Reduced to an Image:
Architectural Typologies in Science Fiction Films.

A Master's Thesis for the Degree Master of Arts (Two Years) in Visual Culture

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Abstract

Reduced to an Image: Architectural typologies of the Future in Science-Fiction Films.
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This thesis investigates the use of science-fiction film as a medium through which the collective understanding of future urban environments can be discussed. It poses the question of how images of architecture in science-fiction films influence our perceptions and understanding of the future of our lived environments. By focusing on images of fictional future urban environments that have been selected from the science fiction motion pictures *Dredd* (2012) and *Black Panther* (2018), as well the web tv series *Altered Carbon* (2018). These images are analysed through a social semiotic analysis, based on that of Kress and van Leeuwen, focusing on the creation of semiotic meaning and interpretation of the audience. The main theoretical framework draws from the work of Walter Benjamin's work on the 19h century Paris Arcades, and focus mainly on his concepts of dream and wish images. The main argument of this thesis is based on Charles Jenck's understanding that architecture is based in strong determinism and that by understanding the factors that ultimately shaper world, we will be able to make more informed decisions about the kind of world we would want to live in, which influences that future. An introductory chapter outlines the overall content of the thesis, followed by Chapter 1: which provides the reader with background information on the materials used to formulate the arguments that are presented in Chapter 2, where the analysis of three science-fiction films is conducted. Finally Chapter 3 provides a summary in which the background and analysis is interlaced and concluded.

Acknowledgements

'Perhaps the most fascinating cases - and the ones for which the term film architecture seems most fitting - are those in which architecture is created for a particular movie and exists only for and through film, but nevertheless reflects and contributes to contemporary architecture debates'.[1]

- Dietrich Neumann, *Film Architecture: Set Designs from Metropolis to Blade Runner*, 1996.

[1] D. Neumann, 'Introduction', in D. Neumann (ed), *Film Architecture: Set Designs from Metropolis to Blade Runner,* Munich, Prestel-Verlag, 1996, p. 8.

Definitions of Key Terms

- Visionary architecture: architectural images, drawings or models depicting ideas for future architectural structures (often unbuilt or unbuildable), which seek to challenge the norms of architectural thinking at a given time.[2] Sometimes referred to as paper architecture.

- Film architecture: architectural environments that exist and have been created for the medium of film.[3]

- Image of contemporary architecture: highly stylised images of 21st century architecture, either photographic or computer rendered proposals, that communicate to us the idea of a present day utopia. These architectural forms often draw inspiration from visionary architecture.

- Collective consciousness: based on the ideas of Durkheim, Nicki Lisa Cole defines the collective consciousness as a 'set of shared beliefs, ideas, attitudes, and knowledge that are common to a social group or society.'[4] (Collective awareness)

- Collective dreaming: Benjamin's belief that society's collective consciousness has fallen asleep as a result of the rise of commodity culture, falling pray to consumerism.[5]

- Collective awakening: an event that would shock society from its lethargic dream state and take back the control that they had unknowingly sacrificed in exchange for a capitalist dream.[6]

- Dream image: the fetishised objects of capitalist consumer culture.[7]

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2 N. Spiller, *Visionary Architecture: Blueprints of the Modern Imagination*, London, Thames&Hudson, 2006, foreword.

3 Neumann, *Film Architecture*, p. 8.

4 N.L. Cole, 'The Concept of Collective Consciousness: What It Is and How It Holds', *ThoughtCo.*, [website], 2018, para. 1, https://www.thoughtco.com/collective-consciousness-definition-3026118?print, (accessed 7 August 2018).

5 W.S. Goldstein, 'Dreaming of the Collective Awakening: Walter Benjamin and Ernst Bloch's Theories of Dreams', *Humanity and Society*, vol. 30, no. 1, 2006, p 54. Available from: Sage Journals, (accessed 4 May 2018).

6 Goldstein, p. 53.

7 W. Schinkel, 'The Image of Crisis: Walter Benjamin and the Interpretation of "Crisis" in Modernity', *Thesis Eleven*, vol.127, no. 1, 2015, p. 43. Available from: Sage Journals, (accessed 8 July 2018).

- Wish image: according to Willem Schinkel, 'an image that contains hidden utopian ideals.[8]

- Estrangement: according to Bertolt Brecht, a distorted image of a known subject that allows its viewer to reconsider their understanding of reality.[9]

- Conjecture: Defined by Bertrand de Jouvenel in 1967 as, 'the intellectual construction of a likely future'.[10]

- *Gesamtkustwerk*: a total work of art, or specifically-created work of art, in which every detail and aspect of the image has been created to suit the specific environment or representation.[11]

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[8] Schinkel, p. 36.

[9] S. Spiegel, 'Things Made Strange: On the Concept of "Estrangement" in Science Fiction Theory', *Science Fiction Studies*, vol. 35, no. 5, 2008, p. 370. Available from: JSTOR (accessed 13 June 2018).

[10] B. de Jouvenel, *The Art of Conjecture*, trans. N. Lary, London, Weidenfeld and Nicolson, 1967, p.17.

[11] Neumann, *Film Architecture*, p. 8.

Introduction

The research surrounding space exploration and the terraformation of nearby planets will kick the imagination of any science fiction (SF) nerd into hyperdrive. But, while these developments of interplanetary expedition, funded by companies like SpaceX, creates enough excitement to fuel the Star Trek USS Enterprise (travelling at warp-speed) for several decades, I begin to wonder about the future of our home planet. What will become of those who decide to remain on Earth while others embark on expeditions that seek to uncover the mysteries of our solar system. I am intrigued most by the possible development of cities in the near, and distant future, as new technologies influence our way of life. Therefore, this thesis focusses on the future of the built environment on earth, by analysing the architectural environments created in SF films. The films selected for this study provide a glimpse into the dreams of the collective consciousness, providing us with images of both utopian and dystopian ideas for the future. In 1839, the French historian, Jules Michelet wrote that 'each epoch dreams the one to follow'[12], concluding that the process of dreaming is paramount to the creation of the future. In a society driven by scientific understanding and reason, it is important to remember the value of dreams and the power of imagination to help us create a better world for all.

Research imperative

This paper seeks to interrogate the aesthetic representations of future urban environments in SF films in an attempt to generate an understanding of how the ideas formed in the past and present, have influenced the idea of the future city. By approaching the environments created for SF films as a form of fictional architecture, this paper attempts to define the architectural environments of two movies and one web television series as a form of visionary architecture that depicts ideas instead of realistic proposals for the future. As a result, the analysis in the following chapters focuses primarily on the images of architectural environments that are created for a general audience. As a mass medium, SF films reach past the group of learned architectural professionals, and imprints its ideas upon the general public. However, when used as an analytical tool, these images could be especially useful to architects and urban planners, whose speculations are usually limited to the historical, socio-economic, and cultural constraints of reality and circulated within the closed system of their profession. When SF is

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[12] J. Michelet, cited in S. Buck-Morss, *The Dialectics of Seeing: Walter Benjamin and the Arcades Projects*, Cambridge, The MIT Press, 1991, p. 114.

used a s form of conjecture which harnesses its speculative and creative power, while remaining aware of its practical short comings, it can act as a bridge between the needs of the general public and the professionals who create our lived environments. I believe that these films can open up the discourse surrounding the future by presenting ideas and possibilities of the future to its audience without jargon and overcomplicated architectural knowledge. In 1971 the American architectural historian and critic Charles Jencks published a book entitled *Architecture 2000: Predictions and Methods,* in which he proposed the possible future developments in architecture for the year 2000. He highlights the importance of making informed predictions, or conjecture about how social and technological developments influence future architectural typologies. In understanding how the different prominent schools of thought at the time affected the architectural discourse, he was able to accurately predict the then future architectural typologies. Most importantly Jencks provides his readers with an understanding of our role in the creation of our own architectural futures. In the introductory chapter of *Architecture 2000* he describes the difference between weak and strong determinism; between a blind belief in fate and in understanding that our decisions and thoughts have a visible influence on the future world in which we will live. He writes that '… fate is not altogether fatal as long as we are willing to go along with and understand it',[13] and in that sense by understanding and being aware of specific developments and trends in film architecture, the public can more easily parkade in the development of the urban environment.

Research question:

According to the American author and urban planner Kevin Lynch, we construct images of our environments within our minds in an attempt to better understand and navigate through the cities in which live our lives. These environmental images, as Lynch refers to them, are based upon our subjective experiences of the spaces we encounter in the cities we inhabit.[14] Building on this, I argue that that the representations of urban environments which we visually encounter through the news, various social media platforms, books and films, play an important role in defining our understanding of the urban environment. These images help us to situate ourselves within urban landscapes. More often than not, perceptual environmental images contain references to our dreams, as well as our fears of the city, and can help us

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[13] C. Jencks, *Architecture 2000: Predictions and Methods*, Studio Vista Limited, 1971, p.20
[14] K. Lynch, *The Image of the City*, Massachusetts, The MIT Press, 1960, p.6.

navigate through these complex landscapes. This paper seeks to investigate how architectural concepts of the future city are conveyed through SF films, and how those concepts can be used as a catalyst for discussing the collective's expectations of the future. Focussing on the architectural visual culture of SF films, I attempt to trace the development of our collective understanding of the city, and present possible future trends. Film, as a form of mass media, distributes images and ideas to a diverse range of audiences, but its impact is often overlooked within serious architectural discourse. However, fictional environments can indeed be used to critically discuss the ideas that shape our future and can have a lasting impact on our environments. By interrogating images of architecture through methods and theories from the fields of architecture, and film and visual studies, this paper serves as a catalyst for further research and discussions surrounding the themes of future architecture and SF with regards to their real-world implications in society.

Background

Even though dreams are created within the mind, they have a tendency to spill over into reality. The 2010 SF thriller *Inception,* written and directed by Christopher Nolan, successfully combines the fanciful possibilities of SF with an architecturally focused narrative, and presents a world in which dreams, which are the key to the subconscious mind, influence and shape actions in reality. In this strange version of reality, the environments in which dreams take place are designed by architects who possess the ability to manipulate the architectural and urban structures in order to extract information or implant ideas into the mind of the dreamer.

In the field of architecture, many visionary architects have contributed to the theoretical development of our urban environment through their ideas of the future, trading the materiality of reality, for the more eternal medium of dreams, much like the architects in *Inception.* Shaping theoretically driven architectural environments with pen and paper, these visionaries attempted to create a better word for all.[15] The first section of chapter one briefly defines visionary architecture, and recounts its development from the 15th century writings of Francesco Colonna's *Hypnerotomachia Poliphili,* through to the 21st century visions of

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[15] Important names in the history of visionary architecture amongst others include Leon Battista Alberti, Archigram, Etienne-Louis Boullée, Richard Buckmister Fuller, Constant Niewwnhuys, Peter Cook, Yona Friendman, Antoni Gaudí Cornet, William Gibson, Zaha Hadid, Le Corbusier (born Charles-Edouard Jeanneret), the Metabolists, Reyner Banham, Antonio Sant'Elia, the Situationists, and Superstudio. For a more complete list of 20th century visionaries in architecture see: N. Spiller, *Visionary Architecture: Blueprints of the Modern Imagination*, London, Thames&Hudson, 2006.

starchitects such as Bjarke Ingels, Rem Koolhaas and Zaha Hadid. Through this development we are able to see how the boundaries between reality and visionary dream begin to blur within reality. Although some effort has been put into creating a coherent timeline, the works that have been selected in no way represent a complete history of visionary architecture, but will suffice in setting up the architectural context within which the images discussed in the empirical chapters, should be understood.

Relevance

The discussion that surrounds visionary architecture once again becomes important in a time when architecture is driven by aesthetics that produce a false sense of utopia. In the 21st century, the division between architectural vision and reality becomes less distinguished through the possibilities afforded by new technological developments, and we are left to find new mediums through which to critically assess the images of our current and future urban environments. SF film, which allows its audience a degree of immersive spatial understanding, communicates possible ideas for future environments to a broad audience, in a language that they can easily understand and engage with. SF films can therefore try to improve the shortcomings of paper-architecture which represent the utopian visions of their creators, who in turn have often fail to critically analyse the implications that their concepts could have on the lives of those who live within their realised dreams.

Empirical material and method

This thesis discusses three types of architectural images. The first two describe architectural images that are directly related to the practice of architecture. V*isionary architecture* (seen in figures 1.1-1.13), is an established term that refers to the images of architecture that are a product of architectural theory and discourse, and represent utopian dreams for the future. It is most commonly used to describe imaginative work that itself remains unbuilt, but which has had a lasting effect on the built environment through its theoretical development. The second term, *images of c*o*ntemporary architecture* (figures 1.14 - 1.17 & 1.22 - 1.25)*,* is used to describe the images of architecture that are produced today, be they digital renderings of proposed projects or photographs of existing and realised structures. Finally, *film architecture* (figures 2.1.1-2.3.3.) is used to refer to the fictional urban and architectural environments that

have been created through the medium of SF film, illustrating visions of the future that remain unhindered by reality.

The main empirical material for this thesis, which is discussed in chapter two, consists of nine film architecture images, which depict architectural and urban setting, that have been taken from two SF films namely *Dredd* (2012), directed by Pete Travis, and *Black Panther* (2018), directed by Ruan Coogler, as well as one web television series, *Altered Carbon* (2018), created by Leata Kalogrids produced in the last six years, each representing a 21st century vision of the future. These films have been selected for their depiction of a strong architectural context, which actively influences the narrative events of the film and its characters, and surpasses its accepted contextualising duties as visual background to the film. Each represents a fictional architectural space or urban environment in a future that is/was a product of fantasy and future scientific projection at their date of release. It is, however, important to remember that the analysis of these films focusses more on the architectural image, and not on the narrative of the film itself. The specific images have been chosen based on their portrayal of an urban typology (with a focus on density and scale), as well as the represented urban texture (mainly emphasised through the use of light and materiality). The architectural environment in each image is the main focus of the shot and will allow for an in-depth discussion of the environments defined through the architectural visions of the future in the highly stylised genre of SF film. This is achieved through a visual social semiotic analysis of the environments, in which the production of meaning is discussed, while an applied theoretical analysis is conducted on the overall typologies found in the images, so as to test the interpretation of Benjamin's dream and wish images discussed in the theory section of this paper within an architectural context. This will include a semiotic reading of elements of architecture from which the urban typologies of the future is represented. Finally, the dialectical characteristic of these images are discussed, and from this we are able to understand how future urban typologies are presented in SF film and how they add value in the architectural discourse surrounding the future.

Theory

In this thesis, the relevance of visionary architectural images are discussed through Walter Benjamin's key theories relating to dream and wish images. According to Benjamin, society has become numbed to the reality of its urban environments through the consumption of

fetishised commodity images, which distract us from the true nature of cities.[16] These theories are discussed in chapter one with regards to their application to the architectural context and material used in this thesis. They further describe the main theoretical outcome posed by the research question concerning the representation of the city and how it is presented to the general public through SF film. By applying these theories to the empirical material of this thesis, I argue that film architecture represents a different form of wish image, one which provides film audiences an estranged version of the utopian dream, allowing them to momentarily awaken from the collective dream which is caused by the consumption of these fetishised architectural images, and to reconsider their reality.

Disposition

My analysis has been greatly informed through the knowledge I have gained during my Bachelor's studies in architecture, which continues to influence my view of the world, and has allowed me to approach the images discussed within this thesis with a degree of curiosity. My education in the field of visual culture has added to this curiosity the ability to identify and critically approach images that appear silent, and unearth their true value, allowing them to speak for themselves. Visual culture theorist Irit Rogoff writes that 'we need to understand how we actively interact with images from all arenas to remake the world in the shape of our fantasies and desires or to narrate the stories which we carry with us,'[17] I believe in the power images and have based the reasoning of this thesis on the belief that they should not be taken lightly. Rogiff further defines the curiosity with which visual culture approaches images as the 'curious eye. She likens this way of seeing to a counter viewing practice to the 'good eye', an art historical method of viewing images with clear focus which allows the viewer to identify the interesting elements with ease.[18] I believe that the filed of visual culture allows for a more interesting study of the world that surrounds us as it includes aspects of high and low culture within its scope of interest and manages to make new connections that speak to a general audience. Nicholas Mirzoeff describes visual culture as a part of our daily lives; as field of inquiry which presents the objects and everyday images that surround us as being rich with

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[16] Goldstein, 'Dreaming of the Collective Awakening', p. 50.

[17] I. Rogoff, 'Studying Visual Culture', in N. Mirzoeff (ed), *The Visual Culture Reader*, London, Routledge, 1998, p. 16.

[18] Rogoff, p. 18.

cultural meaning and importance.[19] Most importantly it allows us to understand how our personal and cultural biases are formed, ultimately providing those who are curious enough, a different way of seeing. By understanding how we are taught to see the world, we are one step closer to changing providing alternative and hopefully better ways of seeing.

Outline

The first chapter briefly introduces the concept and development of visionary architecture from what can be understood as the paper-architecture to the digital images of architecture that we are confronted with today through the internet. Following this architectural background, the second part of chapter one then continues with a discussion which centres around the relevance of SF film as a representational medium for visionary architecture in the 21st century. The images that are referred to in this section can be found in Appendix A, and are used as reference material in later chapters. Chapter two describes the theoretical foundation of the thesis and mainly discusses the theories of Walter Benjamin, focusing on his work for the Arcades Project. This provides an introduction to the concepts of the dream, wish and dialectical image which are used in the analyse of the main empirical material, discussed later in the analysis in chapter three. In the third chapter, the selected images, taken from *Dredd*, *Black Panther* and *Altered Carbon*, are analysed. Each film is discussed individually so as to uncover ways in which the audience could visually interpret the architectural environments presented through these three films. This is followed by a semiotic reading of the dominant architectural typologies of each future scenario, focusing on the collective understanding of specific images and the myths that surround them. Here the Benjaminian concepts of dream and which images are used to understand how images of architecture are often misinterpreted due to the visual culture of SF films. Finally the images of film architecture are compared to past and existing visionary concepts in architecture and provides insight into the dialectical nature of these images.

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[19] N. Mirzoeff, 'What is Visual Culture?', in N. Mirzoeff (ed), *The Visual Culture Reader*, London, Routledge, 1998, p. 3.

Chapter 1: Framing the images of future environments

Background

Visionary Architecture

According to Neil Spiller, visionary architecture is recognised by its immaterial quality. It encompasses drawings, models, and texts about architecture and urban environments that are created as pedagogical tools used to challenge accepted norms in architecture.[20] It attempts to present a different kind of architecture to the public, which seems at first whimsical and unserious, but at closer inspection seeks to provide radical solutions to various urgent social and economic issues, the Museum of Modern Art in New York (MoMA) curated an exhibition entitled 'Visionary Architecture' in 1960. In a press release following the opening of the exhibition, Arthur Drexler, the contemporaneous director of the MoMA's Department of Architecture and Design, defined visionary architecture as the combination of an architect's social criticism and their reshaping of the world following their favoured form.[21] The projects that had been exhibited included works by Le Corbusier, Louis Kahn, Buckminster Fuller, Paolo Soleri and various others dating from 1920 to 1960. But the history of visionary architecture dates back well before the 20th century to visionaries like Leonardo de Vinci, and Piranesi, who's work has inspired countless many architects through history.

Historically, the work of the Dominican Monk, Francesco Colonna, who published the fictional novel, *Hypnerotomachia Poliphili* in 1499, is understood as one of the first examples of visionary architecture, and follows the journey of the protagonist, Poliphili, on his journey through a fantastically constructed world, where dreams and reality are intertwined, in search of utopia.[22] Written in the first person, Colonna allows the reader to experience the imagined spaces, through which Poliphili travels, first hand; an experience that is enhanced through the principles of stability and aesthetic form in architecture which result in the delight of encountering a well designed space, defined by Vitruvius and Alberti,[23] upon which this fantasy was based.[24] Giovanni Batista Piranesi and Claude Nicolas Ledoux are two more pre-

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[20] Spiller, *Visionary Architecture,* foreword.
[21] Museam of Modern Art, *Visionary Architecture* [press release], 1960, p. 1. Available from: https://www.moma.org/documents/moma_press-release_326200.pdf, (accessed 31 July 2018).
[22] Spiller, *Visionary Architecture*, p.8.
[23] According to Leon Battista Alberti, architecture is the one of highest forms of art due to its function and aesthetic quality which provides mankind with shelter and beauty. See: C. van Eck, 'Enduring principles of architecture in Alberti's 'On the Art of Building': how did Alberti set out to formulate them?', *Journal of Architecture*, vol.4, Summer, 1999, p. 119. Available from: Taylor and Francis Online, (accessed 13 June 2018).
[24] Spiller*, p.8.

modern visionaries that have inspired countless architectural visionaries in modern society. Piranesi's paper architecture focused on the beauty and importance of the fragmented ruins of ancient Rome, and he developed new ideas based on their architectural principles through sketches.[25] Some of his most recognisable work is a series on imaginative prison interiors, the *Carceri,* seen in figure 1.1. This brought he prison as an architectural typology to the attention of other notable architects, but what is remarkable about these sketches is their emotive quality. Piranesi was able to capture the confusion and sense of hopelessness that these environments had on their captives. This emotional connection to an architectural space that is captured in two dimensional drawing has visually inspired countless architects in the 20th century, including surrealists like Salvador Dalí and contemporary architects such as Lebbeus Woods. Ledoux, too was inspired by Piranesi's *Carceri* sketches, but instead drew inspiration from their theoretical concepts of surveillance and control through architectural form. In 1741, he proposed an urban plan for a salt mine at Chaux on the the French border of Switzerland, developing a vision for the city that would facilitate the surveillance and control of the general population through architecture.[26] Figure 1.2 illustrates the layout he devised for the town in which the institutional salt-works forms the central focus of the town, which is surrounded by other less important buildings in a circular plan. The living quarters and fields of farmers are found at the edge of the perfectly circular plan. The panopticon, designed by the British architect Jeremy Bantham in 1791, clearly references this spatial organisation and has in turn influenced many cultural thinkers such as the Situationists, who recognised this model of surveillance and control in capitalism.

Colonna's *Hypnerotomachia Poliphili* continued to influence architectural thinkers well into the 20th century, but was gradually pushed aside in exchange for more technologically driven ideas. The 20th century is best remembered for the rapid development, and integration of machines into modern society, but while it liberated man from mundane tasks, it also developed a dark power and control over over its liberated society. With regards to architecture, new developments where characterised by the change in speed and mobility. While Colonna's protagonist Poliphili journeyed through his dreams at a pedestrian pace, the Futurists created images of a world that moved at the accelerated pace of the automobile.[27] In

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[25] Spiller, pp.10-11.
[26] Spiller, p.13; This architectural configuration was produced about 50 years before Jeremy Bentham introduced a similar design for a penitentiary that used architecture as a form of surveillance and control in 1791.
[27] Spiller, p.26.

1914 Antonio Sant'Elia contributed to the 'Manifesto for Futurist Architecture', which greatly influenced early modernist architecture. The Futurists believed that architecture had to be radically rethought, focusing on the creation of an environment that suited the mindset and conditions of modern life which had been radically transformed by scientific and technological discoveries in the late 19th century. It called for the rejection of outdated historical aesthetics and materials that were deemed 'heavy, grotesque and unsympathetic' to the new enlightened and lighter conditions of life, stating that '[a]rchitecture, exhausted by tradition, begins again, forcibly, from the beginning.'[28] Futurist architecture, which is preserved most clearly through Sant'Elia's drawings of machine like structures posing as architecture. This new mechanical aesthetic, as seen in figure 1.3, developed the typology of factories in which the architecture physically represented the way in which the building would be used for years to come as a place in which people formed part of a larger machine: the production line. Sant'Elia's visionary proposal of the new modern city with its monumental scale, rejection of ornament and focus on materiality, use, and functionality inspired the work of Le Corbusier some years later. The city as machine became the principle driver in Le Corbusier's masterplans seen in figure 1.4. Between 1922 and 1933 he developed the principles for visionary cities such as *Plan Voisin* (1925). As figure 1.4 shows, this visionary plan for a modern Paris, could in effect be applied to any city across the globe as it makes no attempt to reference the existing urban context. Instead it focused on alleviating congestion by paradoxically increasing the density of the city so that less people would have to commute into the city from the distant suburbs. This would be achieved trough the construction of taller and more densely populated structures on smaller pieces of land, allowing the remainder of the city to be developed into a park, separated from the broad streets which would allow for the adequate flow of transportation within the city.[29] The plan, however, would only succeed once the old city had been demolished, allowing for a new geometrically organised and functionalist city to take its place.[30] Even though his vision was never realised, Le Corbusier's vision had a lasting effect on the development of the city through the introduction of the high rise typology.

      31 Years after Le Corbusier's high rise masterplan was developed, the French architect and urban planner, Yona Friedman, wrote a new manifesto for architecture, describing a more

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[28] R. Banham, *Theory and Design in the First Machine Age*, London, The Architectural Press, 1960, p. 128.
[29] P. Hall, *Cities of Tomorrow: An Intellectual History of Urban Planning and Design in the Twentieth Century*, 3rd edn, Oxford, Blackwell, 2002, pp. 222-223.
[30] P. Hall, p. 223.

democratic architecture for the city and served to critique the rigidity of the modern movement. Entitled 'Manifesto: L'Architeture mobile', Friedman argued that the occupants of the city should be allowed to create their own environments, provided that they are educated about the implications that their choices may carry.[31] This manifesto took visual form in Friendman's *Ville Spatiale* (1958), the study of a space frame city which could be adjusted to suit the growth and needs of its inhabitants while providing the necessary functions within its 40x60 meter modular grid, and can be seen in figure 1.5. This kind of Do-It-Yourself mentality would become a prominent characteristic of the architects who were inspired by Friedman's manifesto in the years to come. In 1960 Friedman further expanded his manifesto to include the design of leisure facilities, climate regulations, as well as redefining the role of the architect as the provider of a core structure from which the city and its inhabitants could spontaneously develop.[32]

By the end of the 1950's the Italian American architect Paolo Soleri, was exploring the possibility of creating large scale, self contained urban environments; mega structures that would function as self sufficient cities.[33] Almost simultaneously, three architectural student groups from the UK, lead by Micheal Webb, Peter Cook and David Greene, began to develop a more academically driven approach to the city of the future. Borrowing the representational method of collage and visual juxtaposition from the Pop artist Richard Hamilton, these groups collectively published their ideas for a more fluid urban typology in the first issue of *Archigram* in 1960.[34] Their visions for the future included the projects such as the 'Walking City', seen in figure 1.6 which illustrates Ron Herron's vision of a mega-structural mobile city that crawled across the landscape on mechanical legs designed in 1964. The 'Plug-in-City, which provided a new approach to urbanism through the consideration of infrastructure as being adaptable to suit the needs of the public, and 'Control and Choice' also featured in the publication, both seen in figures 1.7 and 1.8, and were designed by Peter Cook in 1965 and 1967 respectively, the latter describing a system (or city) which responds to the emotions of its inhabitants, The 'Instant City', figure 1.9, represents Archigram's collective vision for a

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[31] Spiller, *Visionary Architecture*, p.72.
[32] Spiller, *Visionary Architecture*, p.72.
[33] Spiller, p. 74.
[34] C. Jencks, *Modern Movements in Architecture*, 2nd edn, London, Penguin Books, 1985, pp. 280-282.

portable city, created in 1969, that could be assembled anywhere, and resembled the event driven mentality of the 1960's.[35]

While Archigram embraced the influence of technological progress with projects that celebrated its possibilities for creating freedom, difference and fun within the established framework of consumerist culture, their Italian contemporaries, Superstudio founded in 1966, turned their attention toward the architecture of the monument, the image and technomorphic architecture. The group believed that the architecture was contributing to the injustice of society by only serving those who could afford it and attempted to provide a representation of an architectural environment that abandoned its own practice. Neil Spiler describes their work as 'a series of shocks' that were intended to start architectural debates.[36] From 1969- 1971 the group developed a series of images called the 'Continuous Monument' through which they expressed their disapproval of the unbalance order of capitalism. As figure 1.10 shows, the group hoped to create a true utopia, an architectural typology that would equally meet the needs of all its inhabitants. This was done by abandoning the diversity commonly found in urban environments and exchanging the aesthetic and formal differences in architectural typologies in exchange for a single monolithic structure that swept across the natural and urban landscape, representing the possibility of combining the strict social order of Fascism with the fair egalitarianism.[37] The resultant aesthetic is a blank canvased environment that celebrated the power of its inhabitants creativity, allowing them total creative freedom within the rigid structure. A space, as figure 1.11 shows, for endless possibility.[38]

During the late 1950's to the mid 1970's, Metabolism, one of the last movements to produce a truly visionary manifesto for architecture and urban development, was developed by a group of Japanese architects and intellectuals.[39] Led by Kenzo Tange the group consisted of eight aspiring and likeminded architects and designers such as Kiyonori Kikutake, who designed a floating metropolis in 1959 called the Ocean City (seen in figure 1.12), Kisho Kurokawa, who designed one of the few realised metabolism structures, the Nakagin Capsule Tower, from 1970-1972, (seen in figure 1.13), and Noboru Kawazoe. In 1960 the group presented their visionary projects to an international audience at the World Design Conference

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[35] Jencks, pp. 289-297.
[36] Spiler, *Visionary Architecture*, pp. 85-86.
[37] Jencks, *Modern Movements in Architecture,* p. 56.
[38] Jencks, *Modern Movements in Architecture,* p. 57.
[39] R. Koolhaas, et al. *Project Japan: Metabolism Talks*, Köln, Taschen, 2011, p. 22.

in Tokyo in the form of a published book, entitled *Metabolism 1960: The proposal for New Urbanism*,[40] with their manifesto on the opening pages. Noboru Kawazoe writes

> "Metabolism" is the name of the group, in which each member proposes future designs of our coming world through his concrete designs and illustrations. We regard human society as a vital process - a continuous development from atom to nebula. The reason why we use such a biological word, *metabolism*, is that we believe design and technology should be a denotation of human vitality…[41]

Their work is most commonly characterised by the sheer scale of their urban proposals and a biological reasoning that informed their decisions throughout the design process, combining Soleri's ideas of a self-contained and ecological city with Archigram's interchangeable plug in city, which resulted in a new vertical megacity typology. But even though the Japanese Matabolists shared visionary ideas with their contemporaries from the west, their strong advocacy for ecologically driven environments informed their aesthetic most clearly. As if to drive this point home, Kawazoe writes five years later in what would have been the groups second publication, *Metabolism 1965: Metamorphosis,* that 'Our [the Metabolists] advocacy of metamorphosis is not for the purpose of advocating bizarre forms in design, but comes from our awareness that we are presently undergoing an unprecedented environmental revolution in the history of mankind.'[42]

Perhaps the most interesting development to come from the Metabolist Movement, as Charles Jencks points out, was the ability of its members to systematically perfect the ideas of other visionaries, bridging the gap between dream and reality.[43] It is the goal of any visionary to see their dreams realised and as Arthur Drexler, curator of the 1960 'Visionary Architecture' exhibition at the MoMA writes:

> In the past such [visionary] projects were unbuildable for one or both of two reasons: they may have been technically impossible to execute at the time they were designed or society could find neither the justification nor the money for their construction. Today [1960] virtually nothing an architect can think of is technically impossible to realise… If we could learn what they [visionary projects] have to teach, we might exchange irrelevant rationalizations for more useful critical standards. Vision and reality might then coincide.[44]

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[40] Koolhaas, et al. p. 175.

[41] N. Kawazoe, *Metabolism 1960: The proposal for New Urbanism*, Tokyo, Bijutsu Shuppansha, 1960, cited in Koolhaas, et al., p. 206.

[42] N. Kawazoe, *Metabolism 1965: Metamorphosis*, 1965, cited in Koolhaas et al., p. 330

[43] Jencks, *Modern Movements in Architecture*, p. 68.

[44] Museum of Modern Art, *Visionary Architecture*,, p. 1.

As if predicting the future, Drexler's dream of a world that will be shaped by visionaries has become a reality in the 21st century. Contemporary architects have perhaps most effectively been able to bring their visionary ideas into reality through the development of new technology which aided in the construction of super tall skyscrapers (Figures 1.14 - 1.15), monolithic megastructures (Figure 1.16) and new faster modes of transportation such as the Hyperloop; constructing their dreams into our urban reality. The highly stylised and curated images of the 21st century entice us to believe that Starchitects are transforming our world into architectural dreams. But the acclaimed British urbanist Peter Hall notes that even after 100 years of contemplation, the planning of cities has not undergone any considerable change that benefits those who are in dire need of architectural and urban planning.[45] But recently these images of architecture seem less focused on the utopian development of a better world for all, and more on the developing the architect's personal image and on the improvement of environments of those who can afford it.[46] It would seem that while the 20th century visionaries failed to implement their paper architecture, the ideas of the 21st century remain fixated upon its own image even in reality. Serious architectural discourse hardly ever crosses into the realm of general discussion; the utopian and subliminal images of project proposals, created by the architects themselves, are effortlessly circulated through various media channels on the internet, such as the online design magazines seen in figure 1.22. The constant representation of architecture as flawless, clean and safe environments are easily consumed by their audiences who are confronted with thousands of images daily, but do very little to spark any real critical debate outside of the profession itself with regards to the future of our built environment; contemporary architecture has reduced architecture to its image. But perhaps SF film is able to bridge the divide between the complicated and incomprehensible, jargon filled images of architecture that rarely influence the general public in a meaningful way.

Science-fiction film as a medium for visionary architecture

As a representational medium, film shares with architecture the ability to carry across the spatial intention of its creator to an audience.[47] During the silent film era the relationship

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[45] The term Starchitect has been given to those architects who have achieved a leve of fame within the architectural community and whose work is often recognised by the general public. These names like Bjarke Ingels (BIG), Frenk Gehry, Kengo Kuma, MAD Architects, MVRDV, Rem Koolhaas (OMA), Renzo Piano, SANNA, Santiago Calatrava, Toyo Ito, Zaha Hadid, and countless more.

[46] P. Hall,, *Cities of Tomorrow: An Intellectual History of Urban Planning and Design in the Twentieth Century*, 3rd edn, Oxford, Blackwell, 2002, p. 11.

[47] M. Toy (ed), *AD: Architecture and Film*, London, Academy Editors,1994, p. 7.

between film and architecture was discussed in great depth, when film was used to convey the experiential aspects of space within a narrative context.[48] In an edition of *Architectural Design*, which was dedicated to the relationship between film and architecture, the editor Maggie Toy writes that the architecture that is represented through film often promotes its audience to think about their understanding of the built environment, stating that the images '…have the power to influence viewers' perceptions and perhaps even to invoke a desire for an improved architectural environment.'[49] This is partly due to the fact that in film, architecture is afforded an opportunity of total creative freedom, allowing designers to create complete worlds that are free from the financial, physical and technical constraints of reality.[50] According to the French architect and set designer Robert Mallet-Stevens, the environments strengthen the overall message of a film by providing audiences with subtle hints about the social, economic and political conditions of the film.[51] SF films heavily rely on the design of these complete worlds, which draw their audiences into a more immersive experience of their imagined environments.

The SF writer and critic, Darko Suvin, characterises SF by its ability to develop a fictional hypothesis through the strict reasoning of scientific fact,[52] with this connection between the imaginative and real being one of the main traits that separates SF from other fictional narratives. It is also one of its most useful attributes, according to artist and technologist Julian Bleecker, who notes that science fact and science fiction both seek to develop ideas into a concrete form, and as a result of this shared purpose, he notes that SF could be useful in the development of science fact as it engages a much lager audience. He uses the term design fictions to describe objects (in both real and representational form) which promote thoughtful speculation.[53] SF can therefore be understood as a form of conjecture which seeks to imagine possibilities for the future through the scientific reasoning of fictional ideas, and depicts the circumstances under which they would be possible. In *The Mammoth Encyclopedia of Science* Fiction, George Mann states that while SF is able to represent imaginative ideas and environments for the future, the work also provides social commentary

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[48] Neumann, *Film Architecture*, p. 8.
[49] Toy, *AD: Architecture and Film*, p. 7.
[50] Neumann, *Film Architecture*, p. 8.
[51] Neumann, p. 8.
[52] D.T. Fortin,, *Architecture and Science-fiction Film: Philip K. Dick and the Spectacle of Home*, Surrey, Ashgate, 2011, p. 16
[53] Bleecker, 'Design Fiction*',* p. 83.

on the concerns of society at the time of its creation, recognising SF as medium through which 'strange and imaginative' environments can be seriously tested.[54] This closely reassembles the characteristics of visionary architecture which depict future societies in strange and imaginative environments, that seem at first unserious and impossible, but upon closer inspection reveal them as creative solutions to the conditions and constraints of reality. Both SF and visionary architecture therefore act as a medium through which we can visually explore the endless possibilities that we are afforded through the development of new technology.

Parallels can be drawn between the architectural theories which formulated the concepts presented through the previously discussed examples of visionary architecture and SF films of the 20th century. Fritz Lang's 1927 classic *Metropolis* creates an architectural environment which not only visibly resembles the architectural aesthetic of Sant'Elia's sketches (figure 1.3), but also imitates the Futurist ideology presented in their manifesto. In the film the city is literally portrayed as a machine, ceaselessly run by its working class below ground, while the wealthy enjoy the splendour of art deco designed facades and interiors that mimic the streamline efficiency of the new industrial era.

Figure 1.18: The working class at work below Metropolis.

Opposed to the rigid environments of the early 20th century films, the bizarre environments created for the French SF film *Barbarella* (1968) directed by Roger Vadim, recalls the playful

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[54] G. Mann, *The Mammoth Encyclopedia of Science Fiction*, London, Robinson, 2001, p. 6.

and unserious environments created by Archigram in the 1960's (figures 1.6-1.9). What is particularly noticeable throughout the film is the use of visual juxtaposition in which the idea of technologically advanced systems are presented alongside tactile and affective materials such as fur and squeaky plastics.
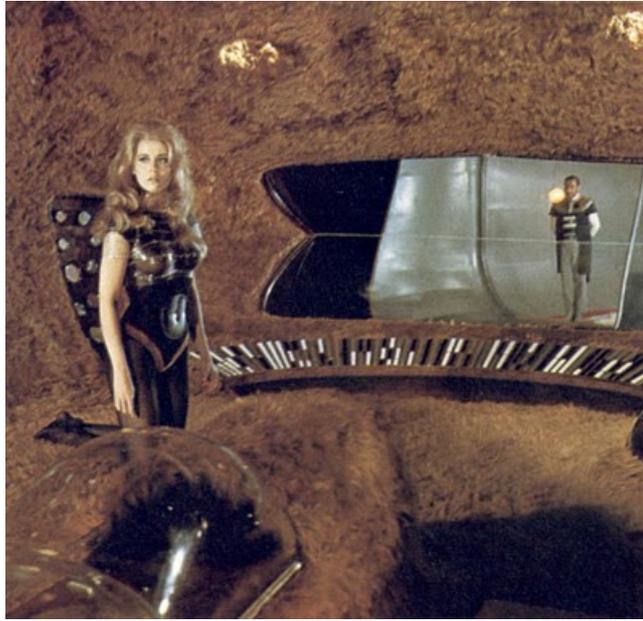

Figure 1.19: The fur covered interior of Barbarella's Spaceship.

Three years later George Lucas' experimental SF film, *THX1138* (1971), depicts a future in which the human population is sedated and controlled by equally unemotional robots. The blank architectural environments in the film share a similar aesthetic to that of Superstudio's Continuous Monument in which there is a lack of ornamentation or aesthetics with which the characters can be distracted from their work. These technomorphic architectural environments

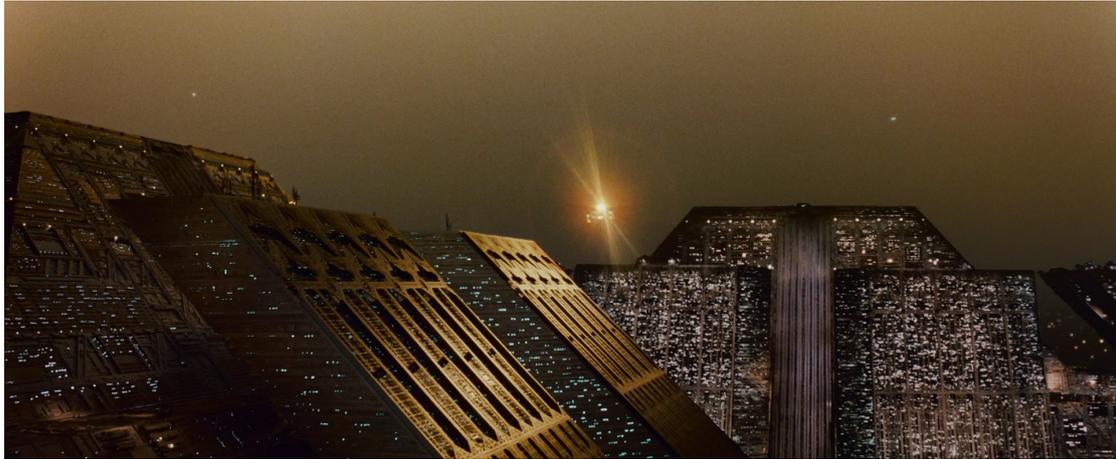**Figure 1.20:** Abandoned architecture in THX1138.

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Figure 1.21: The city of Los Angeles as a complex organism in Blade Runner

are often used in SF films to establish a loss of creativity and autonomy, which ironically is the opposite of what the Italian architects intended with their designs. The most recognisable SF film architecture can be seen in *Blade Runner 2019* (1982) directed by Ridley Scott, and in its similar (albeit more modern) sequel, Blade Runner (2017) directed by Dennis Villeneuve.

These now quintessential visions of the future draw heavily from East Asian megacities such as Japan and Hong Kong — an endless megalopolis in which the complexity millions of lives is inescapable. This echos the Metabolist's understanding of the city as a living organism that is able to adapt to its growing population and the extreme scale of buildings in both films mimic the metabolist concept of megastructures which are essentially cities within one   enormous structure. In both the original and sequel, the predominant architectural typology of both leading characters can be described as a compact and multifunctional space that meets its inhabitants every need. This is reminiscent of the Nakagin Capsule Tower (figure 1.13), in which a central service structure supports the compact capsule apartments. These comparisons between fictional film architecture and visionary architectural concepts indicates a pre-existing connection between the disciplines of film and architecture.

In chapter two the theory of the dialectic image is discussed with regards to the relationship between way in which the images the future in SF films are often presented as being new and innovative while also reminiscent of the past. This is partly due to the combination of new technology and existing architectural concepts which have been borrowed from history and result in a futuristic yet familiar vision of the future. These images are easily accessible through the medium of film and reach a more varied audience when compared to the images of visionary architecture which often remains within architectural discourse.

Chapter 2: Benjamin's dialectics and the estrangement of SF film
Theory: Walter Benjamin

The German Jewish philosopher, Walter Benjamin was a visionary in his own right. As a historical materialist, his work is characterised by a break from the traditional understanding that history should be read in a linear cause-and-effect fashion. He presented a new historical method, which selects moments in which the past and present are seen to collide, disrupting historical progression.[55] Alfredo Lucero-Monatno notes that according to Benjamin, the key to history lies in its vitality through remembrance.[56] Through the act of remembering, the events and ideas of previous generations are tied to those of the present, giving history a living quality. This is evident in the filed of architecture where new projects often use the visions of a previous generation and develop them into built form, drawing the past into the present. Likening historicism to science, Benjamin writes in one of his most celebrated passages from the *Arcades Project* (*Passagen-Werk*), that '[w]hat science [historicity] has "determined," remembrance [materialism] can modify.'[N8.1][57] His work sources images from various moments in time, and is used as a method with which he expresses his historical reasoning. Images have the ability to render conceptual historical philosophies in concrete form, and presents their truth outright.[58] Based on this materialist belief in the concreteness of images, which plays a fundamental role in his work on the Arcades Project (*Passagen-Werk*), Benjamin formulated the concepts of collective dreaming and its awakening, as well as the dream, and wish images that were bound up in the mythic images of 19th century commodity culture.

During the final 13 years of his life (1927-1940), Benjamin embarked on a research project of Paris that focused on the remnants of the industrial revolution, called *The Arcades Project*, or *Passagen-Werk*. His investigation is an attempt to create an historiographical recollection of everyday life in 19th century Paris, which drew its strength from the arcades and the city itself. Banjamin's *Arcades Project* is a symbol of the time. In the arcades, he recognised the various fascinations that consumed the 19th century culture, and collected from

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[55] A. Leblens, 'Jennings (Michel W.). Dialectical Images: Walter Benjamin's Theory of Literary Criticism', *Revue belge de Philologie et d'Histoire*, vol. 70, no. 3, 1992, p. 867. Available from: Persée, (accessed 17 August 2017).
[56] A. Lucero-Monatno, 'On Walter Benjamin's Historical Materialism', *Astrolabio: International Philosophy Review*, vol.10, 2010, p. 125. Available from Astrolabio (accessed 17 August 2018).
[57] W. Benjamin, *Arcades Project*, trans. H. Eiland and K. McLaughlin, Cambridge, Harvard University Press, 1999, p. 471.
[58] Lucero-Monatno, 'On Walter Benjamin's Historical Materialism', p. 125.

it a vast number of everyday objects, which he used in true materialist fashion—as objects that would present their own historical meaning.[59] Focusing on 'low' culture, Benjamin recognised popular culture as a producer of historic knowledge. By defining these found objects as *Urgeschichte* (ur-history)*,* the objects' influence on progress could be traced through its image.

Benjamin realised that the idea of progress is collectively accepted, because the supposedly new idea (dream image) is based on an already-existing concept, which he called the wish image—the subconscious recognition of the old within the new creates acceptance of new developments. These wish images represent the collective idea of utopia and are not a concrete or physical image. Benjamin's modern metropolis was dominated by the capitalist idea of progress which presented the city through mythic images, preventing society from realising the true injustice and alienation of man within the city.[60] These images, which distract inhabitants from the reality of the city, are Benjamin's dream image, and is characterised, through its concrete nature, as the manifestation of the utopian concept of progress and improvement. This understanding is gathered from both Susan Buck-Morss' and Max Pensky's description of the dream image. Buck-Morss focuses on the image's fetishised nature as a representation of progress, which is collectively consumed,[61] while Pensky stresses its false nature which presents itself as exactly that, and reinforces its own longing due to its misguided appearance.[62] Benjamin believed that the collective consciousness had fallen asleep during the 19th century with the rise of commodity culture.[63] The dream image of progress led to this conscious dream state. The resultant spell of consumerism, advanced by the dream image, had placed society in a state of wakeful, collective dreaming, and brought Benjamin to imagine an event that would allow people to wake from this dream, and take back the control that they had unknowingly sacrificed in exchange for that dream; this moment of realisation is the collective awakening.[64] These ideas which have been defined before the middle of the 20th century remains true today as commodity culture has strengthened its hold on society. Not only are we confronted with consumerism in the T*raumhaus* (places for collective dreaming, such as shopping malls, cinemas and theme parks), but it has become an unavoidable part of

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[59] Buck-Morss, *The Dialectics of Seeing: Walter Benjamin and the Arcades Projects*, Cambridge, The MIT Press, 1991, pp.3-4.

[60] G. Gilloch, *Myth and Metropolis: Walter Benjamin and the City*, Cambridge, Polity Press, 1996, p. 1.

[61] Buck-Morss, *The Dialectics of Seeing,* p. 56.

[62] M. Pensky, 'Method and time: Benjamin's dialectical images', in D.S. Ferris (ed), *The Cambridge Companion to Walter Benjamin*, Cambridge, Cambridge University Press, 2004, p. 184.

[63] Goldstein, 'Dreaming of the Collective Awakening, p.54.

[64] Goldstein, p. 53.

our daily lives, infiltrating our homes, transportation, and social interaction through various forms of new technology.

As a reaction to this state of dreaming, Benjamin attempted to construct a counter-discourse by unearthing buried markers that expose "progress" as the fetishisation of modern temporality, which is the endless repetition of the "new" as the "always-the-same".[65] When considering the definition of wish images, however, it is important to remember that it will remain an interpretation of Benjamin's final work due to the fact that he never finally defined the term himself. There has also been quite a number of debates surrounding the difference between the wish and the dream image and if the latter even exists as a concept in itself. When discussing dream and wish images, Goldstein notes that Benjamin uses these terms interchangeably, often referring to both as one and the same concept. However, Susan Buck-Morss, who has written extensively on Benjamin's work on the Arcades Project, clearly distinguishes between the two, stating that dream images refer more specifically to the fetishised objects of capitalist culture, while wish images describe the utopian ideals of a classless society.[66] In this thesis the two terms are used to indicate two separate types of images, the one being imaginary and the other its physical manifestation. There is however a fine line that separates these two types of images which are inherently connected to the idea of utopia. Images of contemporary architecture are representations of the dream in which people believe that they live in utopia. SF film architecture in turn draws from this dream image of utopia but provides an alternative view in which the utopian wish is distorted. The images of SF film architecture can therefore be seen as providing a necessary shock that allows audiences to momentarily awaken from their collective dream of a realised utopia that has been provided through the images of contemporary architecture.

To Benjamin, the moments of the past, which influence the seemingly unique dreams of progress in the present, can be presented again to the dreaming collective in an attempt to create an awareness of their belief in fetishised images of progress.[67] This implies that past images of newness can create an awareness progress that is often rooted in history and should therefore, not be fetishised as completely new and innovative. These images will ultimately bring to light the misleading quality of dream images by providing an objective, see-for-yourself reference of the ideas from which they have developed, illustrating that the ideas of

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[65] Buck-Morss, *The Dialectics of Seeing,* p. 56.
[66] Schinkel, 'The Image of Crisis', p.43.
[67] Buck-Morss, *The Dialectics of Seeing,* p. 114.

the present are not completely unique or new. Through his method of the dialectical image, Benjamin shows that the past has a definite influence on the present,[68] and if that logic is extended, on the future. This method attempts to provide a way through which the recognition of moments of awakening could be cultivated within the collective; an education in seeing for themselves instead of being told what it is that they should be looking at. His therefore tries to make people more critical of the images that are consumed. For this task, Benjamin developed the method of the dialectical images. These images introduce the concept of concreteness into a text or theory through their representation of the artefacts that are inherently bound to history.[69] They bind theoretical reasoning to the real world through images which connect concrete phenomena to thoughts.

According to Buck-Morss, Benjamin's method of dialectics 'experiments with an alternative hermeneutic strategy…one that relies… on the interpretive power of images that make conceptual points concretely, with reference to the world outside of the text.'[70]. Developed by Plato, dialectics are presented as a back and forth debate in which opposing views are posed and discussed, and through the linear progression of reasoning, begin to incorporate views between the two, until a common understanding is reached that is more sophisticated. While Plato's dialectics rely on the dialogue between two or more people who provide the opposing sides, Hegel's dialectics describe an opposition within a single subject matter itself. This refers to the recognition that a single concept can be described by opposing definitions at once.[71] Building on Hegel's understanding of dialectics, Benjamin sought to provide a new method of reasoning that uses images as a form of concrete argumentation that is grounded in reality as apposed to the accepted method of dialectical argumentation.[72] Here again we are reminded of Benjamin's visionary approach to the field and study of history in which material objects form the basis of an argumentation as they provide concrete and visible facts. But, Pensky points out the contradiction that appears in the term 'dialectical image'. He explains that while dialectics emphasise the plurality of meaning developed over time, an image's meaning appears to be singular and provided through instant observation.[73] This binds

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[68] Pensky, 'Method and time', pp.184–185.
[69] Buck-Morss, *The Dialectics of Seeing,* p. 56
[70] Buck-Morss, p. 6
[71] J.E. Maybee, 'Hegel's Dialectics', in E.N. Zalta (ed), *The Stanford Encyclopedia of Philosophy*, [website] 2016, https://plato.stanford.edu/entries/hegel-dialectics/, (accessed 7 August 2018).
[72] Buck-Morss, *The Dialectics of Seeing,* p. 67.
[73] Pensky, 'Method and time', p. 179.

meaning to time as an single viewing of an object/image in a specific moment in time produces a specific meaning. This does not, however, mean that the same object/image can't be reinterpreted at a different time. This is key to understanding the dialectic quality of images which can be interpreted *ad infinitum*.

Images of contemporary architecture, commonly circulated through the internet, have been transformed into commodity objects which are presented to the public as representations of a utopia that is within our grasp. These images, such as the ones seen in figure 1.23 of the new Hamburg Philharmonic concert hall and the Heydar Aliyev Centre in Baku, Azerbaijan, which was designed by Zaha Hadid (figure 1.24), typically depict architecture in a clean, safe and welcoming environment with dramatic light, with subliminal views of the urban and natural landscapes. In reality, these environments are hardly ever experienced as they appear, but the dream is maintained through the consumption of these images. To some extent, SF films offer audiences an exaggeration of this material dream image through film architecture, providing an opportunity to momentarily awaken from the collective dream, through the estrangement of accepted architectural norms.

Estrangement or *Verfremdung* is defined by two theoretical concepts: the first being Shklovsky's *ostranenie* (defamiliarisation) and the second is Brecht's *V-Effekt* (estranging effect). Immediately a difference between the two concepts can be noted: defamiliarisation denotes the action of estrangement while the estranging effect is the result of being subjected to estrangement. In 1917, Viktor Shklovsky wrote that '[a] representation which estranges is one which allows us to recognize its subject, but at the same time makes it seem unfamiliar'.[74] Similarly, Bertolt Brecht defines *Vervremdung* as a distorted image of a known subject that allows its viewer to reconsider their understanding of reality, [75] taking Shklovsky's definition one step further by focussing on the effect that estrangement has on the viewer. While both Brecht and Shklovsky's definitions describe estrangement in terms of the perceptual development of an audience, which acts as a description of the formal aspects of an image, Shklovsky's definition of *ostanenie* focuses on the historical process of perpetual defamiliarisation, in which estranged images become accepted over time as a new norm and

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74 V. Shklovsky, 'Art as Technique', in L.T. Lemon and M.J. Reis (eds), *Russian Formalist Criticism*, Lincoln: U of Nebraska P, 1917, pp. 3-24, cited in S. Spiegel, 'Things Made Strange: On the Concept of "Estrangement" in Science Fiction Theory', *Science Fiction Studies*, vol.35, no 5, 2008, p.370. Available from: JSTOR (accessed 13 June 2018).
75 Spiegel, 'Things Made Strange', p. 370.

will therefore be estranged themselves, resulting in a continuous state of change.[76] Spiegel observes that for Brecht it is important that the act of estranging an image should lead to a realisation of our influence on the historical process, and its role in defining the future.[77]

Following Shklovsky's definition of *ostranenie*, the images that are presented through visionary and SF film architecture alike, seem at first to represent revolutionary ideas, but are normalised over the course of time and often inspire new built forms. This normalisation, in turn, leads to new forms of visionary architecture that estrange their normalised predecessors, resulting in a process of continuous change. The empirical analysis that follows in chapter three, discusses how fictional architecture in SF films has applied a degree of estrangement to accepted images of architecture through history that promotes curiosity, allowing its audience to question their understanding of reality. According to the cultural theorist Scott Bukatman, who specialises in film and media studies, the purpose of SF film, is to provide an audience with a subliminal experience that allows them to transcend their reality and enter into a dream of creative possibilities.[78] But, as Stanley Kubrick notes, the dreams presented through these films are often closer to reality than to mysticism.[79] This is evident in the close relationship between the images of material contemporary architecture and the visionary images of architecture found in SF film. Figure 1.25, an image by the German photographer, Micheal Wolf, the density of the social housing towers in Hong Kong shows the loss of human scale that is often experienced within these extreme urban environments. Although there is no trace of people, the lit up windows in there apartment blocks allow us to understand the complexity of the city. Similarly figure 2.2.1 form the web tv series *Altered Carbon*, which will be analysed in depth in the next chapter, shows a lone figure staring at the city and creates a similar felling of hopelessness that the first achieves. Audiences are more critical of the image of film architecture as it is shown here to estrange an exciting image of a densely populated city. The dream image that is produced through film architecture, is one in which the collective image of utopia becomes estranged due to the exaggeration of its wish images within SF film. Shocked by the proximity of their dream and estranged wish image, the group awakens to reality. This awakening allows the collective to critically question the divide between their dream images and their reality.

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[76] Spiegel, p. 369-370.
[77] Spiegel, p. 370.
[78] S. Bukatman, cited in Fortin, *Architecture and Science-Fiction Film*, p. 20.
[79] S. Kubrick, cited in Fortin, *Architecture and Science Fiction Film*, p.20.

Chapter 3: Method and Analysis

Method

In order to understand how the architectural environments in SF films communicate specific ideas about the future to its audience, a visual social semiotic analysis is conducted on two motion picture films and one web tv series, from the past six years. A descriptive account of the environments are provided prior to the main analysis, as a way to stress certain aspects of the image. Following these descriptions, each film/series is analysed individually in order to gain insight into the overall reception of SF film architecture. In the conclusion to this chapter, the findings gathered from the individually analysed images are synthesised and discussed according to their representations as wish images, which allows the curious viewer a momentary awakening from the dreams they represent. The selection *Dredd* (2012), *Black Panther* (2018), and *Altered Carbon* (2018), is based on their subliminal representation of a future urban environment. From each of these films/series, three images were selected which best describe the urban and architectural concepts of each film, and are treated as the primary material upon which further analysis is conducted. It was important to define the relationship between the medium of film and the images gathered from within it, as the two, although they remain connected, had to be viewed as two separate mediums (motion picture and still image).

Regarding the selection of the 9 individual images, these again, were selected according to their representation of a future urban environment on Earth. This included established elements like paths, edges, nodes, and landmarks that define the image of an urban environment, which have been borrowed form Kevin Lynch's study on the imageability of cities, which defines the importance of the visual quality of urban environments.[80] Furthermore, the selection of images which represented the qualities of an urban environment, were subjected to a visual social semiotic analysis which formally examines the configuration of the urban settings, as well as the architectural objects, that defines the quality of space. Furthermore, the images were selected based on their portrayal of an urban typology and its resultant urban texture. In defining the urban typology, the density and scale used within the images played an important role in making a selection, while elements of light and materiality formed the the main focal points when assessing texture. Lastly, for an image to be included, architecture had to form the main focus of the shot.

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[80] Lynch's discussion and definition of these elements can be found in K. Lynch, *The Image of the City*, Cambridge, The MIT Press, 1960, pp. 46-47.

What follows is a visual social semiotic analysis, defined by Kress and van Leeuwen[81], in which the production of meaning is discussed in the context of the architectural environments described above. The analysis focuses on the way in which images communicate and interact with an audience. Their method identifies three ways in which semiotic meaning is created (representational, interactive and compositional meaning),[82] and describes the work that structuralist semiotics does. Instead of focusing on the creation of signs, it focuses on a method through which the signs are created through interpretation.[83] Form this method, I have decided to focus my analysis on the creation of interactive meaning between the image and its audiences. According to Kress and van Leeuwen, this interaction between the audience and the image is produced according to contact, distance, and point of view. In these methods, specific terminology is used through which the image is interrogated and results in a particular interpretation, which draws from the viewer's frame of reference. Their method is interpreted and slightly adjusted so as to define a systematic way in which the images of architecture can be approached, and finally discussed.

Material Analysis

Following are three sectional paragraphs which introduce the different urban environments presented in *Dredd* (2012), *Altered Carbon* (2018), and *Black Panther* (2018), and are used as descriptive references in the visual social semiotic analysis that follows. Each section begins with the three selected images that are used to describe the contradiction of progress that is characterised by SF films, and describe three different urban environments: a self contained mega city, a super tall metropolis, and a culturally grounded city. These urban typologies are not new, but instead borrow from existing environments, and build upon the concepts of previous visionary ideas by exaggerating various elements. As a result they have created estranged visions of the future. These environments mirror the constructed milieu that from the base of the selected SF films.

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[81] C. Jewitt and R. Oyama, 'Visual meaning: A social semiotic approach', in T. Van Leeuwen and C. Jewitt (eds.), The Handbook of Visual Analysis, 2001, pp.1-27. Available from Sage Research Methods, (accessed: 13 August 2018).
[82] C. Jewitt and R. Oyama, pp.8-9.
[83] C. Jewitt and R. Oyama, p.8.

Dredd (2012)

Figure 2.1.1: Urban wasteland, (00:15:08)

Description The first two images (figures 2.1.1 & 2.1.2), describe the mega city in which *Dredd* is set. In image 2.1.1, which appears in the opening scene, the city is visually introduced as a continuous urban wasteland, which stretches from Boston to Washington DC. It is completely separated from the now toxically radiated and uninhabitable surroundings by a wall that stretches along its outer bounds, and creates a new nature of concrete and asphalt. Called Mega-City One, this exaggerated urban environment houses 800 million inhabitants within its walls, most of whom live in the monolithic skyscrapers shown in figure 2.1.2, which are dotted throughout the old structure of the city. These mega structures function as cities

Figure 2.1.2: Megacity One, (01:28:58)

within themselves, and are built around a central atrium that punctures the colossal structure from above, and provides light into the main plaza's found on the ground floors (figure 2.1.3). The main setting of the film is located within one of these tower blocks, called Peach Trees,

which represents the self contained urban concept of Mega-City One on a smaller scale, making it easier for the audience to understand the sheer size of the urban environment.

Analysis: In figure 2.1.1., the landscape and the city are one and the same. As a result of the two-point perspective, and the absence of an urban focal point, the idea of a boundless city is created, reaching out beyond the frame. To the 800 million inhabitants of Mega-City One, the context is inescapable, and the viewer, who approaches the image from a high vantage point, looks down upon the city, remaining detached from its desperate representation. This idea of
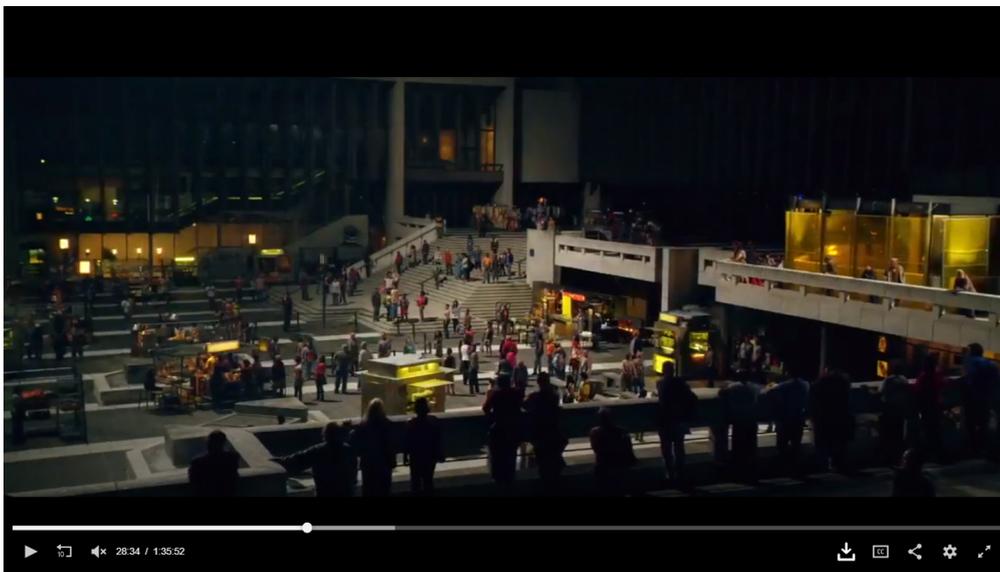
Figure 2.1.3: Peach Tree Plaza, (00:28:31)

hopelessness within the urban context is reiterated through the position of the sun, which sets through a polluted sky, casting long heavy shadows on the city. This same hopeless feeling is invoked when approaching the second image (2.1.2), but the way in which this feeling is created differs form the first. Where the point of view in the first image is from an elevated and vantage point above the city (2.1.1), the second image engages with the audience, at eye level, inviting them into its complexity. However, the monotony of the repeated structures into the vanishing point of the central perspective reinforces the sheer size of the landscape. The megastructure on the left of the image extends itself out, toward the viewer, and focuses their attention on the group of people who are grouped on a cantilevered ledge, overlooking their environment form a shared perspective. Their presence within the urban context serves a dual purpose: the first is to provide the viewer with human scale, which is allows them to relate to the vastness of the city, which is offered in the first image (2.1.2). Their second purpose

reiterates the viewer's detachment from the urban environment as they are positioned above the landscape. Even within the image, the city remains closed off and unfamiliar to its own inhabitants. The final image provides a different view of the city, and takes the viewer inside its megastructures (2.1.3). Through its shift in focus from the external to the internal city, a more populated and seemingly engaged view of the city in use, is created. With their backs turned toward the audience, the people who are gathered within the square only provide a sense of the scale within the monolithic structures themselves. From a slightly elevated angle, the viewer looks down to the depressed plaza and onto the inhabitants, who are going about their daily activities undisturbed by our presence. This maintains the detached gaze with which the previous two images are assessed. Here the inhabitants do very little in engaging the viewer, who is left to examine the scene below.

The environment is presented to the audience as unfamiliar, distant and unengaging. This creates a sense of of uneasiness within the viewer with regards to the typological representation of the future city. In effect the estrangement of existing concepts, such as mega-cities and their impact on the environment, carts a sense of unease. This is not a future urban environment that we would be comfortable with, but the reality is that many people around the world, who live in cities like Seoul and New York, are faced with similar, albeit less extreme environments.

Altered Carbon (2018)

Figure 2.2.1: Bay City, (00:55:27)

Description: Figures 2.2.1 to 2.2.3, describe various parts of Bay City, the urban context of the Netflix original series, *Altered Carbon* (2018). Set in an undefined future, the city, depicted in figure 2.2.1, is created as an interior environment, caught between the earth and the sky though the bank of clouds that hang over its sprawling skyscrapers. A few super-tall structures reach even further into the sky, and pierce through the natural ceiling. Neon lights, and holographic signs are plastered across the facades of the building, and in the centre of the

Figure 2.2.2: Aerium, (00:21:13

image we find the structural bracing that criss-crosses above what can only be understood as a public square, cutting into its dense, dark surroundings. In figure 2.2.2, the same clouds that restrict Bay City vertically, are presented as the ground plane from which the Aerium rises up even further into the earth's atmosphere. Two monolithic structures reach up and out of the image frame. These buildings depict the the difference between the urban aesthetic that is found in the city below the clouds and that found above. But architecturally the aesthetic of the buildings themselves create a visual consistency between the two environments and allows the viewer to contextualise this empty landscape as a continuation of the one below. Favelas stretch along the Bay City Bridge in figure 2.2.3, clinging to the abandoned structure. Behind this organically developed neighbourhood the city is seen snaking the river, which provides the context with a natural element.

Analysis: The first figure of *Altered Carbon* shows the city's high density of skyscrapers that reach up and out of the image's frame (2.2.1). The viewer observes the city from a medium-long shot, which creates a sense of claustrophobia by cutting off the edges on all sides. The architectural elements within the city are not monolithic, but the slender buildings are braced between themselves, creating an oppressive entangled environment. The viewer observes this chaotic environment from a distance, which prevents any dynamic interaction in the frame. In figure 2.2.2, the clouds that create a ceiling for the city below, forms the ground line from which the Aerium is viewed. The anchoring of these super-tall structures to the horizon instills
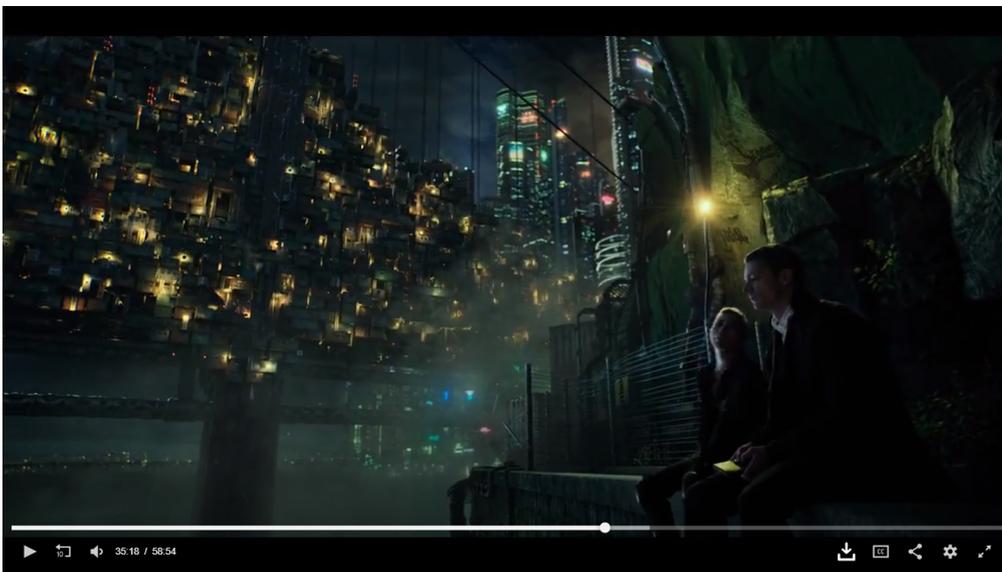
Figure 2.2.3: Favela, (00:35:18)

a false sense of scale within the viewer as these structures appear smaller than they are. The sun flare initially creates a utopian understanding of the image, however when the density is compared to figure 2.2.1, the environment becomes barren and hostile. This cold environment is reiterated through the appearance of the architectural structures that are included within the frame. These include the two spires piercing the clouds from the city below and the building in the background. A close-up shot reveals a level of detail that creates a sense of familiarity within the empty landscape, but still the skeletal structure is not inviting. The final image is more dynamic than the previous two, due to the fact that both the foreground and background contain high density environments (2.2.3). The favelas that are attached to the Bay City bridge reveal the harsh reality of the city that has displaced many of its inhabitants. This creates a contrast between the inhabitants' living conditions and the city to which they want to belong. This is illustrated through the bright lights of the city and organised appearance of its

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buildings, whereas the favelas are dark and unorganised. The low angle of the image makes the viewer look up to the city as a symbol of progress and is contrasted by the dirty foreground. The close proximity of the favelas create an uneasy feeling that does not stand out in the first two images.

The skyscraper city is presented as a hostile, unsafe and unapproachable environment. These images do not allow the viewer to enter into the city and see its conditions for themselves, but instead places them at a distance. This is a city of complete progress but, as the last image shows, the reality of this progress is that many people are forced into poor, slum-like living conditions outside of the prosperous city which shares many similarities with the reality of globalised cities today.

Black Panther (2018)

Figure 2.3.1: An overhead view of Wakanda's diverse architecture and layout, (00:35:53)

Description: Lastly, figures 2.3.1 to 2.3.3 introduce The Kingdom of Wakanda, which is located in the general area of East Africa. The capital city, Brinin Zana is developed around a mineral mound of Vibranium (a fictional metal that is used as the main power source within Wakanda), upon which the palace is situated. Figure 2.3.1, provides an overall view of the city, in which the palace and Vibranium mound form part of the foreground and are separated from the city by a river. The natural landscape, with green mountain ranges and dense vegetation is integrated into the city and provides a lush context. Figure 2.3.2 further describes the particular architectural and urban aesthetic of Brinin Zana, in which the skyscrapers are

characterised by the combination of Africanisms and Western building types. A skytrain snakes through the image above a low density neighbourhood, while what could be described as a tram moves straight down one of the main roads. These advanced transportation technologies are integrated into the urban context where the unpaved streets are filled with pedestrians. The last image (figure 2.3.3) describes the streetscapes in which architecture, culture and technology are harmoniously coinciding. The tram and skytrain rail are centrally placed, and surrounded by vibrant colours and a variety of building materials. The people are engaged in everyday activities, and the products on display are handmade.

Analysis: The overall city view, seen in figure 2.3.1, engages with the viewer on two levels. These include the mineral mound and palace, which are situated closest to the viewer, and the river that flows into the image. The palace demands our attention through its scale and level of detail, whereas the river subtly pulls the viewer towards city in the middle ground of the image. From the audience's perspective, the scale of the buildings in the cityscape seem distorted, as they are surrounded by larger elements (the mountains in the background and
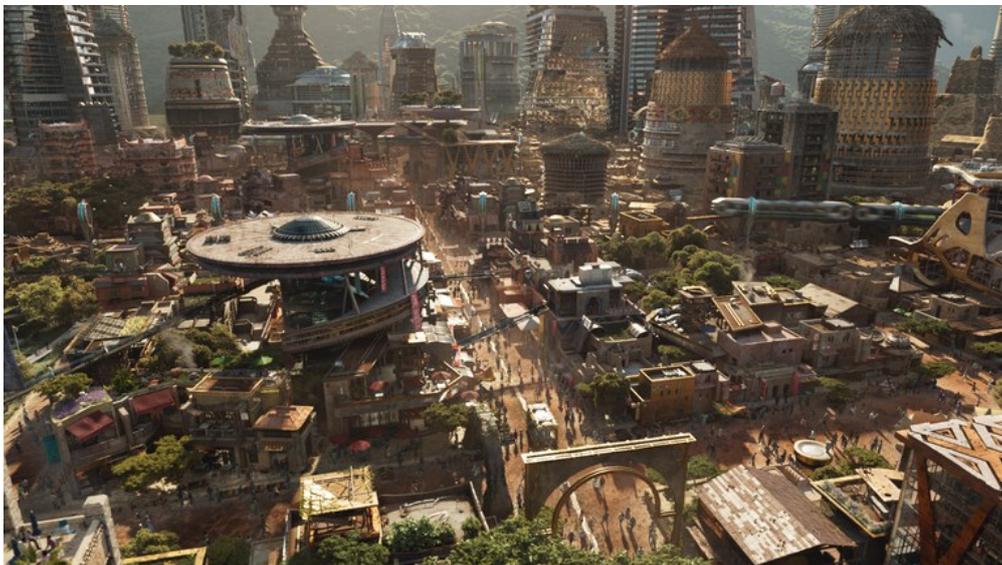

Figure 2.3.2: Intermediate shot of city, (00:33:14)

palace in the foreground). This makes Brinin Zana seem welcoming. The sense of vitality within the architectural elements is reinforced through the presence of natural elements such as the river and vegetation. This contrasts the previous image—the city, as shown in figure 2.3.2, seems bigger due to the proximity of the viewer to the architectural elements within the city, as well as the inclusion of human scale. This image is also less engaging and offers an overview

of the inner workings of the city. The incorporation of advanced technology into a highly vibrant environment creates a sense of excitement for the viewer, which is strengthened by the lack of a prominent focus. The central perspective creates a more dynamic understanding of the relationship between the different buildings. A combination of low-density buildings in the foreground and the taller skyscrapers in the back, creates a scale of engagement and familiarity within the city. However, the absence of a prominent skyline in turn causes a more chaotic and disorientating feeling. Unlike any of the other images, there is a mutual interaction between the inhabitants of the city and their environment. This, along with the use of colour and light engages the audience and creates a strong sense of utopia. In figure 2.3.3, the lowered angle, and close-up shot of the streetscape provides more detail into the lives of the inhabitants and

Figure 2.3.3: Wakanda streetscape, (00:33:19)

invokes a sense of liveliness. The central perspective, which focuses on a technologically advanced tram and city in the background, creates a juxtaposition within the image between a rural lifestyle and the idea of progress. The image of Brinin Zana, experienced through these three figures, invokes a bigger understanding of an innovative lifestyle.

Black panther is presented as an alternative urban environment for the future. It presents the future as a utopia and is reinforced by the exaggeration of healthy living conditions that are characterised as simple, natural and based on human scale. Various visual cues allow audiences a level of engagement that is impossible in the first two films. The use of

colour and light plays an important role in generating a warm and welcoming environment The urban environment is welcoming and warm, resulting in a more positive dream for the future. This healthy regional city is a new architectural typology in the genre of SF film and has already stirred up many debates about what our future should be.

Discussion

Each of the environments that have been discussed in the analysis represent a different urban typology. Mega-City One, seen in *Dredd*, is an example of a megacity, which according to the Oxford Living Dictionary, is characterised as a metropolitan area with more than 10 million inhabitants.[84] In this case the 800 million inhabitants within Mega-City One provide an estranged view of an already existing typology and presents an exaggerated example of what cities would/could look like if the population were to keep growing. *Altered Carbon*'s Bay City is an example of a vertical city, which borrows the concept of Le Corbusier's Plan Voisin (figure 1.4) which focused on maximising the maximising a cities density and providing accommodation in tall skyscrapers so as to free up the public spaces on street level[85]. *Black Panther's* Brinin Zana is an example of a future city that is able to retain its cultural heritage while incorporating new forms of technology into the urban fabric. It characterised by focusing on regional aesthetics and mixed scale. This is environment presents a more utopian image of the future, while simultaneously commenting on the homogenisation of globalised cities in the present day.

Even though the images found in SF films depicts a fictional future environment, many of the architectural concepts are drawn from present day cities. Apart from their aesthetic connection to realistic cities, they can also be compared to the conceptual environments of visionary architecture. The dystopian landscape of *Dredd*, which depicts a continuous and homogenous environment, is visibly comparable to Superstudio's Continuous Monument (figure 1.10), stretching across varied landscapes as one single urban typology, while the arrangement of mega structures in figure 2.1.2 are similar to that of Le Corbusier's Plan Voisin seen in figure 1.4, where a grid of high density high-rise structures are dotted across the landscape. The overwhelming density of skyscrapers that have been packed into every buildable area of Bay City in Altered Carbon reminds the viewer of cities like Hong Kong

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[84] 'megacity', Oxford living dictionaries online, Available from https://en.oxforddictionaries.com/definition/megacity, (accessed 23 August 2018).
[85]

seen in figure 1.25; a comparison that remind viewers of how close this claustrophobic future is to reality. But the addition of super-tall skyscrapers that reach up and out of the clouds, as seen in figure 2.2.2, exaggerates the current trend in architecture in which cities are building ever taller structures such as the Burj Khalifa seen in figure 1.15. and the Lakhta Center in Saint Petersburg (figure 1.14, now known as Europe's tallest structure. Both *Dredd* and *Altered* Carbon are examples of an established visual culture of SF film architecture. They convey a dystopian view of the future which seeks to confront viewers with the probable results of the Anthropocene. By presenting these gloomy and inhospitable environments as facts for the future, these films attempt to shock audiences into recognising the urgency of changing our habits. *Black* Panther, however, has a completely different effect on audiences, one that is positive and up-lifting. The scale and pedestrian environment depicted in figure 2.3.3, shows similarities between the city of Brinin Zana in *Black Panther*'s Wakanda, and the utopian ideas of Archigram's Instant City (figure 1.10), depicting a lighthearted and enjoyable urban environment for the future, which is able to grow from, and adapt to its surrounds and its inhabitants. This afro-futurist vision of the future inspires audiences to embrace their culture and provides an example of how difference can lead to a more communal and peaceful urban environment that is much closer to the original Benjamin's wish image of utopia.

Apart from being the visually similar, these images share a common interest: they depict a future for the city which has been influenced through technological progress. These similarities also provide an example of how Benjamin's theoretical concepts of wish and dream images can be relate to architectural images. For instance, the collective wish to fly and defy gravity is represented through the physical manifestations of super tall skyscrapers and mega structures that would allow us to see the world from a perspective that is not common in everyday life. Images such as the slender skyscrapers that read through the clouds in figure 2.2.2 can be interpreted as a dream image. By understanding the way in which the image works to communicate its intent to an audience, we are able to better understand the power that images hold over our perceptions. This understanding can be likened to Benjamin's moment of awakening: as the dream image and the wish images are separated, we are able to distinguish between two, and can therefore generate new ideas and debates with regards to the future of our cities.

Conclusion

The main purpose of studying the history of the ideas upon which the images of the future are based, in this case represented through SF film, is to provide people with the necessary information that is needed to understand how these concepts can be changed. As the analysis has shown, the environments in SF films build upon the ideas of the past (some of which have even been realised) and remain connected to these visionary ideas. But while SF films provide images of possible futures, film also has the power to influence our perception of spaces through its immersive characteristic, transporting audiences into the images where they can experience these spaces, and should therefore not be taken lightly. The images that have been analysed remain ideas which are often impossible to translate directly into reality, but they do, however, possess the ability to let people think about what is going on around us. They should be used to inspire change through discussions of the current environments and the way in which we will incorporate new technology into our lives. By understanding that the future of our world is not a product of fate, but rather results directly from our collective actions, we will be able to affect the necessary changes that are required to create urban environments that are more responsive to the needs of its inhabitants such as *Black Panther's* Binin Zana. This does not mean that we must turn a blind eye on the dystopian images represent by Dredd and Altered Carbon. These images are especially useful when discussing which scenarios can and should be avoided. These fictional images architecture can be useful to architects and urban planners who ultimately shape our world. Through the critical discussion of these 'low', pop culture images, they can include the voice of the general public in the debates surrounding environments that are cerated for the public.
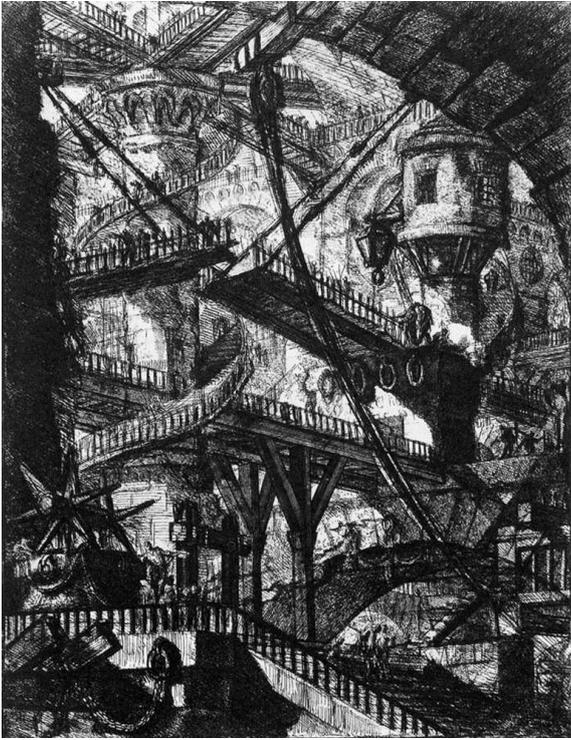
Appendix A: Figures

Figure 1.1: Piranesi's emotive sketch of a prison dating from around the 1760's.
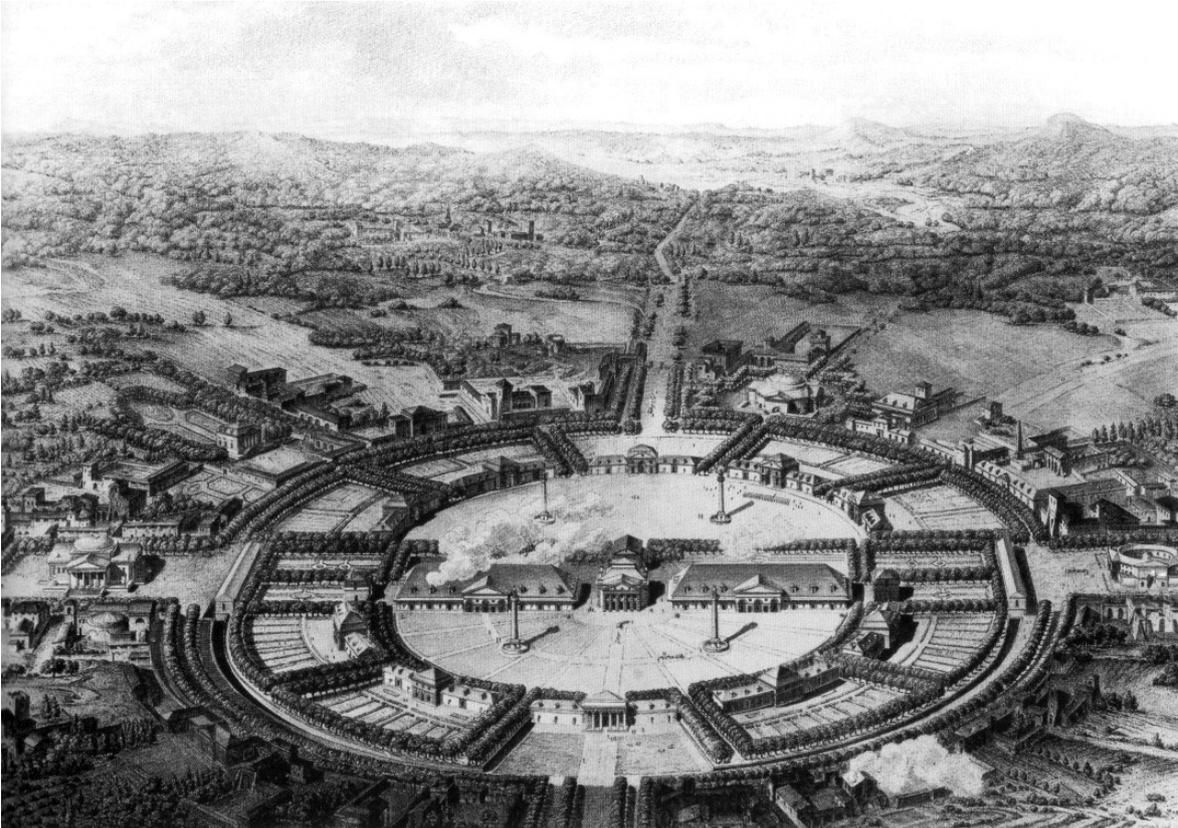

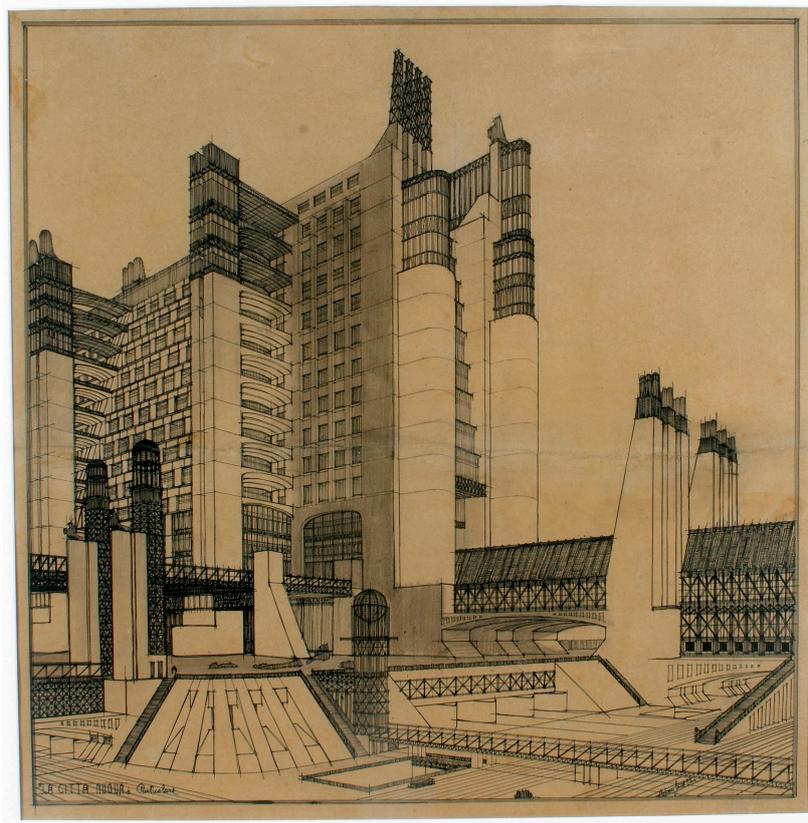**Figure 1.2:** A birds eye view of Claude-Nicolas Ledoux's salt mine at Chaux in the .

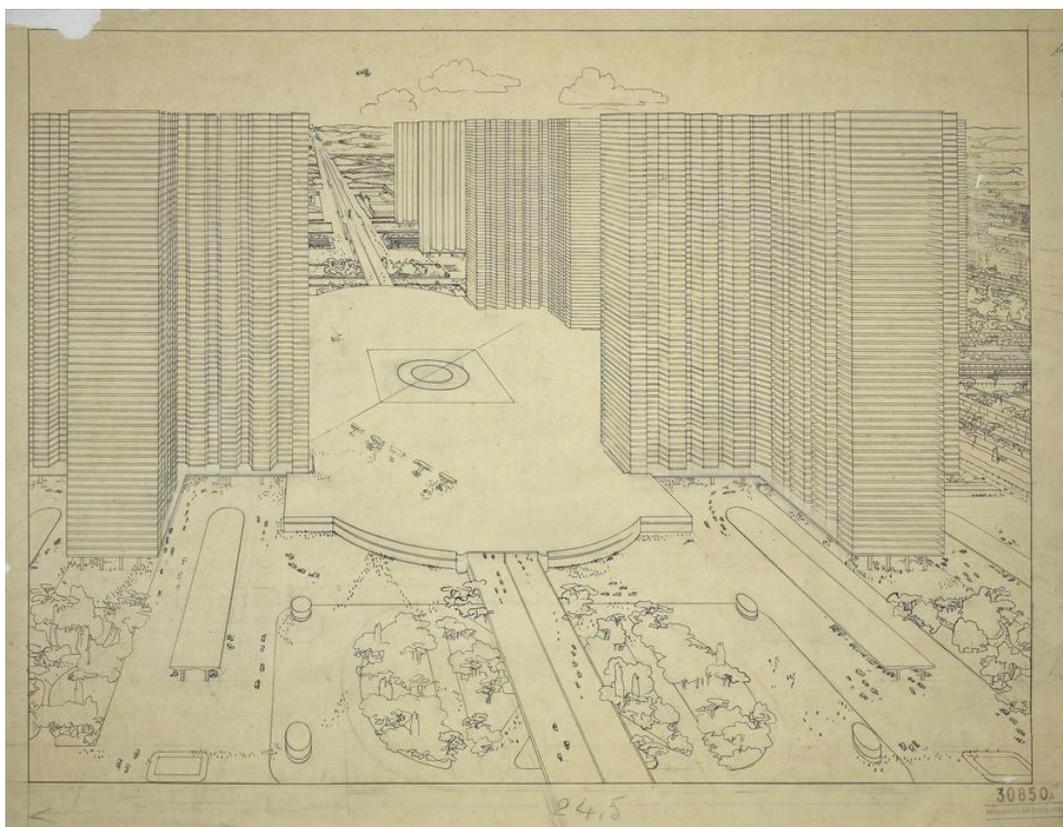**Figure 1.3:** La Città Nuova. Particolare (The new city. Detail).
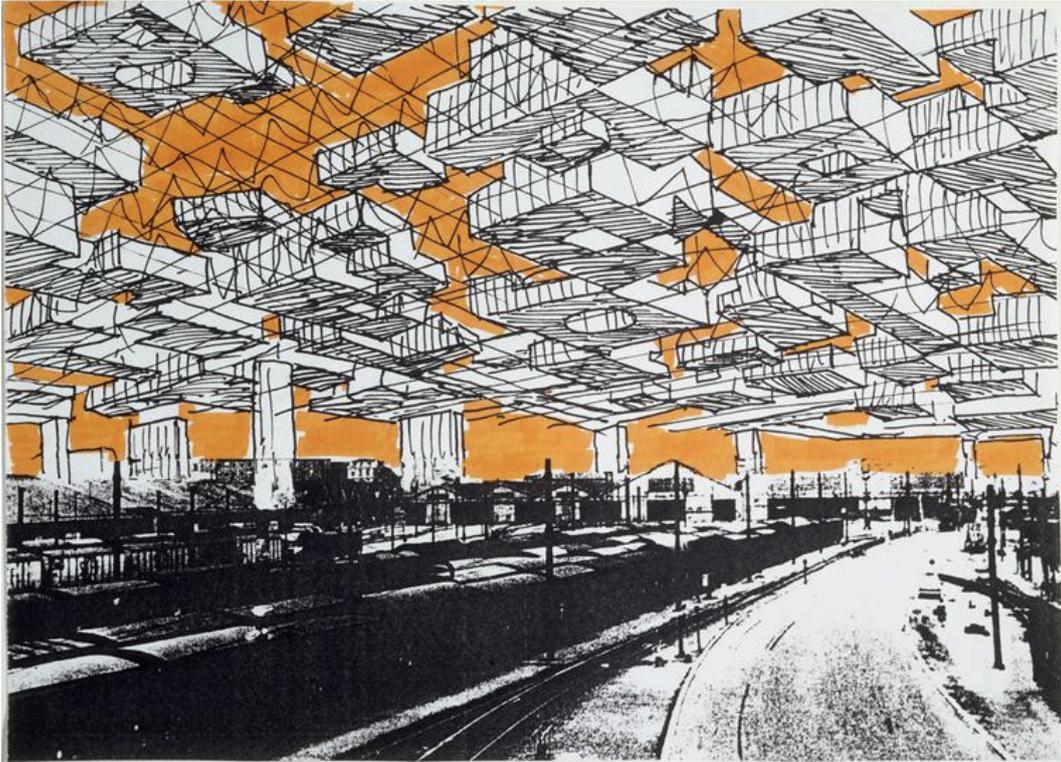

Figure 1.4: Plan Voisin, Paris, 1925.

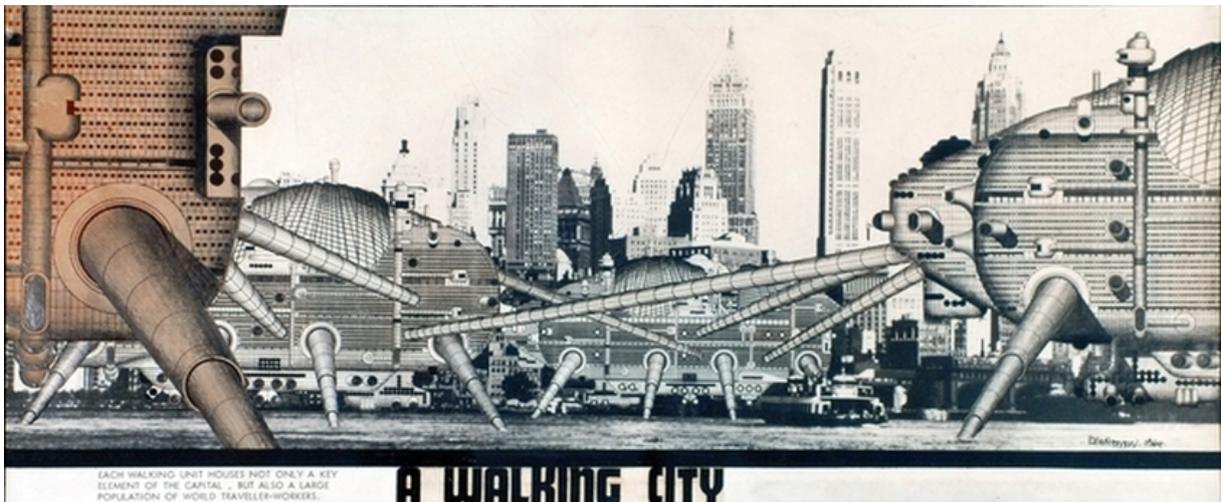**Figure 1.5:** Spatial City, project, Perspective, 1958/ 1959, Moma, New York.

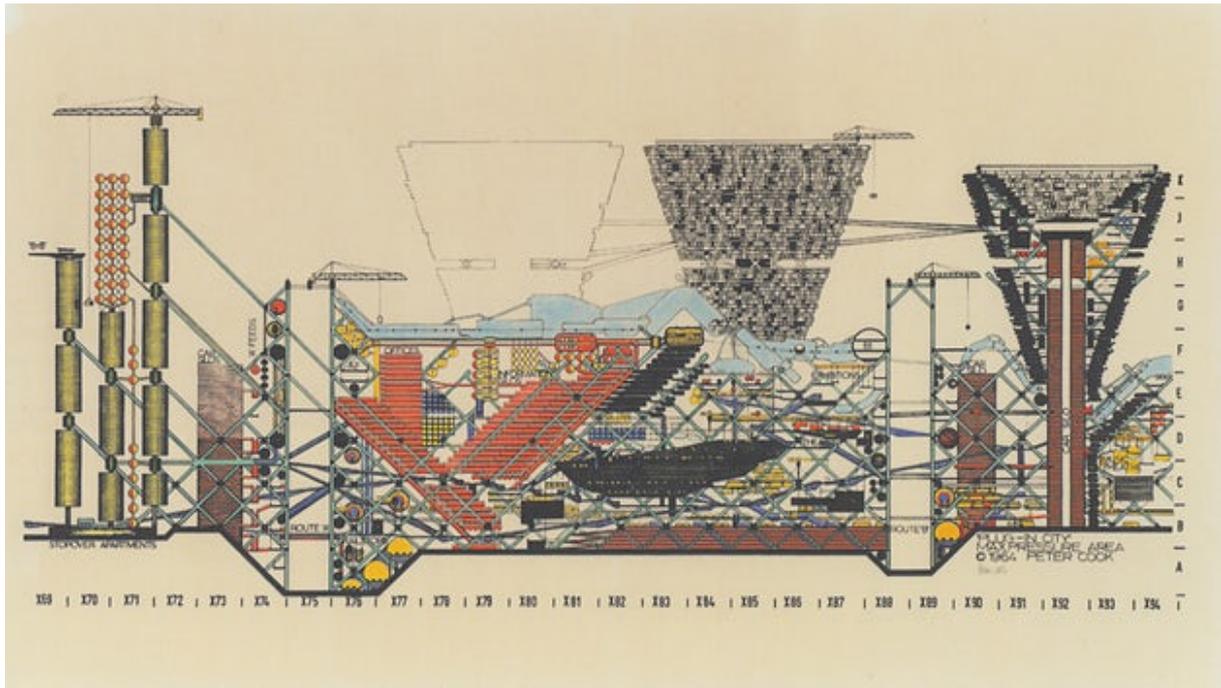**Figure 1.6:** Archigram Issue 5, Autumn 1964, page 17.

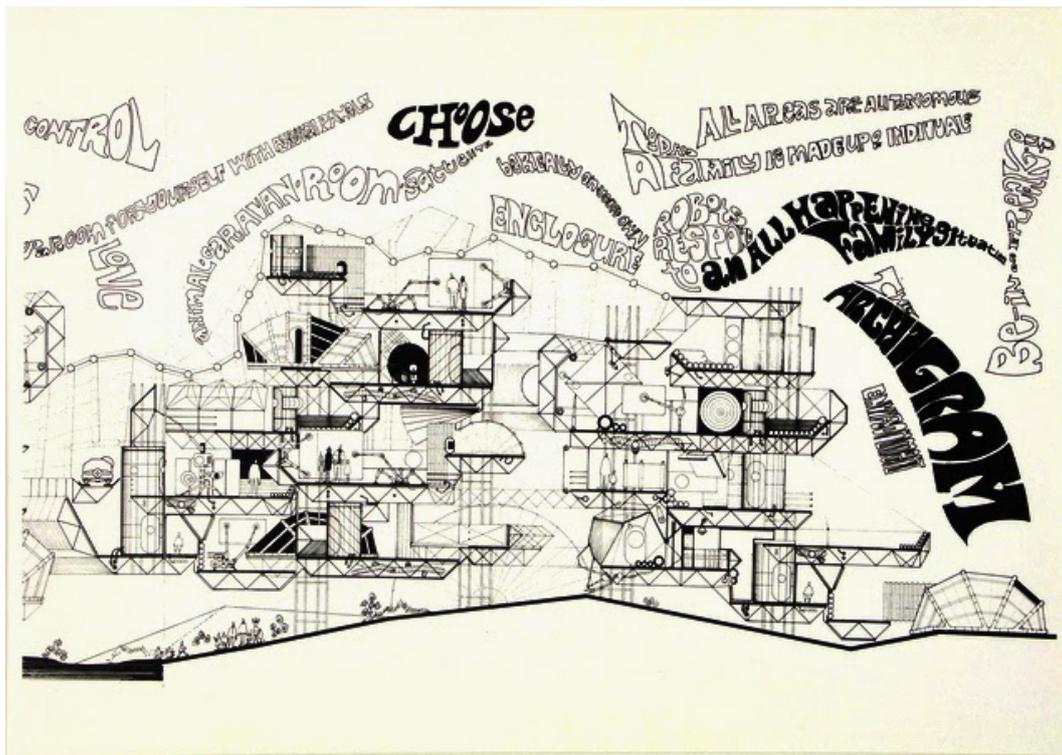**Figure 1.7:** Plug-In City, Archigram (1964).

Figure 1.8: Control and Choice, (1967).

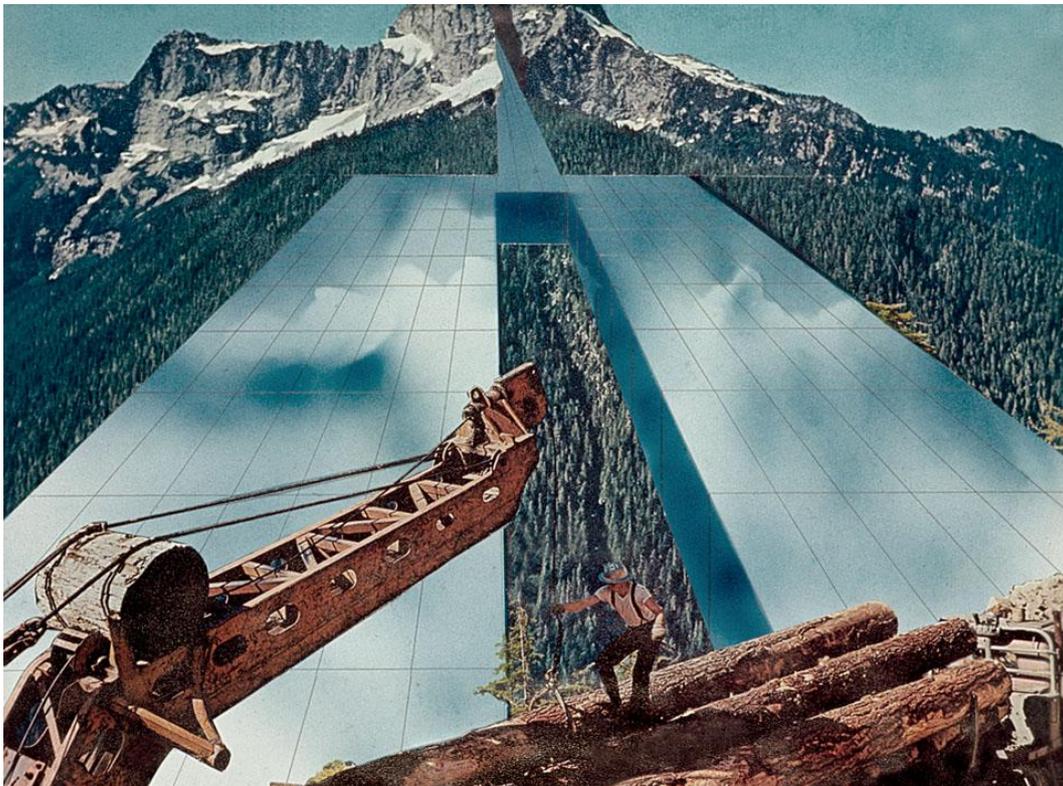**Figure 1.9:** Instant CityIn a Field (1969).

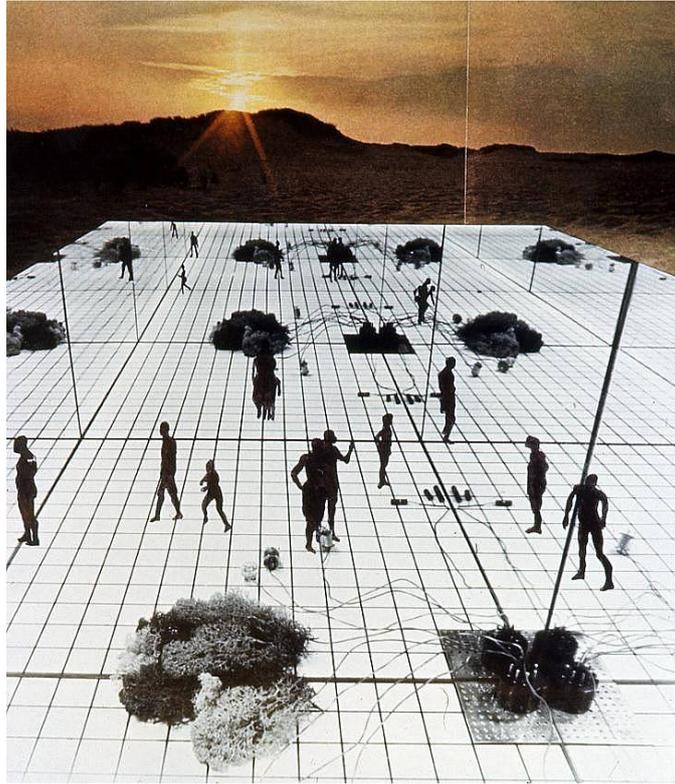**Figure 1.10:** The Continuous Monument: On the Rocky Coast, project Perspective (1969).
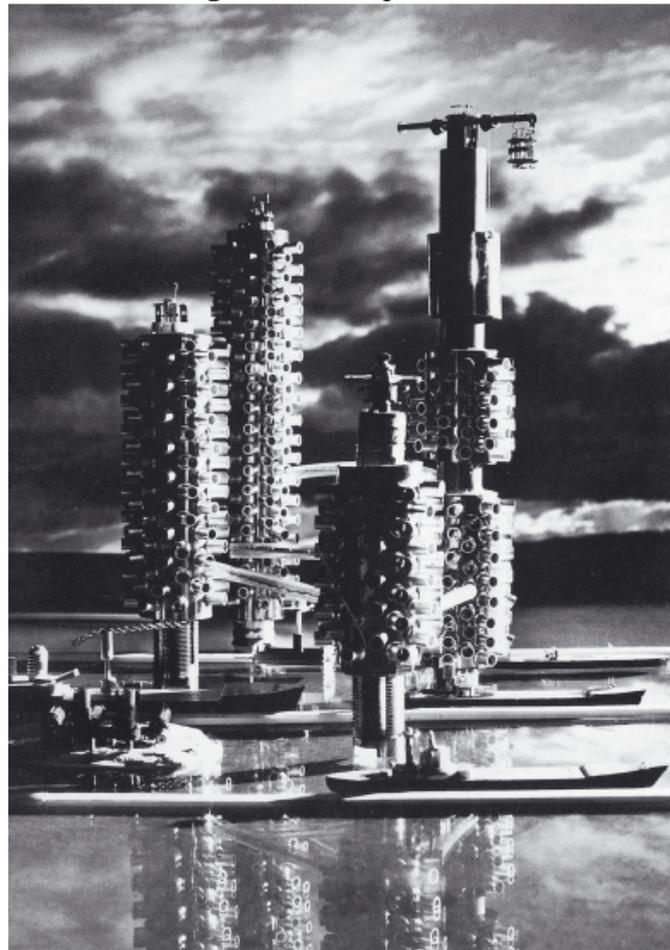
Figure 1.11: Superstudio.

Figure 1.12: Marine City.

Figure 1.13: Nakagin Capsule Tower.

Figure 1.14: Europe's tallest skyscraper, the Lakhta Center in St, Petersburg emerging from the clouds.

Figure 1.15: The world's tallest building, the Burj Khalifa in Dubai, at sunset.

Figure 1.16: OMA's new headquarters for China Central Television (CCTV) in Beijing.

Figure 1.17: An artist's concept shows a Hyperloop transit tube heading toward a city skyline.
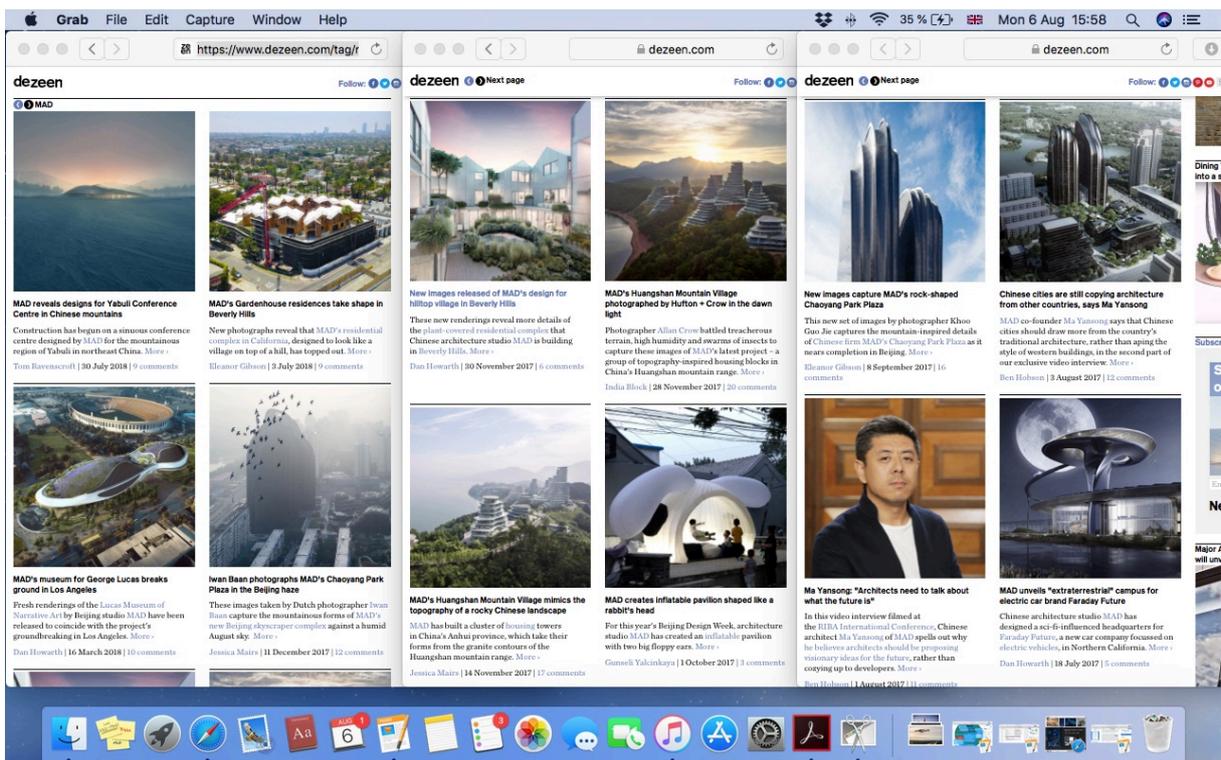

Figure 1.22: MAD Architects:Featured projects and news on Dezeen online Architecture and Design Magazine, 6 August 2018.

Figure 1.23: Elbphilharmonie.

Figure 1.24: Heydar Aliyev Centre, Baku Azerbaijan – Zaha Hadid Architects.

Figure 1.25: Night 3.

Bibliography

Banham, R., *Theory and Design in the First Machine Age*, London, The Architectural Press, 1960.

Bleecker, J., 'Design Fiction: A short essay on design, science, fact and fiction.' *Near Future Laboratory*, 2009. Available online:Available from: http://drbfw5wfjlxon.cloudfront.net/writing/DesignFiction_WebEdition.pdf, (accessed 7 May 2018).

Benjamin, W., *Arcades Project*, trans. H. Eiland and K. McLaughlin, Cambridge, Harvard University Press, 1999.

Buck-Morss, S., *The Dialectics of Seeing: Walter Benjamin and the Arcades Projects*, Cambridge, The MIT Press, 1991.

Cole, N.L., 'The concept of Collective Consciousness: What it is and how it holds', *ThoughCo.*, [website] 2018, https://www.thoughtco.com/collective-consciousness-definition-3026118?print, (accessed 7 August 2018).

De Jouvenel, B., *The Art of Conjecture*, trans. N. Lary, London, Weidenfeld and Nicolson, 1967.

Fortin, D.T., *Architecture and Science-Fiction Film: Philip K. Dick and the Spectacle of Home*, Surrey, Ashgate, 2011.

Gilloch, G., *Myth and Metropolis: Walter Benjamin and the City*, Cambridge, Polity Press, 1996.

Goldstein, W.S., 'Dreaming of the Collective Awakening: Walter Benjamin and Ernst Bloch's Theories of Dreams', *Humanity and Society*, vol. 30, no. 1, 2006, pp. 50-66. Available from: Sage Journals, (accessed 4 May 2018).

Hall, P., *Cities of Tomorrow: An Intellectual History of Urban Planning and Design in the Twentieth Century*, 3rd edn, Oxford, Blackwell, 2002.

Jencks, C., *Architecture 2000: Predictions and Methods*, Studio Vista Limited, 1971.

Jencks, C., *Modern Movements in Architecture*, 2nd edn, London, Penguin Books, 1985.

Jewitt, C. & Oyama, R. 'Visual meaning: A social semiotic approach', in T. Van Leeuwen and C. Jewitt (eds.), The Handbook of Visual Analysis, ,2001, pp.1-27. Available from Sage Research Methods, (accessed: 13 August 2018).

Koolhaas, R. et al., *Project Japan: Metabolism Talks*, Köln, Taschen, 2011.

Leblens, A. 'Jennings (Michel W.). Dialectical Images: Walter Benjamin's Theory of Literary Criticism', *Revue belge de Philologie et d'Histoire*, vol. 70, no. 3, 1992, p. 867-870. Available from: Persée, (accessed 17 August 2017).

Lucero-Monatno, A. 'On Walter Benjamin's Historical Materialism', *Astrolabio: International Philosophy Review*, vol.10, 2010, p. 125-131. Available from Astrolabio (accessed 17 August 2018).

K. Lynch, K., *The Image of the City*, Cambridge, The MIT Press, 1960, pp. 46-47.

Mann, G. *The Mammoth Encyclopedia of Science Fiction*, London, Robinson, 2001.

Maybee, J.E. 'Hegel's Dialectics', in Zalta, E.N. (ed), *The Stanford Encyclopedia of Philosophy*, [website] 2016, https://plato.stanford.edu/entries/hegel-dialectics/, (accessed 7 August 2018).

Mirzoeff, N. 'What is Visual Culture?', in N. Mirzoeff (ed), *The Visual Culture Reader*, London, Routledge, 1998.

Moneo, R. 'On Typology', *Oppositions: A journal for Ideas and Criticism in Architecture*, no. 13, Summer, 1978, pp.22-45. https://doarch152spring2015.files.wordpress.com/2015/01/moneo_on-typology_oppositions.pdf , (accessed 14 April 2018).

Museum of Modern Architecture, *Visionary Architecture*, 1960. Available from: https://www.moma.org/documents/moma_press-release_326200.pdf, (accessed 31 July 2018).

Neumann, D., 'Introduction', in D. Neumann (ed), *Film Architecture: Set Designs from Metropolis to Blade Runner,* Munich, Prestel-Verlag, 1996.

Pensky, M. 'Method and time: Benjamin's dialectical images', in D.S. Ferris (ed), *The Cambridge Companion to Walter Benjamin*, Cambridge, Cambridge University Press, 2004, p. 179-185.

Rogoff, I., 'Studying Visual Culture', in N. Mirzoeff (ed), *The Visual Culture Reader*, London, Routledge, 1998, pp. 14-26.

Schinkel, W., 'The Image of Crisis: Walter Benjamin and the Interpretation of "Crisis" in Modernity', *Thesis Eleven*, vol. 127, no. 1, 2015, p.36-41. Available from: Sage Journals, (accessed 8 July 2018).

Schrijver, L., 'From Alphaville to Cyberville: The City of the Future in Science Fiction Film', in L. Schrijver and P. Avidar (eds) *OASE*, Virtuality Here: Space in Cyberfiction, 66, 2005, pp. 28-47.

Spiller, N., *Visionary Architecture: Blueprints of the Modern Imagination*, London, Thames&Hudson, 2006.

Spiegel, S. 'Things Made Strange: On the Concept of "Estrangement" in Science Fiction Theory', *Science Fiction Studies*, vol. 35, no. 5, 2008, p. 369-385. Available from: JSTOR (accessed 13 June 2018).

Toy, M. (ed), 'Editorial', AD: *Architecture and Film*, London, Academy Editors,1994.

van Eck, C., 'Enduring principles of architecture in Alberti's 'On the Art of Building': how did Alberti set out to formulate them?', *Journal of Architecture*, vol.4, Summer, 1999, pp.119-127. Available from: Taylor and Francis Online, (accessed 13 June 2018).

Filmography

Altered Carbon, Kalogrids, L., USA, Netflix, 2018, [web tv series].

Barbarella, dir. R., Vadim, FR, Paramount Pictures, 1968, [film].

Black Panther, dir. Coogler, R., USA, Walt Disney Studios Motion Pictures, 2018, [film].

Blade Runner 2019, dir. R., Scott, USA, Warner Bros., 1982, [film].

Blade Runner 2049, dir. D., Villeneuve, USA, Warner Bros., (2017) [film].

Dredd, dir. Travis, P., UK, DNA films, 2012, [film].

Metropolis, dir. F., Lang, DE, Ufa, 1927, [film].

THX1138, dir. G., Lucas, USA, Warner Bros., 1971, [film].

Image References

Figure 1.1: Giovanni Battista Piranesi, *Carceri VII (1760)*, [online image], uploaded by xennex, 2012 https://www.wikiart.org/en/giovanni-battista-piranesi/carceri-vii-1760, (accessed 12 August 2018).

Figure 1.2: Claude-Nicolas Ledoux, *Claude-Nicolas Ledoux Die Salinenstadt Chaux*, [online image] Wikimedia Commons, 2007, https://commons.wikimedia.org/wiki/File:Claude-Nicolas_Ledoux_Die_Salinenstadt_Chaux.jpg, (accessed 12 August 2018).

Figure 1.3: Antonio Sant'Elia, *La Città Nuova. Particolare (The new city. Detail)*, [online image], Wikimedia Commons, 2013, https://commons.wikimedia.org/wiki/File:Casa_Sant%27Elia.jpg, (accessed 12 August 2018).

Figure 1.4: Le Corbusier, *Plan Voisin*, *Paris, 1925*, [online image], photo credit: Foundation Le Corbusier, http://www.fondationlecorbusier.fr/corbuweb/morpheus.aspx?sysId=13&IrisObjectId=6159&sysLanguage=en-en&itemPos=2&itemCount=2&sysParentName=Home&sysParentId=65, (accessed 12 August 2018).

Figure 1.5: Yona Friedman, *Spatial City, project, Perspective, 1958/ 1959, Moma, New York*, [online image], uploaded by Jérémy Rinaldi, https://theredlist.com/wiki-2-19-879-605-1458-view-friedman-yona-profile-friedman-yona.html, (accessed 12 August 2018).

Figure 1.6: Ron Herron, *Archigram Issue 5, Autumn 1964, page 17*, [online image], uploaded by Iqbal Aalam, 2010, https://www.flickr.com/photos/iqbalaalam/5175310519/, (accessed 12 August 2018).

Figure 1.7: Peter Cook, *Plug-In City, Archigram (1964)*, [online image] uploaded by The Angry Architect, https://architizer.com/blog/practice/details/cross-sections/, (accessed 12 August 2018).

Figure 1.8: Peter Cook, *Control and Choice, (1967)*, [online image], uploaded by Cristina Gutiérrez, 2014, http://arquitecturadescubierta.blogspot.com/2014/03/archigram.html, (accessed 12 August 2018).

Figure 1.9: Archigram, *Instant CityIn a Field (1969)*, [online image], Uploaded by Gazelli Art House, 2016, https://wsimag.com/gazelli-art-house/artworks/82324, (accessed 12 August 2018).

Figure 1.10: Superstudio, *The Continuous Monument: On the Rocky Coast, project Perspective (1969),* [online image], uploaded by MOODS MOODS, 2014, https://moodmoods.wordpress.com/2014/02/26/superstudio-superarchitettura/, (accessed 12 August 2018).

Figure 1.11: Superstudio, *Superstudio*, [online image], uploaded by Forbes, 2018, https://firenewsfeed.com/news/991677, (accessed 12 August 2018).

Figure 1.12: Kiyonori Kikutake, *Marine City*, [online image], uploaded by Le Yan | Kylie, 2017, https://leyankoh.com/2017/12/10/fears-sentiment-and-urban-design/, (accessed 12 August 2018).

Figure 1.13: Kurokawa Kisho, *Nakagin Capsule Tower*, [online image], Ohashi Tomio, 1972, https://www.mori.art.museum/blog/2011/10/why-metabolism-now-is-metabolism-a-thing-of-the-past-for-a-shrinking-japan-rem-koolhaas-x-nanjo-fumi-1.php, (accessed 12 August 2018).

Figure 1.14: Viktor Sukharukov, *The skyscrpaer is formed of structures tapering round a core*, [online image], 2018, uploaded by DEZEEN, https://www.dezeen.com/2018/07/30/lakhta-centre-europes-tallest-skyscraper-rmjm-architecture/, (accessed 12 August 2018).

Figure 1.15: The Tower Info, *Burj Khalifa at sunset*, [online image], 2018, http://thetowerinfo.com/buildings-list/burj-khalifa/, (accessed 12 August 2018).

Figure 1.16: Iwan Baan, *OMA's new headquarters for China Central Television (CCTV) in Beijing*, [online image], uploaded by artsation, 2012, https://artsation.com/en/journal/editorial/fertigstellung-des-cctv-towers-in-peking, (accessed 12 August 2018).

Figure 1.17: Hyperloop One, *An artist's concept shows a Hyperloop transit tube heading toward a city skyline*, [online image], uploaded by Alan Boyle, 2017, https://www.geekwire.com/2017/hyperloop-ones-picks-high-tech-transit-include-midwest-rockies-texas-florida/, (accessed 12 August 2018).

Figure 1.18: Ufa, *Metropolis*, [online image] 1927, http://1001moviesandbeyond.com/blog/2017/2/10/metropolis, (accessed 12 Augustus 2018).

Figure 1.19: Paramount Pictures, *Barbarella*, [online image] 1868, http://orisagbemi-olorun.blogspot.com/2010/11/barbarella-film-review-by-orisakolade.html, (accessed 12 Augustus 2018).

Figure 1.20: Warner Bros., *Robert Duvall is THX 1138,* [online image] 1971, https://www.sbs.com.au/movies/blog/2017/08/07/why-you-should-watch-thx-1138, (accessed 12 Augustus 2018).

Figure 1.21: Warner Bros., *Blade-Runner-024 1080p*, [online image] 1982, https://screenmusings.org/movie/blu-ray/Blade-Runner/pages/Blade-Runner-024.htm, (accessed 12 Augustus 2018).

Figure 1.22: Mila Bolt, *MAD Architects:Featured projects and news on Dezeen online Architecture and Design Magazine, 6 August 2018*, [digital image], composition by author, 2018. See: https://www.dezeen.com/tag/mad/, (accessed 6 August 2018).

Figure 1.23: copper, *Elbphilharmonie*, [online image], 2017, http://www.dronestagr.am/elbphilharmonie/, (accessed 12 August 2018).

Figure 1.24: Iwan Baan, *Heydar Aliyev Centre, Baku Azerbaijan – Zaha Hadid Architects* [digital image], 2013, **https://iwan.com/portfolio/heydar-aliyev-centre-baku-azerbaijan/**, (accessed 12 August 2018).

Figure 1.25: Micheal Wolf, *Night 3*, [online image], **http://photomichaelwolf.com/#night/2**, (accessed 12 August 2018).

Figure 2.1.1: DNA Films, *Urban wasteland, (00:15:08)*, [online image] 2012, https://io9.gizmodo.com/5945167/the-one-crucial-test-that-any-judge-dredd-movie-must-pass, (accessed 12 Augustus 2018).

Figure 2.1.2: DNA Films, *Megacity 1, (01:28:58)*, [online image] 2012, https://m100group.com/2018/07/25/a-dystopians-take-on-the-book-of-judges-and-judge-dread-demarco-banter/, (accessed 12 Augustus 2018).

Figure 2.1.3: DNA Films, *Peach Tree Plaza, (00:28:31)*, [screenshot] 2012, (accessed 12 Augustus 2018).

Figure 2.2.1: NETFLIX, *Bay City, (00:55:27)*, [online image] 2018, http://altered-carbon.wikia.com/wiki/Bay_City , (accessed 12 Augustus 2018).

Figure 2.2.2: NETFLIX, *Aerium, (00:21:13)*, [online image] 2018, http://altered-carbon.wikia.com/wiki/The_Aerium?file=Aerium.png, (accessed 12 Augustus 2018).

Figure 2.2.3: NETFLIX, *Favelas, (00:35:18)*, [screenshot] 2018, (accessed 12 Augustus 2018).

Figure 2.3.1: Marvel Studios, *An overhead view of Wakanda's diverse architecture and layout, (00:35:53)*, [online image] 2018, https://www.architecturaldigest.com/story/the-real-life-

possibilities-of-black-panthers-wakanda-according-to-urbanists-and-city-planners, (accessed 12 Augustus 2018).

Figure 2.3.2: Marvel Studios, *Intermediate shot of city, (00:33:14)*, [online image] 2018, https://www.architecturaldigest.com/story/the-real-life-possibilities-of-black-panthers-wakanda-according-to-urbanists-and-city-planners, (accessed 12 Augustus 2018).

Figure 2.3.3: Marvel Studios, *Wakanda streetscape, (00:33:19)*, [online image] 2018, https://www.theverge.com/2018/2/23/17044448/black-panther-wakanda-maglev-train-hyperloop-transportation, (accessed 12 Augustus 2018).