with vertical expansion, science fiction has already explored other forms of urban expansion where we can make an analysis of. These new inventions not only transform our physical environment but also have a profound impact on our social environment, creating utopian and dystopian settings that offer us the opportunity to consider positive and negative influences.

While it's unclear whether science fiction's speculative predictions will come to fruition, it is worth considering and using the knowledge gained to improve our own world.

Keywords: Architecture, Science Fiction, Film, Design Fiction, Future Studies.

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1. Introduction

New technology enables us to come up with new ideas and inventions that shape our society. In architecture and urban planning, the use of new materials and technology opens possibilities to create buildings with larger scales and more complex shapes. Scientific breakthroughs in the built environment have led to the awakening of new building designs and urban planning methods in the past and will continue to do so in the future. Technology makes the ideas become reality, but in most cases the idea of the design came about long before the technology was available to build it. We need people to generate innovative design ideas so that the necessary technology can be developed accordingly.

"Imagination is the beginning of creation. You imagine what you desire, you will what you imagine and at last you create what you will." (George Bernard Shaw Quotes, n.d.).

Imaginations, stories, dreams, and film have been instrumental in providing a platform for new ideas to flourish without having to create them in our own world. No one can know what the future will look like which leaves room for imagination and experimentation. The film industry is not tied to any truth or boundary and is often one of the most creative industries when it comes to discovering innovative ideas that no one has ever dared to imagine. The industry relies on new, out of this world, ideas to keep its audience captivated and to invent new story lines to create films around. In this thesis we will look at what we can learn from the films, in particularly science fiction films as they remain close to our current scientific knowledge which makes its stories more plausible. Thoughts about futuristic cities and architecture combined with the complex social environments that play out within will be food for thought throughout the thesis. For this thesis, the role of science fiction films will be explored to understand their role in contemporary and future architecture. The following research question can be formulated: What have we learned from science fiction film and

what role does it serve for our future urban environment? First the influence of film and the connection towards design and our urban environment will be explained by elaborating on the characteristics of science fiction as a medium. After it is established why science fiction is important for our futuristic urban environment some examples of science fiction scenarios will be described and what positive and negative aspects, they might carry with them. This is done by splitting the research up into different chapters that explain the different scenarios in a continuous and self-expanding manner.

2. Influence of film

For a long time, there has been a strong connection between architecture and film as both provide a platform for architects to showcase their designs while also adding personality to the spaces they depict. Designers are given considerable creative freedom through the use of film, as they can establish their own guidelines. Fictional films take this freedom to an even greater extent by breaking free from reality and opening up a limitless world of creativity, offering opportunities for fresh perspectives and original ideas. Within the genre of science fiction, designers have the chance to explore a balance between imaginative freedom and scientific credibility.

"Science fiction, abbreviation SF or sci-fi, a form of fiction that deals principally with the impact of actual or imagined science upon society or individuals" (Sterling, 2023, p. 1).

"Science fiction, often called "sci-fi," is a genre of fiction literature whose content is imaginative but based in science. It relies heavily on scientific facts, theories, and principles as support for its settings, characters, themes, and plot-lines, which is what makes it different from fantasy" (Literary Terms, 2023, p. 1)

Based on the definitions of science fiction one can say that in essence science fiction is a way to explore the possibilities of the future and the challenges that lie ahead, as well as a way to reflect on the present and the past through the lens of speculative storytelling. Even though science fiction is based on suggestion and speculation it does "follow the utopian impulse that is the desire to better society in order to attempt to eventually achieve a state of utopia" (James, p. 12). A utopia is "an imaginary place or state in which everything is perfect" (Oxford Learner's Dictionary, 2023). The question that arises is, perfect according to whom? The definition of a perfect world varies from person to person but more importantly it is a

reflection of time. The same can be said about the opposite meaning of a utopia, a dystopia, which can be defined as "an imagined state or society in which there is great suffering or injustice, typically one that is totalitarian or post-apocalyptic" (Oxford Learner's Dictionary, n.d.). The way a utopian or dystopian future is portrayed, has changed during the course of time according to newly found believes, experiences or discoveries.

"Since our mundane future will be so decidedly urban, it is no surprise that the science fiction imagination has generated cities by the bucketful" (Abbott, 2016, p. 11). According to (Ritchie & Roser, 2018), more than half (55%) of our population live in urban settings and this number will continue to grow in the future. The urban environment and its architecture serve as a background and setting for the story and is a direct reflection of the society the story portrays. The syllogism used by (Abbott, 2016, p. 11) sums up the importance of the urban environment in science fiction film:

Science fiction is about the future.

The human future will be urban.

Therefore, science fiction should be about urban futures.

3. Structure

Now that we have recognized the importance of architecture in film and the potential of science fiction as a tool to visualize new urban landscapes, we can begin to look at some examples from science fiction films. Karl Gajdusek, writer for the film *Oblivion* (2013), considers the five pillars of science fiction to be: alien contact, artificial intelligence, technological breakthroughs, space exploration/adventure and origin stories (Căplescu). For this thesis the focus lays on the artificial intelligence and technological breakthroughs as they have a more direct relation to our built environment as we know it. The book of Carl Abbot (2016), Imagining Urban Futures, focusses mainly on the effects of technological breakthroughs and serves as a theoretical guideline for the structure of the thesis. The book is divided into eight chapter that go into detail about the futuristic city and how life in futuristic cities would be like. At first the futuristic city is envisioned as physical objects that forms a container for new technologies and can become a mega machine. The following two chapters look at the city as a social environment while its physical character still remains important. The variety of catastrophes that can threaten and undermine metropolitan life and stories about post-apocalyptic worlds are mentioned in the chapters that follow. The final chapters focus on the city as a social and economic community, where the human perspective is most important. In this thesis the technological and social influences are investigated and supplemented by using as many sources and examples as possible that are not yet mentioned in Carl Abbot's book. In this way an attempt is made to supplement the views already made by Carl Abbot instead of repeating them and creating a continuous narrative.

4. Technological influences in the urban environment

The world as we know it runs on technology. It is the most important aspect of our lives as many use its features at work, for traveling or entertainment and to even stay alive for some. Our current technology is far from perfect, and its use is still becoming an increasingly bigger part of our lives. The technological advancement of today compared to the early 19th century is immense and it will continue to advance. Moore's law for example shows how every year our computing power doubles which provides a lot of freedom to create new technologies such as Artificial Intelligence, crypto currencies, 5G networks and VR / AR technologies.

"Moore's law is a term used to refer to the observation made by the late Gordon Moore in 1965 that the number of transistors in a dense integrated circuit (IC) doubles about every two years." (Gianfagna, 2023, p. 1)

All these technological inventions change the way we live our lives and therefor also has a big influence on our built environment and how we use it. One of the most prominent features of science fiction is the depiction of futuristic technology that is often a futuristic adaptation of real-life technology. For example, a car becomes a flying car and a phone transform into a handheld hologram. In most cases the amount of technological advancement shown within the film or universe is directly reflected back into its architecture. As an example, the film *Inception* (2010) includes familiar technology such as guns, cars, and phones that are used in our current time. However, in more futuristic films like *Ghost in the Shell* (2017) or *Altered Carbon* (2018), many aspects of the present day have been transformed into advanced alternatives. Technology therefore also gives an insight into the limitations of its applicability into the built environment.

Commuting and transportation

New ways of commuting have drastically changed our cities in the past. The emergence of the car has drastically changed the way we design our cities. When we compare American cities with European cities, we can see many differences in road networks. Because of the grid system in American cities, cars became the dominant means of transportation and are still the driving factor in designing new urban environments. European cities rely more on public transport and other means of transportation such as bicycles. According to the (Transportation Research Board National Research Council, 2001, p. 28), ''public transit typically accounts for 10 to 20 percent of urban trips in Western Europe, but only 2 percent in the United States''. These examples are only differences in the usage share of the different transport methods. Imagine what influences new modes of transport could have on the built environment of the future.

In films like *Blade Runner* (2017) and *Star wars* (2002), networks of flying vehicles that stretch through the sky can be seen. There are films where the vehicles resemble cars, while in others, they are more comparable to airplanes. Despite this variation, the city frequently accommodates them by incorporating some type of roadway infrastructure. With the flying car comes the ability to create skyways, highways through the sky.

Another form of futuristic transportation can be seen in *Minority Report* (2002) and *Total Recall* (1990), in which autonomous hovercrafts fly alongside a road system that resembles our current road system but shaped like a rollercoaster.

Flying cars depicted in Blade Runner (2017) *and Minority Report* (2002)*.*

Both examples show a completely different type of urban environment and distort our sense of what we know as a street. The concept of a street level becomes blurry, and the new skyways could completely reshape our traditional building layout of shops, residential and commercial areas. A lack of privacy and an increase in noise could have an influence on a building scale. The rollercoaster transforms the street as we know it today into an autonomous railway system of lanes that weave through the city. Traffic flows are separated, and streets would overshadow the activity on the street level. These topics may seem very futuristic but there are already companies emerging that are developing systems to make skyways work, like the company Skyroads.

Inhouse technology

The widespread adoption of personal technology has fundamentally altered our daily routines and the character of our homes. For example, the introduction of the television in the past resulted into a reconfiguration of living room layouts, with seating now oriented towards the television screen rather than towards each other. Similarly, the invention of the computer has brought us more opportunities and freedom but has also confined us to a single room where work, leisure, and information can all be accessed from a single device in

a single room. While this has enabled us to work remotely from virtually anywhere, the question remains whether technology is truly making our lives better or just easier. In the future, it is possible that the trend towards remote work will continue, with home offices becoming a standard feature of modern homes rather than a luxury reserved for upper management.

The rise of food delivery services has the potential to significantly impact kitchen layouts in the future. With more people relying on these services to provide meals, there may be a decreased need for certain appliances or kitchen features, such as stovetops, ovens, and even countertops. This could lead to smaller and more streamlined kitchen layouts that prioritize the essentials, like a sink and refrigerator, over more traditional cooking and preparation spaces. Additionally, there may be an increased need for storage space to accommodate the influx of delivered groceries and meal kits. Overall, the continued growth of food delivery services could have a lasting impact on the way kitchens are designed and used in the future.

As time passes, dystopian scenarios as portrayed in *WALL-E* (2008), are becoming increasingly realistic. In *WALL-E* (2008) residents of a spaceship are confined to their personal hoverchair, deprived of any physical activity and consequently become overweight. The film Idiocracy (2006)portrays an even more extreme scenario, where people become intellectually lazy and less intelligent due to the overreliance on technology.

More and more people are discovering virtual worlds which provide an opportunity to temporarily escape from reality and assume different identities. As virtual reality technology advances, we may soon find ourselves living in a world similar of the one depicted in *Ready Player One* (2018) where we will require additional space in our homes to accommodate our omnidirectional treadmills.
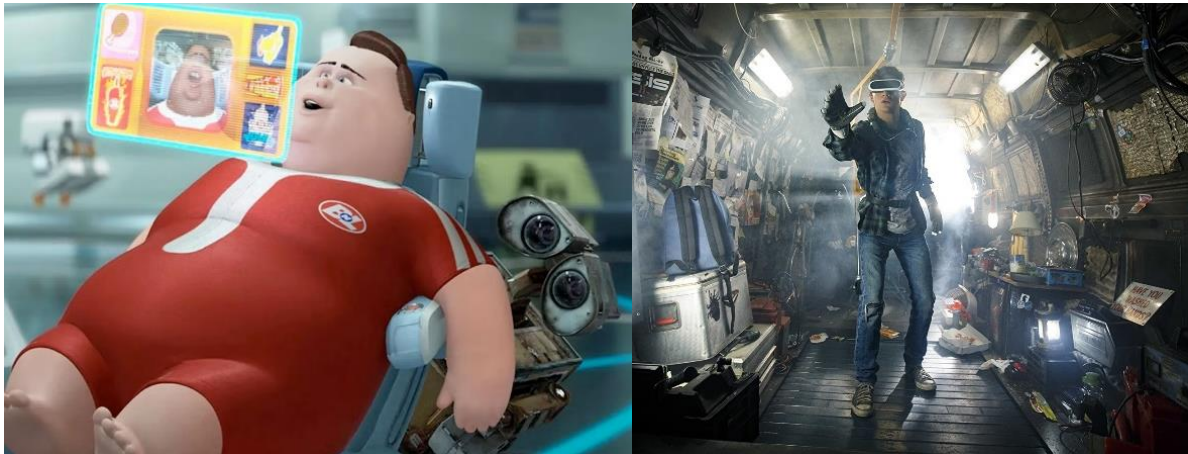
Humans as portrayed in WALL-E (2008) sitting in their hover chairs. The mean character, Watts, using his omnidirectional treadmill combined with a VR-headset to control his avatar in the game OASIS, Ready Player One (2018).

5. City expansion

Throughout the years mankind had to keep redefining the definition of the words we use to describe our cities. The word metropolis, "mother city" (Oxford Learner's Dictionary, 2023), originates from the ancient Greeks but they could have never imagined the scale of these urban environments as we know them today. Cities continued to grow and as a result stretched their borders until they no longer could because it was touching a neighboring city. The definition of the word metropolis changed to describe the whole urban conglomeration where in some cases neighboring cities almost became a district of their mother city. We are currently at a state where a lot of cities have been doubling their population over the last 50 years and we have entered the age of the megalopolis, "a number of large metropolitan areas that has a minimum population of 25,000,000 people" (Ross E. S., 2019). Predominantly Asian metropolises grew so unpredictably fast, that their population and city boundaries keep expanding at a rate which people from outside these cities can no longer phantom. Someone who is born and raised in Tokyo could potentially spend their whole life exploring the city and still discover new places, never running out of them.

Technological advancement in the construction industry have allowed us to let not only grow our cities outwards but also increase its density by building vertically. This new innovation has allowed us to build increasingly taller and complex buildings throughout the years. What once started with buildings consisting of a few stories high has already turned into structures of immense scale like the Burj Khalifa that reach up to 163 stories high. These vertical cities will keep emerging, because of the ongoing urbanization, and the limited space cities have to grow outwards. ''The only way is up'' will therefore serve as a rule when talking about futuristic urban environments. As we can see in some Asian cities, the continuous growth of the population combined with its vertical expansion leads to high rise structures with sub optimal living conditions. The apartments are sometimes no bigger than a prison cell and the residents often do not even have access to daylight in this single room.

An example of the living conditions of some people of Hong Kong that is becoming increasingly normal.

Some technological inventions like the flying cars previously mentioned in this thesis also strengthen the probability of the vertical city. Street no longer form a limitation for density because we can stack them on top of each other in the air. The streets transform the gaps in between buildings into a stacked and layered highway like the one we can see in

The Fifth Element (1997). This means that higher capacity buildings can be constructed without the city losing its functionality. Forms of futuristic ways of commuting are therefore often portrayed in large cities or vertical cities because the infrastructure of the city needs to maintain the balanced with its urban scale to strengthen the city's credibility.

Gaps in between buildings transforms into a stacked street for flying cars, The Fifth Element (1997).

Social hierarchy

When we look at science fiction examples of "megacities" we see a similar trend following the idea of the vertical city. In the film *Metropolis* (1927), Fritz Lang imagines a 21st century city with, at that time, undiscovered technological inventions like video calling, computers, cloning, and androids (Scaliter, 2014). The city of Metropolis consists of skyscrapers constructed out of stone that stretch far into the sky, dwarfing its residents. The architectural style used in the film reflects the time period when it was made but envision the skyscrapers from Fritz Lang like they look in our current time and one could say that he made a very sound prediction about the vertical city. When looking at today's social

hierarchy we can see that the social status moves into two directions. The value of someone's property often increases the closer someone lives or works towards the city center, and the cost of living at higher floors within a building is also typically higher. The reasons for this are often quite straightforward In Metropolis, Fritz Lang explores these themes of social inequality, exploitation and class struggle by comparing the extravagant life of the rich in their skyscrapers to the working-class people under earth's surface.

The film setting from Metropolis (1927), where we can see the towering skyscrapers on the left and the base of the skyscrapers where the working-class people live on the right.

The film *High-Rise* (2015) takes the whole concept of the urban social hierarchy and puts it in a single building. The 40-story high skyscraper is the epitome of modern living according to its architect Anthony Royal. The building follows a popular movement that has grown in popularity throughout the recent years, by designing buildings that have mixed-use functionally and almost function like entire neighborhoods or cities within themselves. The buildings contain office space, supermarkets and various other amenities that give the residents little to no reason to leave the building at all. While the whole concept of mixed-use building remains beneficent to some important factors such as a reduced environmental impact, increased sense of community and a better work-life balance, it also has its downsides. The film explores the struggles about resident becoming increasingly isolated

from the outside because of the lack of reason to go outside. The infrastructure in and around the building slowly starts to collapse which leads to discomforts between the upper and lower section of the building. Eventually things escalate further which prompts a class war through the whole building. The architect of the building lives at the top floor and is a part of his own experiment which should have been a "crucible for change" but instead failed horribly with him ending up being killed by one of the lower floor residents. Although the film is an exaggeration of current affairs, it still gives food for thought about how we want our mixed-use buildings to function. The benefits can still outweigh the potential hazards but we as a society are still responsible for them to take shape in a positive manner.

The 40-story high skyscraper and its rooftop garden, which is only accessible for higher classes, High-Rise (2015)

In the tv-show *Altered Carbon* (2018) we see a hyper futuristic world where the technological advancements have made it possible for people to store their memories in a chip like devices. These so called "cortical stacks" can then be implanted in a new body whenever the old dies. The technology means that anyone can live forever, but the technology is only available for the rich who are called Meths. As a result of this social separation between the lower classes and the rich classes the Meths became disconnected from the rest of the population. Consequently, the city they lived in became so separated

that the Meths decided to build their mansions in the sky and let the lower classes reside in the city below. These two different utopian and dystopian worlds are portrayed very differently. The city below shares similarities with the dystopian city portrayed in Blade Runner and Ghost in the Shell, the streets are dark and gloomy and contrasted with colorful holographic advertising and interactive artificial intelligence to bring the city to life. While the city feels alive and vibrant at first, one soon discovers that all this use of AI and color is just a cover to hide the depressing living conditions. The utopian world above the clouds where the skyscrapers of the Meths use organic and white features that sets the architecture completely apart from the one used in the city below.

The city down below where the working-class people live compared to the sky mansions of the Meths, Altered Carbon (2018)

Similar concepts of how social hierarchy can shape future societies can be seen in the film *Alita: Battle Angel* (2019) and *Elysium* (2013) where the rich once again take their homes to the skies to separate themselves from the working class. In *Alita: Battle Angel* (2019) the rich reside in a floating city called Zalem which has become inaccessible for the resident of the Iron city which lies below. The residents of Zalem often throw out their junk to the city below where some people use it as a resource to make a living. The film *Elysium* (2013) takes the concept a step further by creating a spaceship for the rich people who have

abandoned a by war and poverty ravaged earth. The space station Elysium is a ringworld that rotates so that it can simulate gravity. The space station consists like the skyscrapers in *Altered Carbon (2018)* of white and organic like structures but in this case also a lot of greenery.

Zalem floating above the Iron city where the fortunate reside and throw their junk down below into the scrapyards that surround the Iron city, Alita: Battle Angel (2019).


The surface of earth compared to the one on the Ring world of Elysium. Buildings on earth have fallen into decay while the structures on Elysium look very utopian and are surrounded by forests and greenery, Elysium (2013)*.*

Ecumenoplolis

When eventually our cities reach their maximum height capacity and our only option is to expand outwards again even disregarding forests, seas and mountains, the ecumenopolis is born. According to Wiktionary (2023), an ecumenopolis refers to a city that covers an entire planet. Although this concept has been depicted in only a limited number of films, it lacks an official definition beyond that found within the science fiction genre. Although the concept of cities spanning entire countries remains purely science fictional for many years to come, megacities like Tokyo make it easier to envision spending one's entire life within a single urban center. In *Return of the Jedi* (1983) the planet Coruscant makes its first appearance and shows us a planet wide city consisting of towering skyscrapers and eye catching landmarks that characterize the different districts that the planet is home to. The different districts within the city may offer a glimpse into a time when the planet was not yet completely dominated by man-made structures. It's possible that each city on the planet had its own unique architectural style, adapted to the specific culture or climate of the region. These distinctive styles can be observed in the architectural designs of the various districts within a city.
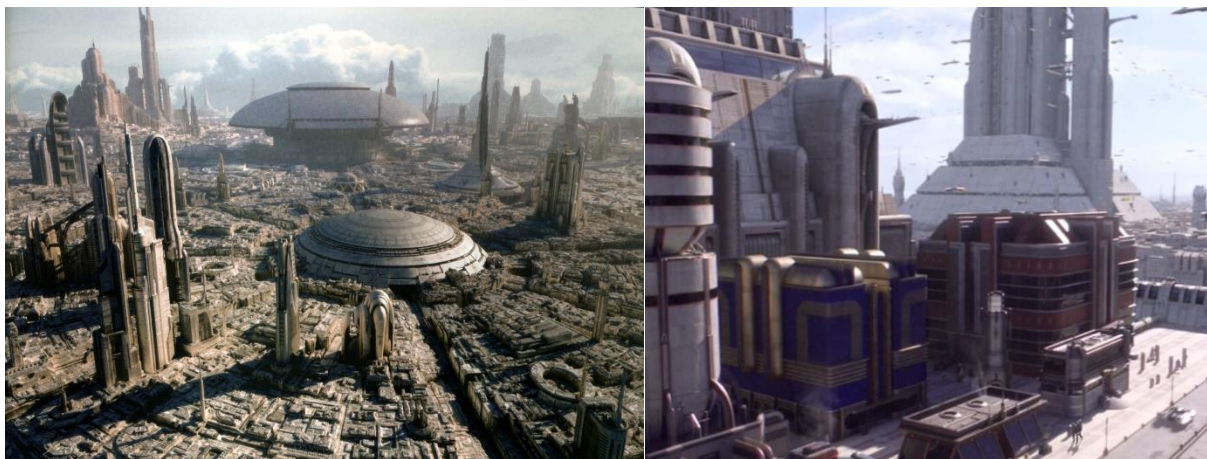
The ground on Coruscant is no longer visible and has been replaced by purely man-made structures as we can see in the Senate district and the Coco district subsequently, Return of the Jedi (1983).

In a few years from now we get to get a small taste of what it might be like to live in an ecumenopolis ourselves. A new project located in Saudi Arabia called ''The Line'', scheduled to be complete by 2030, is a step into the future. The projects feature a linear city that is 200 meters wide, 500 meters tall and 170 kilometers in length. The line will run on 100% renewable energy and 95% of the land will be preserved for nature. The scale of the project along its goals for sustainability, health and wellbeing are something of a scale we have never seen before and will change our look on future cities. The Line is not just a construction project of a building, it is the creation of a whole new city on a location where previously was nothing but sand, as it is in the desert. While the city is expected to accommodate 9 million people it could essentially keep expanding until it reaches an obstacle which cannot be overcome. The current design already cuts through difficult terrain such as mountainous areas that are in the Tabuk region. The project is a prime example of how new urban environments can change based on new views and discoveries. The fact that a linear city like, The Line, would be among one of the healthiest places to live could no one have predicted some 30 years ago.

6. Machine city

Cities of the future will have to be more sustainable and comfortable than ever, and this will not be possible without using new technology. Throughout the years we have seen an increase in machinery to make our lives and our homes more comfortable. The technology has shaped our lives and buildings so much that we have become dependent on to sometimes even fulfill our most basic needs. Our buildings have almost become colonies on Mars where machines of all kinds regulate air quality, temperature, and humidity levels. A colony on Mars works and acts like a machine to keep its residents alive, but what if the machine stops working? A Martian colony would be doomed but would the impact be as great for our own cities? What happens when entire cities get cut off from gas, water and

electricity? Although the scenario on Mars would be far more complicated than a scenario on earth, it could still be quite a scary concept for our own economy and therefore our planet.

When we consider our city the be the machine and its residents its users, we can also look at how we are impacting the city by using it the right or the wrong way.

7.   Utopias and dystopia's

Science fiction presents us with futuristic scenario's that come in all kinds of forms and shapes, where the viewer can decide for themselves whether it is positive or not. These new scenario's offer us new ideas and creative throughs for us to pursue and chase or stay as far away as possible from. It is a creative playground of future settings. Throughout the thesis there have been examples from science fictional films that one could consider utopian or dystopian scenarios, but this could be different for many people. Some people might consider living in a large city a dystopian setting while others could even think about living in a cabin in the woods by themselves. Even with all these different views, science fiction films have some basic utopian principles that most people could agree with. A few examples of characteristics that a utopian world might have been equality, peace, prosperity, freedom, justice and sustainability (Miame Dade College, 2019). Alongside these features of a utopian world, we would need the correct special characteristics that go along with them to allow for it to happen. Free and prosperous worlds are often shown with having a lot of parks or greenery, luxurious materials and predominantly white buildings with lots of glass to let in light. The city depicted in the film *Tomorrowland* (2015), is a great example. In the film an inventor alongside a teenage girl, travel to an alternate reality known as ''Tomorrowland'' where technology has solved the world's problems and people live in harmony. It is clear by the atmosphere that the world is meant to be a utopian setting but why? The city of Tomorrowland is like a combination between a metropolis and the countryside. The city is organic, green and has an abundance of lakes and rivers to alternate between the build and

unbuilt environment. The infrastructure tells us that it is a large city with numerous residents yet it does not feel crowded. The transportation systems in the city replaces the cars which makes the city feel way quieter and more relaxed. The use of large white skyscrapers with lots of glass tell us that the world is prosperous and also peaceful to live in as peace and prosperity often go hand in hand. The similarities in the architecture suggest that the city is one community and that there is a sense of social equality.

The world of Tomorrowland (2015) with its lush greenery and futuristic high-rise structures.

To strive towards a utopian world would theoretically be a good thing for society but it can also cause harm. The architecture depicted in Tomorrowland is so similar that it suggests that the leaders or government of the city is strong and strict. This results in various restrictions that can lead to lack of diversity and individual freedom for example. A lot of science fiction films experiment with the concept of creating seemingly obvious utopian settings that in secret are dystopian nightmares once seen through the eyes of someone else. Even though these worlds have many utopian characteristics, often one or a few have changed for the worse which means the whole setting changes drastically. Even without changing the architecture of the city, the storyline causes the utopian setting to fade away and slowly transform into a dystopian version of itself.

In films like *Oblivion* (2013)*, The Island* (2005)*, In Time* (2011) or *Equilibrium* (2002)*.* In these films in particular the protagonist discovers that his seemingly utopian world is not what he thinks it is. The whole setting and architecture of the world they live in have the characteristics of a utopian world but quickly turn darker once the plot unfolds. The architecture which was once associated with cleanliness, purity and sophistication, becomes sterile, cold and clinical. It shows how certain utopian design ambitious can change for the worse and for the better when not used in the correct setting or environment. Trying to achieve a utopia is therefore different for each and every situation and there is no one true utopian vision that everyone agrees with. Therefore, striving towards a utopian future might seem unrealistic and futile, but by doing so we explore the hazards of them and learn from them the moment they lose their utopian feel and start to become a dystopia.
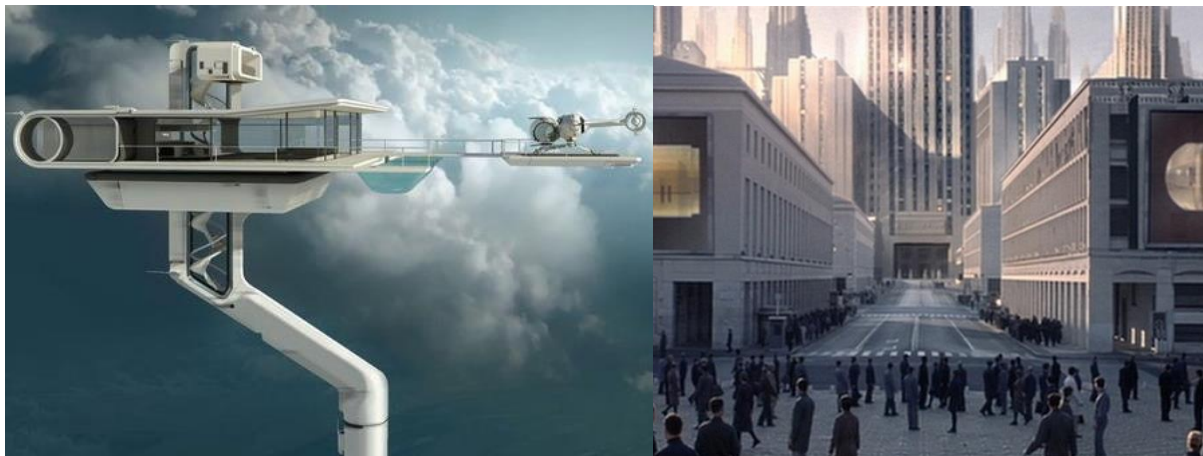
The tower villa from Oblivion (2013) and the totalitarian architecture from Equilibrium (2002)*.*

Films about Artificial Intelligence for example have brought us a great deal of idea's for how we can use them and how they would help us in our lives like we see in *Bicentennial Man* or *I Robot*. The films have also thought us to see the dangers of using AI and could serve as an exaggerated warning about a future where we would exploit this. In *The Matrix* (1999), *The Terminator* (1984) or *2001: A Space Odyssey* (1968), scenarios are portrayed where AI becomes self-aware and turns against humanity. Films or discussions about AI

becoming self-aware started emerging around the time the public got to know about it and started to understand it. A dystopian vision of the world can change in a second based on newly discovered information that changes our views. Science fiction films are a reflection of our contemporary problems and fears for the future and form a critical point of view against the way of life as it was known at the time. In the early 20th century movies like *Metropolis* (1927) and T*hings To Come* (1936), depict a divided society that is divided by classes or ravaged by war. During these times equality and war were one of the more prominent dangers at the time where only a few years back women got the right to vote, and WWI was fresh in their memory. After WWII movies like *The Day the Earth Caught Fire* (1961)*, Fahrenheit 451* (1966) and *THX 1138* (1971) explore the dangers and consequences of war and nuclear weapons, government control and scientific experimentation. In the late 20th century the fear of environmental destruction, technology and extraterrestrial life are one of the leading themes which lead to science fiction scenarios like the ones depicted in *Soylent Green* (1973), *Robocop* (1990) and *Independence Day* (1996). As we transition into the 21st century we see that we tend to invent less new scenarios but rather create more complex and meaningful versions of the scenarios that emerged in the late 20th century. Although dystopian scenarios about environmental degradation, technological advancements and social inequality are still the main dystopian topics today, they are more complex than they used to be. Modern dystopian films tend to present a more ambiguous moral landscape, where characters often struggle with complex ethical choices rather than simply battling against a clear antagonist. Overall, the 21st century's view of dystopian futures reflects a more sophisticated understanding of the complex interplay between societal, environmental, and technological factors that can contribute to a dystopian world. Films like *The Hunger Games* (2012), *I Am Legend* (2007) and *Transcendence* (2014). Especially on the subject of technological advancements there have been a lot of new insights regarding ethical and moral views. Series like *Black Mirror* (2011) and *Oats Studio*s (2017) are examples of shows

that feature multiple experimental short films about utopian and dystopian scenarios. Not all short films can be considered to be a part of the science fiction genre as fantasy sometimes takes the overhand, but they do give food for thought.

The futuristic setting of THX 1138 (1971) *and the impressive capitol from The Hunger Games* (2012)*.*

8. Conclusion

To provide an answer to the question: What have we learned from science fiction film and what role does it serve for our future urban environment? Science fiction teaches us ways we can use newly discovered idea's by presenting us with fictional scenarios that we can experiment with. Because our future is going to be increasingly urban, science fiction also focusses a lot on future urban environments. Some scenarios are set far into the future while others can be just around the corner. New ways of transportation and gadgets are already changing our lives and the way we interact with the urban environment. Technology could eventually create a world where technology controls the users. We can choose to use all the benefits from the technology, or we can exploit it at which point it becomes a necessity. For many people, the purpose of technology is to simplify their lives, but the implications of this on our personal development and social interactions are complex and nuanced. However, as we continue to rely more and more on technology to facilitate our lives, it is important to consider the potential trade-offs and ensure that we do not sacrifice

important aspects of our lives in the pursuit of convenience. There is a thin line between technological utopias and dystopias.

When it comes to the growth of cities there are a lot of examples about how certain types of expansions will look and feel like based on science fiction films that are set years or even centuries in the future. The way we shape our cities will have a great influence on our social environment and could lead to urban environments that suffer from social segregation and unhealthy living conditions that we can already see in some Asian cities. Social segregation only grows worse when the space and freedom in cities disappear because the wealthy will always find a way to make themselves comfortable.

Science fiction stories often depict utopian or dystopian scenarios that follow the vision and view of society at the time it was made. Science fiction films are a reflection of our contemporary problems and fears for the future and form a critical point of view against the way of life as it was known at the time. Every person has a different opinion about what a utopian or dystopian scenario would look like, but it also changes with time. In the early 20th century people were afraid of war and nuclear apocalypse and so the science fiction films elaborated on this and made the publics dreams and visions become reality. If we want to ask the same person in the 21st century how their utopian or dystopian world would look like it would be totally different as new views and problems have emerged. There is no singular best option for a utopian society when it comes to urban planning or architecture. Some science fiction movies try to create a utopian world but, in the end, there will always be people who still dislike it and try to resist it. Our cities are a reflection of its residents and culture and imperfections to some are perfections to others. We cannot strive to control everything; we can however try to create equal opportunity and hope to create a healthy living environment. One could even say that to achieve a utopia we simply have to not want to live in either a dystopia or utopian world but one where there is an equal balance of both.

Only then we can truly value our achievements and still leave room to work on our shortcomings, because nothing and no one is perfect.

9. Discussion

Science fiction film does have an influence on our urban environment, but it is not about the certain styles of architecture or design it is more focused on the principle of exploration and critical thinking. The settings portrayed in the movies and serve as a striving point or as a warning for our society. Science fiction as a medium can be a great inspiration for future urban planning and architecture but can also be used by future urban planners and architects to experiment with new ideas and concept of future living. For example, the project The Line will give us information and experiences how it is like to live in a linear city which is closely related to cities we see in film. The conclusions and results of science fiction films should always serve as a source of inspiration and not a factual source as it is not meant to follow every rule we already know. Science fiction must step out of bounds and invent the things that have not been invented yet to keep exploring new ideas and scenarios. Only this way we can keep learning from these experiments. Just like the science fiction genre is based on speculation and predicting future settings this thesis is also speculative while trying to stick the facts as much as possible. Personal opinions and views have been disregarded as much as possible to leave room for the reader to form their own point of view about the manner. Because of this, one could argue that there is a lack of sources used for taking certain positions within the thesis. The available time for this thesis allowed for a summary of events that might happen but there was not enough time to dive deeper into these further to truly uncover its meaning and effect it can have on our own reality. The research is an ever-expanding collection of ideas and thoughts about the future which can change fast.

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